

**NUCLEAR REGULATORY COMMISSION  
ISSUANCES**

**OPINIONS AND DECISIONS OF THE  
NUCLEAR REGULATORY COMMISSION  
WITH SELECTED ORDERS**

October 1, 2008 - December 31, 2008

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## PREFACE

This is Book II of the sixty-eighth volume of issuances (461–958) of the Nuclear Regulatory Commission and its Atomic Safety and Licensing Boards, Administrative Law Judges, and Office Directors. It covers the period from October 1, 2008, to December 31, 2008.

Atomic Safety and Licensing Boards are authorized by Section 191 of the Atomic Energy Act of 1954. These Boards, comprised of three members, conduct adjudicatory hearings on applications to construct and operate nuclear power plants and related facilities and issue initial decisions which, subject to internal review and appellate procedures, become the final Commission action with respect to those applications. Boards are drawn from the Atomic Safety and Licensing Board Panel, comprised of lawyers, nuclear physicists and engineers, environmentalists, chemists, and economists. The Atomic Energy Commission (AEC) first established Licensing Boards in 1962 and the Panel in 1967.

Between 1969 and 1990, the AEC authorized Atomic Safety and Licensing Appeal Boards to exercise the authority and perform the review functions which would otherwise have been exercised and performed by the Commission in facility licensing proceedings. In 1972, that Commission created an Appeal Panel, from which were drawn the Appeal Boards assigned to each licensing proceeding. The functions performed by both Appeal Boards and Licensing Boards were transferred from the AEC to the Nuclear Regulatory Commission by the Energy Reorganization Act of 1974. Appeal Boards represented the final level in the administrative adjudicatory process to which parties could appeal. Parties, however, were permitted to seek discretionary Commission review of certain board rulings. The Commission also could decide to review, on its own motion, various decisions or actions of Appeal Boards.

On June 29, 1990, however, the Commission voted to abolish the Atomic Safety and Licensing Appeal Panel, and the Panel ceased to exist as of June 30, 1991. Since then, the Commission itself reviews Licensing Board and other adjudicatory decisions, as a matter of discretion. *See* 56 Fed. 29 & 403 (1991).

The Commission also may appoint Administrative Law Judges pursuant to the Administrative Procedure Act, who preside over proceedings as directed by the Commission.

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Issuances are referred to as follows: Commission—CLI, Atomic Safety and Licensing Boards—LBP, Administrative Law Judges—ALJ, Directors' Decisions—DD, and Decisions on Petitions for Rulemaking—DPRM.

The summaries and headnotes preceding the opinions reported herein are not to be deemed a part of those opinions or to have any independent legal significance.

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**Commissioners:**

**Dale E. Klein**, Chairman  
**Gregory B. Jaczko**  
**Peter B. Lyons**  
**Kristine L. Svinicki**

**In the Matters of**

<b>AMERGEN ENERGY COMPANY, LLC (Oyster Creek Nuclear Generating Station)</b>	<b>Docket No. 50-219-LR</b>
<b>ENERGY NUCLEAR OPERATIONS, INC. (Indian Point, Units 2 and 3)</b>	<b>Docket Nos. 50-247-LR 50-286-LR</b>
<b>ENERGY NUCLEAR OPERATIONS, INC. (Pilgrim Nuclear Power Station)</b>	<b>Docket No. 50-293-LR</b>
<b>ENERGY NUCLEAR OPERATIONS, INC. (Vermont Yankee Nuclear Power Station)</b>	<b>Docket No. 50-271-LR  October 6, 2008</b>

**LICENSE RENEWALS**

Over several years, the NRC has developed a regulatory process to review power reactor license renewal applications that is efficient, thorough, and appropriately focused on certain aging effects that would not reveal themselves through performance indicators associated with active functions. The Staff's conduct of safety reviews for license renewal applications is governed by 10 C.F.R. Part 54, and principally guided by two documents: NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," Rev. 1 (Sept. 2005) (SRP-LR), and NUREG-1801, "Generic Aging Lessons Learned Report," Rev. 1 (Sept. 2005) (GALL Report).

## **LICENSE RENEWALS**

The GALL Report identifies generic aging management programs that the Staff has determined to be acceptable, based on the experiences and analyses of existing programs at operating plants during the initial license period. The GALL Report was developed because the Staff discovered, in reviewing the initial license renewal applications, that many of the programs the licensee would rely on to manage aging effects during the renewal period were already in place during the initial license period. *See* NUREG-1800, Rev. 1, at 1.

## **LICENSING PROCEEDINGS**

### **INHERENT SUPERVISORY AUTHORITY**

Notwithstanding the requirement that motions initially be addressed to the Presiding Officer when a proceeding is pending (10 C.F.R. § 2.323(a)), in this case, the Commission addresses the motions pursuant to its inherent supervisory authority over agency proceedings. *See Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-02-23, 56 NRC 230, 237 (2002).

### **LICENSING PROCEEDINGS: SCOPE**

The purpose and scope of a licensing proceeding is to allow interested persons the right to challenge the sufficiency of the application. The NRC will not litigate claims about the adequacy of the Staff's safety review in licensing adjudications. *See* Final Rule: "Changes to Adjudicatory Process," 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004) (citing *Curators of the University of Missouri*, CLI-95-1, 41 NRC 71, 121-22 (1995), and prior agency rulings holding same). *See also Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), CLI-04-6, 59 NRC 62, 74 (2004); *Baltimore Gas & Electric Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-25, 48 NRC 325, 349-50 (1998).

### **LICENSING PROCEEDINGS: BURDEN OF PROOF**

It is the applicant, not the Staff, that has the burden of proof in litigation. *Curators of the University of Missouri*, CLI-95-1, 41 NRC at 121.

## **SAFETY REVIEW**

It is neither possible nor necessary for the Staff to verify each and every factual assertion in complex license applications, including license renewal applications.

The Staff's audit, or sampling, method of verifying a license renewal applicant's aging management programs, together with the other components of its review, enables the Staff to make the safety findings necessary for issuance of a renewed license. *See also* 10 C.F.R. § 54.13 (requiring, among other things, that information provided to the Commission by a license renewal applicant for a renewed license must be complete and accurate in all material respects).

## **RECORDKEEPING**

The Federal Records Act (FRA) gives federal agencies some discretion in determining which documentary materials are appropriate for preservation as an agency "record." FRA, 44 U.S.C. § 3301; *see also* 36 C.F.R. § 1220.14.

## **RECORDKEEPING**

According to an agency Management Directive which is in turn based on regulations of the National Archives and Records Administration, an agency employee's working file constitutes an "agency record" if it *both* contains unique information that underlies an agency decision, *and* it was also made available to other agency employees for purposes of helping to reach or support that decision. Otherwise, materials created by an employee for the individual's own use in performing his or her job, and which are not circulated (and are not otherwise required by NRC policy to be maintained), may be discarded at the employee's discretion. *See* Handbook 1, Management Directive 3.53 (Rev. Mar. 2007), at 19-20; 36 C.F.R. § 1222.34(c).

## **SUSPENSION OF PROCEEDING**

Suspension of licensing proceedings is a "drastic" action that is not warranted absent "immediate threats to public health and safety." *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station) CLI-00-20, 52 NRC 151, 173-74 (2000) (refusing request to suspend all license transfer proceedings involving a particular transferee while the Commission examined effects of ownership by limited liability companies).

## **MOTIONS**

### **SUSPENSION OF PROCEEDING**

While our regulations do not provide for a "motion to suspend" a proceeding, we have occasionally considered similar requests to suspend proceedings or hold them in abeyance in the exercise of our inherent supervisory powers over

proceedings. For example, we considered similar motions presented to us in the wake of the September 11 terrorist attacks. We ultimately rejected such requests pending the Commission's comprehensive review of anti-terrorist measures at licensed facilities. See *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-26, 54 NRC 376 (2001). See also *Diablo Canyon*, CLI-02-23, 56 NRC 230; *Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), CLI-01-28, 54 NRC 393 (2001).

## **LICENSE RENEWALS**

We expect licensees and license renewal applicants to adjust their aging management programs to reflect lessons learned in the future through individual and industrywide experiences. As new insights or changes emerge over time, we expect the Staff to require, as appropriate, any modification to systems, structures, or components that is necessary to assure adequate protection of the public health and safety, or to bring the facility into compliance with a license, or the rules and orders of the Commission. 10 C.F.R. § 50.109.

## **MOTIONS TO REOPEN**

Reopening a closed record requires, among other things, a showing that the motion is timely. 10 C.F.R. § 2.326. A motion filed 4 months after release of the information on which it is based was not timely.

## **MOTIONS TO REOPEN**

A motion "must address a significant safety or environmental issue." Petitioners' speculation that the Staff may have failed to identify a health or safety issue because its review was insufficiently thorough does not meet this requirement.

## **MEMORANDUM AND ORDER**

This Memorandum and Order responds to four petitions<sup>1</sup> (Petition) filed jointly by a number of public interest groups, each of which is a party in one or more of the captioned license renewal proceedings (hereinafter, Petitioners),<sup>2</sup> and to

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<sup>1</sup> Identical petitions were filed in each of the four captioned proceedings.

<sup>2</sup> Nuclear Information and Resource Service; Jersey Shore Nuclear Watch, Inc.; Grandmothers, Mothers and More for Energy Safety; New Jersey Public Interest Research Group; New Jersey Sierra  
(Continued)

a Supplemental Petition filed by the same parties alleging illegal actions by the NRC Staff.<sup>3</sup> The Petition requests that the Commission suspend these proceedings until it has conducted a “comprehensive overhaul” of the manner in which the NRC Staff reviews license renewal applications.<sup>4</sup> Petitioners base their request principally on an audit report issued by NRC’s Office of the Inspector General (OIG)<sup>5</sup> regarding the effectiveness of the agency’s license renewal safety reviews. The Supplemental Petition was based on an OIG memorandum following up on its initial report, which focused on the “extent” of NRC Staff reviews of license renewal applications.<sup>6</sup>

As explained below, the OIG did not determine, and we do not otherwise find, that past license renewal safety reviews were inadequate or that the license renewal review process requires a comprehensive revision. The OIG’s recommendations do not undermine our general confidence in the Staff’s safety review, and consequently we see no threat to the public health and safety or the common defense and security. There is, therefore, no need to delay the license renewal proceedings and we deny Petitioners’ request.

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Club; and New Jersey Environmental Federation are parties to the *Oyster Creek* proceeding. *AmerGen Energy Co.* (Oyster Creek Nuclear Generating Station), LBP-06-7, 63 NRC 188 (2006). Pilgrim Watch is a party to the *Pilgrim* proceeding. *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257 (2006). New England Coalition is a party to the *Vermont Yankee* proceeding. *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-06-20, 64 NRC 131 (2006). Riverkeeper is a party to the *Indian Point* license renewal proceeding. *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-08-13, 68 NRC 43 (2008).

<sup>3</sup> Supplemental Petition by Nuclear Information and Resource Service; Jersey Shore Nuclear Watch, Inc.; Grandmothers, Mothers and More for Energy Safety; New Jersey Public Interest Research Group; New Jersey Sierra Club; New Jersey Environmental Federation; Riverkeeper; Pilgrim Watch and New England Coalition for Additional Investigation and Correction of Deficiencies Regarding License Renewal Reviews for Oyster Creek, Indian Point, Pilgrim, and Vermont Yankee Nuclear Power Plants (May 15, 2008) (Supplemental Petition). The Supplemental Petition was also served in all four captioned proceedings.

<sup>4</sup> Petition by Nuclear Information and Resource Service; Jersey Shore Nuclear Watch, Inc.; Grandmothers, Mothers and More for Energy Safety; New Jersey Public Interest Research Group; New Jersey Sierra Club; New Jersey Environmental Federation; Riverkeeper; Pilgrim Watch and New England Coalition to Suspend License Renewal Reviews for Oyster Creek, Indian Point, Pilgrim and Vermont Yankee Nuclear Power Plants Pending Investigation of NRC Staff Review Process and Correction of Deficiencies (Jan. 3, 2008).

<sup>5</sup> Audit of NRC’s License Renewal Program, OIG-07-A-15 (Sept. 6, 2007), available at ADAMS Accession No. ML072490486 (OIG Report).

<sup>6</sup> Memorandum from Hubert T. Bell to Dale E. Klein regarding NRC Staff Review of License Renewal Applications (May 2, 2008) (ADAMS Accession No. ML081280227) (OIG Memorandum).

## I. BACKGROUND

### A. The License Renewal Process

Over several years, the NRC has developed a regulatory process to review power reactor license renewal applications that is efficient, thorough, and appropriately focused on certain aging effects that would not reveal themselves through performance indicators associated with active functions. The Staff's conduct of safety reviews for license renewal applications is governed by 10 C.F.R. Part 54, and principally guided by two documents: NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," Rev. 1 (Sept. 2005) (SRP-LR), and NUREG-1801, "Generic Aging Lessons Learned Report," Rev. 1 (Sept. 2005) (GALL Report).

Part 54 provides that each license renewal application must include an integrated plant assessment (IPA) identifying structures and components subject to aging management review, an evaluation of time-limited aging analyses, and a final safety analysis report (FSAR) supplement describing the plant's aging management programs.<sup>7</sup> The license renewal applicant identifies all plant systems, structures, and components (SSCs) related to safety and regulatory compliance.<sup>8</sup>

The aging management review covers "passive" structures and components, which perform their intended function without moving parts or without a change in configuration or properties, such as the reactor vessel, the steam generators, piping, component supports, and seismic Category I structures. Structures and components are not subject to an aging management review unless they are "long-lived." A structure or component is long-lived if it is not subject to replacement based on a qualified life or specified time period. The application must demonstrate that the effects of aging will be managed in such a way that the intended functions of passive and long-lived structures and components will be maintained for the period of extended operation.<sup>9</sup> In contrast, the aging management review does not cover active components — such as motors, diesel generators, and switches — because routine surveillance and maintenance

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<sup>7</sup> 10 C.F.R. § 54.21. The application must be periodically amended to reflect any changes to the plant's current licensing basis made after the license renewal application was submitted. 10 C.F.R. § 54.21(b).

<sup>8</sup> These are SSCs that are safety-related, or whose failure could affect safety-related functions, or that are relied on to demonstrate compliance with the NRC's regulations for fire protection, environmental qualification, pressurized thermal shock, anticipated transients without scram, and station blackout. 10 C.F.R. § 54.4(a).

<sup>9</sup> 10 C.F.R. § 54.21(a).

programs detect and manage the effects of aging on these components.<sup>10</sup> The evaluation of Time Limited Aging Analyses (TLAAs), which are calculations or analyses that involve systems, structures, and components within the scope of the rule, considers the effects of aging and involves assumptions based on the original 40-year operating term. For each TLAA, the applicant must demonstrate that (a) the analyses remain valid during the period of extended operation; (b) reanalysis (recalculation) bounds the period of extended operation; or (c) the aging effects will be adequately managed for the period of extended operation.<sup>11</sup>

In addition to the information supplied for the technical safety review, the license renewal applicant is required to submit a supplemental environmental report that complies with 10 C.F.R. Part 51.<sup>12</sup>

The SRP-LR provides guidance to the Staff reviewers for conducting license renewal reviews. It assigns review responsibilities among Staff technical organizations and describes methods for identifying those SSCs that are subject to aging effects within the scope of license renewal review. It defines ten program elements — including scoping, acceptance criteria, corrective actions, monitoring, and operating experience — that are essential to an effective aging management program.<sup>13</sup> It also provides that for each of the SSCs identified, the license renewal applicant may rely on an aging management program that is consistent with the GALL Report, or may choose to use a plant-specific aging management program.<sup>14</sup>

The GALL Report identifies generic aging management programs that the Staff has determined to be acceptable, based on the experiences and analyses of existing programs at operating plants during the initial license period.<sup>15</sup> The report describes each aging management program with respect to the ten program elements defined in the SRP-LR.<sup>16</sup> The report also includes a table summarizing various structures and components, the materials from which they are made, the environment to which they are exposed, the aging effect (e.g., loss of material through pitting, leaching, or corrosion), the aging management program found

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<sup>10</sup> 10 C.F.R. § 54.21(a)(1). *See also* Final Rule: “Nuclear Power Plant License Renewal; Revisions,” 60 Fed. Reg. 22,461, 22,471-72 (May 8, 1995) (explaining the rationale for reliance on maintenance requirements to manage aging effects of active components). *See generally Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 7-10 (2001).

<sup>11</sup> 10 C.F.R. § 54.21(c)(1).

<sup>12</sup> *See* 10 C.F.R. § 54.23. Petitioners’ request here does not embrace environmental issues.

<sup>13</sup> SRP-LR at A.1-3 through A.1-8.

<sup>14</sup> *Id.* at 3.0-2.

<sup>15</sup> The GALL Report was developed because the Staff discovered, in reviewing the initial license renewal applications, that many of the programs the licensee would rely on to manage aging effects during the renewal period were already in place during the initial license period. *See* SRP-LR at 1.

<sup>16</sup> *See* GALL Report, Vol. 2, Rev. 1, § XI.

to manage the particular aging effect in that component, and whether additional evaluation is necessary.<sup>17</sup>

An applicant for license renewal “may reference the GALL Report . . . to demonstrate that the programs at the applicant’s facility correspond to those reviewed and approved” therein, and the applicant must ensure and certify that its programs correspond to those reviewed in the GALL Report.<sup>18</sup> In other words, the license renewal applicant’s use of an aging management program identified in the GALL Report constitutes reasonable assurance that it will manage the targeted aging effect during the renewal period. If the applicant uses a different method for managing the effects of aging for particular SSCs at its plant, then the applicant should demonstrate to the Staff reviewers that its program includes the ten elements cited in the GALL Report and will likewise be effective. In addition, many plants will have plant-specific aging management programs for which there is no corresponding program in the GALL Report. For each aging management program, the application gives a brief description of the licensee’s operating experience in implementing that program.

The Staff then reviews the application and supporting documents and conducts inspections and onsite audits to verify the information in the application. License renewal inspections verify, *on a sampling basis*, that the applicant has properly scoped the aging management review; that the existing or planned aging management programs conform to the descriptions in the license renewal application; and that the documentation used to support the application is auditable, retrievable, and in fact does support the application.<sup>19</sup> The Staff produces a Safety Evaluation Report (SER) — usually first as an SER listing open items, then as a final SER (FSER) — summarizing its findings with respect to the licensee’s programs for aging management. The Advisory Committee on Reactor Safeguards (ACRS) reviews the SER and makes its own recommendation to the Commission on whether the license should be renewed.

The Commission also offers a parallel hearing process where members of the public with a cognizable interest in the particular renewal application may obtain an independent adjudicatory review of their challenges to the application.<sup>20</sup> The Commission will issue a renewed license if it determines, among other things, that there is reasonable assurance that the plant will operate in accordance with its current licensing basis during the period of extended operation.<sup>21</sup> The renewed license takes effect immediately, with a term of up to 20 years plus the number of

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<sup>17</sup> See generally GALL Report, Vol. 2, Rev. 1.

<sup>18</sup> *Id.*, Vol. 1, at 3.

<sup>19</sup> NRC Inspection Manual, Inspection Procedure 71002 (Feb. 18, 2005).

<sup>20</sup> See AEA § 189a, 42 U.S.C. § 2239(a). See generally *Baltimore Gas & Electric Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-25, 48 NRC 325, 349-50 (1998).

<sup>21</sup> 10 C.F.R. § 54.29.



years remaining on the initial operating license.<sup>22</sup> To date, the NRC has completed the process for issuing renewed licenses for forty-eight existing reactors.

## **B. The OIG Report and OIG Memorandum**

The OIG Report on which Petitioners premise their argument was issued in September 2007, and reflects findings of the OIG's audit of the effectiveness of the Staff's license renewal safety reviews. The OIG concluded that the Staff has developed a "comprehensive license renewal process" to evaluate license renewal applications.<sup>23</sup> The OIG also identified, however, areas that could be improved.<sup>24</sup> Primarily, the OIG Report found that the Staff should improve the transparency of its report writing so that a reader can more easily understand what materials the reviewers evaluated and how they reached conclusions. The OIG Report made eight specific recommendations for improving the effectiveness of the license renewal review programs in five general areas:

- A. *License renewal reporting efforts need improvements.* OIG found that the Staff does not consistently provide adequate descriptions of audit methodology or support for conclusions in "license renewal reports." OIG recommended that the Executive Director for Operations (EDO) (1) establish report-writing standards, and (2) revise the "report quality assurance process for license renewal report review" by establishing management controls for NRR and DLR to gauge the effectiveness of team leader and peer group report reviews, and by implementing procedures to specify additional steps to be taken in the event that such team leader and peer group report reviews "fail to ensure report quality to management's expectations."<sup>25</sup>
- B. *Guidance for removing licensee documents from audit sites could be clarified.* OIG found inconsistencies in the guidance provided to license renewal auditors relative to the removal of licensee documents obtained at audit sites and recommended that the EDO clarify the relevant guidance and procedures.<sup>26</sup>
- C. *Consistent evaluation of operating experience would improve license renewal reviews.* OIG concluded that audit team members do not review operating experience consistently, and that most auditors do not conduct independent verification of a licensee's operating experience, relying instead on licensee-

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<sup>22</sup> 10 C.F.R. § 54.31.

<sup>23</sup> OIG Report at 7.

<sup>24</sup> *Id.*

<sup>25</sup> *Id.* at 7-13.

<sup>26</sup> For example, the OIG Report stated that Headquarters Staff, in conducting onsite audits, is hampered by a policy of not removing documents from a licensee site, even though regional Staff, in conducting inspections, may remove licensee documents. *Id.* at 15-17.

supplied information. OIG recommended that the EDO establish requirements and management controls to standardize the conduct and depth of license renewal operating experience reviews.<sup>27</sup>

- D. *More attention is needed to planning for post-renewal inspections.* OIG concluded that planning for post-renewal inspections is incomplete because the agency has “only recently focused its attention on developing and overseeing the details associated with these inspections.” OIG recommended that the EDO expedite the revision of Inspection Procedure 71003 and to communicate the details of the revised procedure to affected Staff and stakeholders.<sup>28</sup>
- E. *License Renewal Issues Need Evaluation for Backfit Application.* OIG recommended that the EDO establish a review process to determine whether or not certain guidance meets the provisions of 10 C.F.R. § 54.37(b), and that the Commission reconsider its previous policy decision that the backfit rule does not apply to license renewal applicants.<sup>29</sup>

Of these recommendations, only those relating to A, license renewal reporting efforts, and C, evaluation of licensee operating experience, are central to the arguments in Petitioners’ initial Petition. Petitioners’ Supplemental Petition belatedly raises arguments related to B, the need to clarify guidance for removing licensee documents.

The OIG Report did not question the use of the SRP-LR or the GALL Report as guidance for conducting license renewal safety reviews, nor did it suggest that these guidance documents would not provide a mechanism to satisfy the safety requirements of 10 C.F.R. Part 54. On the contrary, the OIG Report cited these documents as authority on the proper conduct of reviews. Further, the OIG Report pointed to the GALL Report’s inclusion of “operating experience” as one of ten key elements that should be present in an effective aging management program.

The OIG Report’s conclusions regarding the Staff’s review of licensee operating experience are central to Petitioners’ claims. The OIG Report found that audit team members did not approach reviews consistently and “most” did not independently verify plant-specific operating experience, for example, by searching the licensee’s corrective action databases.<sup>30</sup> The OIG Report suggested that auditors may not be aware of all relevant operating experience, and further noted that there are no formally established requirements for verifying operating experience. As noted above, it recommended that requirements and management

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<sup>27</sup> *Id.* at 18-23.

<sup>28</sup> *Id.* at 24-30. Post-renewal inspections (that is, inspections performed after the agency has granted the renewed license) were not addressed in either petition, and therefore are not further discussed here.

<sup>29</sup> *Id.* at 31-35. The backfit issue is not raised by the Petition or Supplemental Petition, and is not considered further here.

<sup>30</sup> *Id.* at 19-20.

controls be implemented to “standardize the conduct and depth of license renewal operating experience reviews.”<sup>31</sup>

The Staff formally agreed to implement seven of the eight OIG recommendations.<sup>32</sup> Relative to the issues raised in the Petition, the Staff committed to: (1) update report-writing guidance to include management expectations and report-writing standards (April 30, 2008); (2) enhance the report review process to enable peer reviewers to verify that Staff reports meet management expectations, including a method to gauge the effectiveness of team leader and peer group review (April 30, 2008); (3) develop consistent guidance for removal of applicant and licensee documents from applicant and licensee sites (September 30, 2008); and (4) establish additional guidance and management controls to standardize the conduct and depth of license renewal operating experience reviews (April 30, 2008).<sup>33</sup> In a January 7, 2008 memorandum, the OIG stated that it considered the seven recommendations resolved.<sup>34</sup>

Later, on May 2, the OIG issued an additional memorandum on the NRC Staff’s license renewal review process.<sup>35</sup> That memorandum stated that the NRC safety review process includes both technical reviews performed in NRC headquarters and onsite audits. The OIG’s investigation found that the Staff’s audit reports indicate that the Staff reviews approximately 280 applicant documents during each audit. The OIG’s analysis of work-hour data indicated that significant numbers of hours — an average of approximately 10,582 per reactor unit — are spent performing the NRC Staff reviews.<sup>36</sup>

The OIG Memorandum found, however, that the Staff does not preserve copies of all applicant documents reviewed during onsite audits. It also found that Staff reviewers prepare “working papers,” including checklists, during the audits, but the Staff reviewers typically dispose of their working papers after they use them to prepare the audit reports. The OIG noted that an agency Management Directive “provides criteria as to what constitutes personally held non-record materials which may be retained or discarded at the author’s sole

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<sup>31</sup> *Id.* at 23.

<sup>32</sup> *See* Memorandum from William F. Kane to Stephen D. Dingbaum, “Audit of NRC’s License Renewal Program” (Oct. 30, 2007) (ADAMS Accession No. ML072630299) (Kane Memorandum). The Staff disagreed with the OIG’s recommendation that the Commission affirm or, preferably, modify its decision not to apply the backfit rule to license renewal applicants.

<sup>33</sup> *Id.* at 1-2.

<sup>34</sup> *See* Memorandum from Stephen D. Dingbaum to Luis A. Reyes, “Status of Recommendations: Audit of NRC’s License Renewal Program (OIG-07-A-15)” (ADAMS Accession No. ML080070247).

<sup>35</sup> *See* note 6, *supra*. In its follow-up review described in the OIG Memorandum, the OIG looked at the Staff’s review of two aging management programs each at Browns Ferry, Brunswick, D.C. Cook, and Oyster Creek.

<sup>36</sup> OIG Memorandum at 4.

discretion.”<sup>37</sup> The OIG did not suggest that the Staff disregarded the guidance in the Management Directive, but it did say that the Staff’s failure to maintain copies of applicant documents reviewed and its own working papers “made it difficult to verify specific details of staff on-site review activities.”<sup>38</sup>

The OIG Memorandum did not make further recommendations for improving the reporting for license renewal reviews.<sup>39</sup>

### C. Status of the Proceedings and Relationship to OIG Reports

Each of the four license renewal adjudicatory proceedings that are the subject of Petitioners’ request is at a different stage. In *Oyster Creek*, the Atomic Safety and Licensing Board issued its Initial Decision and is considering on remand from the Commission an issue relating to the drywell liner,<sup>40</sup> and the Board’s decision rejecting a late-filed contention is on appeal to the Commission.<sup>41</sup> In *Pilgrim* an evidentiary hearing was held on April 10, 2008, and a Board decision is pending.<sup>42</sup> In *Vermont Yankee*, the Staff issued an FSER in February 2008,<sup>43</sup> an evidentiary hearing was held in late July 2008, and a Board decision is pending. The *Indian Point* Board recently ruled on the majority of the various petitions for intervention and requests for hearing.<sup>44</sup>

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<sup>37</sup> *Id.* at 3 n.7. See Handbook 1 of NRC Management Directive 3.53, “NRC Records and Document Management Program” (Rev. Mar. 15, 2007).

<sup>38</sup> OIG Memorandum at 3-4.

<sup>39</sup> On June 26, 2008, the NRC Staff provided a status update to the OIG. Memorandum from Eric J. Leeds, Director, Office of Nuclear Reactor Regulation, to Stephen D. Dingbaum, OIG, “Status of Recommendations from ‘Audit of NRC’s License Renewal Program,’ (OIG-07-A-15)” (ADAMS Accession No. ML081480064). Thereafter, the OIG responded to the Staff with its analysis and status of its initial recommendations. Based on the Staff’s response, the OIG “closed” recommendations 1, 2, 5, 6, and 8 (no further action requested), and “resolved” recommendations 3, 4, and 7, subject to Staff updates in early 2009. Memorandum from Stephen D. Dingbaum, OIG, to R. William Borchardt, “Status of Recommendations: Audit of NRC’s License Renewal Program (OIG-07-A-15)” (Sept. 11, 2008) (ADAMS Accession No. ML082550627). Conclusions drawn by OIG in its September 11 memorandum do not alter the conclusions we reach today.

<sup>40</sup> *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-07-17, 66 NRC 327 (2007) (Initial Decision), referred to Board by order of the Secretary (Aug. 21, 2008) (unpublished).

<sup>41</sup> See *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-08-12, 68 NRC 5 (2008) (Denying Citizen’s motion to reopen the record and to add a new contention).

<sup>42</sup> See *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), Memorandum (Notice Pursuant to 10 C.F.R. § 2.309(i)) (Sept. 2, 2008) (unpublished).

<sup>43</sup> Safety Evaluation Report Related to the License Renewal of Vermont Yankee Nuclear Power Station (Feb. 2008), ADAMS Accession No. ML080560462.

<sup>44</sup> *Indian Point*, LBP-08-13, 68 NRC 43 (2008). Previously, the Board rejected petitions from the City of New York and from the New York Affordable Reliable Electricity Alliance for failure to state

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According to the OIG Report, the OIG looked at the *Oyster Creek* SER with Open Items and at some information relating to Vermont Yankee, but did not review the *Vermont Yankee* SER with Confirmatory Items.<sup>45</sup> The Pilgrim license renewal review was not included in the OIG’s analysis. The OIG Report expressly notes that it “does not extrapolate results from the sample to the entire universe of license renewal reviews.”<sup>46</sup>

#### **D. Petitioners’ Request**

The crux of the initial Petition is that the OIG Report shows that the license renewal process is so fatally flawed that the NRC cannot use the Staff’s FSERs as a foundation for issuing renewed licenses. Petitioners argue that doing so would violate the Atomic Energy Act requirement that the Commission may issue a license only after finding that it is “in accord with the common defense and security and will provide adequate protection to the health and safety of the public.”<sup>47</sup> In addition to the OIG Report, Petitioners argue that the Boards’ decisions in three early site permit cases — completely unrelated to license renewal — all show that the Boards found the Staff’s reviews to be lacking in some respect.<sup>48</sup>

Petitioners directed their request to the Commission itself, rather than to the Atomic Safety and Licensing Board Panel, because, according to Petitioners, their complaint focuses on the adequacy of the Staff’s review, rather than the license applications in the various proceedings. Petitioners ask us to consider their requests under our inherent supervisory authority over licensing proceedings, citing the general principle that the Board’s jurisdiction does not extend to overseeing or directing the NRC Staff in its license reviews.<sup>49</sup>

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any admissible contentions. Memorandum and Order (Denying the City of New York’s Petition for Leave to Intervene) (Dec. 12, 2007), Memorandum and Order (Denying the New York Affordable Reliable Electricity Alliance’s Petition for Leave to Intervene) (Dec. 12, 2007).

<sup>45</sup> According to the OIG Report, “there was no inspection report or safety evaluation report yet available for Vermont Yankee at the time of OIG’s analysis.” See Safety Evaluation Report with Confirmatory Items relating to the License Renewal of Vermont Yankee Nuclear Power Station (Mar. 2007). See OIG Report at 46 (Table 2).

<sup>46</sup> *Id.* at 45 n.24.

<sup>47</sup> Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2232(a). See Petition at 9-10.

<sup>48</sup> Petition at 19-21. Petitioners refer to *Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), LBP-07-9, 65 NRC 539 (2007), *aff’d*, CLI-07-23, 66 NRC 35 (2007); *System Energy Resources, Inc.* (Early Site Permit for Grand Gulf ESP Site), LBP-07-1, 65 NRC 27 (2007), *aff’d*, CLI-07-14, 65 NRC 216 (2007); and *Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), LBP-06-28, 64 NRC 460 (2006), *aff’d*, CLI-07-12, 65 NRC 203 (2007).

<sup>49</sup> See *Curators of the University of Missouri*, CLI-95-1, 41 NRC 71, 121-22 (1995), citing *Carolina* (Continued)

Petitioners ask that NRC suspend the four captioned license renewal proceedings — including both the Staff technical reviews and the pending adjudicatory proceedings in which Petitioners are parties — and perform a “complete overhaul” of the license renewal review process. They ask further that we initiate a second investigation, broader in scope than the OIG’s, by a body “independent of the NRC Staff”; revise our standards for license renewal reviews; revise the SERs accordingly; and allow new contentions in all four proceedings based on the findings in the “new” SERs.<sup>50</sup>

Petitioners’ Supplemental Petition, filed in response to the OIG Memorandum, focuses on the documentation, rather than the conduct, of the reviews. The Supplemental Petition claims that the Staff’s destruction of its working papers and its failure to retain and make public copies of all licensee documents reviewed was “illegal.”<sup>51</sup> Petitioners ask the Commission to order the Staff to “conduct an investigation to determine how this illegal document destruction became standard practice”<sup>52</sup> and order the Staff to preserve such documents in the future.<sup>53</sup> The Supplemental Petition also asks that the Commission go back to the applicants, determine which documents the Staff reviewed, and, for each aging management program, make a new independent determination of both whether the scope of the Staff review was adequate and whether the aging management program is sufficient to manage the effects of aging.<sup>54</sup>

The NRC Staff and Applicants oppose both Petitions.<sup>55</sup> Principally, they argue that the Petition has no substantive basis because the OIG Report did not conclude that Staff generally neglected to conduct necessary reviews, audits, and inspections. Further, they argue that Petitioners did not show “compelling”

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*Power and Light Co.* (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4), CLI-80-12, 11 NRC 514, 516 (1980).

<sup>50</sup> See Petition at 1-2. Petitioners request that the independent investigation be performed by the OIG, the Atomic Safety and Licensing Board Panel, or the ACRS.

<sup>51</sup> Supplemental Petition at 14.

<sup>52</sup> *Id.*

<sup>53</sup> *Id.* at 18.

<sup>54</sup> *Id.* at 17.

<sup>55</sup> NRC Staff Answer to Petition for Suspension of License Renewal Reviews Pending Investigation of NRC Staff License Renewal Process (Jan. 18, 2008) (Staff Answer to Petition); Answer of Entergy Nuclear Operations, Inc. Opposing Petition to Suspend License Renewal Reviews and Proceedings (Jan. 18, 2008) (with respect to the *Indian Point*, *Pilgrim*, and *Vermont Yankee* proceedings) (Entergy Answer to Petition); AmerGen’s Answer Opposing Petition for Stay and to Reopen the Record (Jan. 15, 2008) (with respect to the Oyster Creek proceeding) (AmerGen Answer to Petition); NRC Staff’s Answer to Supplemental Petition for Additional Investigation and Correction of Deficiencies in License Renewal Reviews (May 27, 2008) (Staff Answer to Supplemental Petition); Answer of Entergy Nuclear Operations, Inc. Opposing Supplemental Petition to Suspend License Renewal Proceedings (May 27, 2008) (Entergy Answer to Supplemental Petition); AmerGen’s Answer Opposing Citizens’ Supplemental Petition (May 23, 2008) (AmerGen’s Answer to Supplemental Petition).

grounds for the Commission to take the extraordinary action of suspending all proceedings. Both the NRC Staff and Applicants emphasize that the only issue appropriate for adjudication is the sufficiency of the license application, not the adequacy of the Staff's review. They point out that Petitioners — all intervenors in the individual license renewal proceedings — had the opportunity to raise contentions on the license renewal applications themselves. Staff and Applicants also raise issues regarding timeliness and service, and point to Petitioners' failure to certify that they attempted to contact the nonmoving participants in order to resolve the dispute prior to filing a motion.<sup>56</sup> In addition, the NRC Staff and Applicants vigorously oppose the suggestion that the Staff was required to retain and make public the "working papers" mentioned in the OIG Memorandum.

Petitioners filed replies<sup>57</sup> to the Staff's and Applicants' answers to both the initial Petition and the Supplemental Petition, together with motions for our approval to file a reply.<sup>58</sup> The Staff opposed the replies.<sup>59</sup> In addition, the State of

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<sup>56</sup> See 10 C.F.R. § 2.323(b).

<sup>57</sup> Replies were filed in each of the captioned dockets, identical except for certificates of service. Reply by Nuclear Information and Resource Service; Jersey Shore Nuclear Watch, Inc.; Grandmothers, Mothers and More for Energy Safety; New Jersey Public Interest Research Group; New Jersey Sierra Club; New Jersey Environmental Federation; Riverkeeper; Pilgrim Watch and New England Coalition to Oppositions to Petition to Suspend License Renewal Reviews for Oyster Creek, Indian Point, Pilgrim and Vermont Yankee Nuclear Power Plants Pending Investigation of NRC Staff Review Process and Correction of Deficiencies (Jan. 25, 2008); Reply by Nuclear Information and Resource Service; Jersey Shore Nuclear Watch, Inc.; Grandmothers, Mothers and More for Energy Safety; New Jersey Public Interest Research Group; New Jersey Sierra Club; New Jersey Environmental Federation; Riverkeeper; Pilgrim Watch and New England Coalition to NRC Staff Opposition to Supplemental Petition for Additional Investigation and Correction of Deficiencies Regarding License Renewal Reviews for Oyster Creek, Indian Point, Pilgrim, and Vermont Yankee Nuclear Power Plants (June 4, 2008).

<sup>58</sup> Motion by Nuclear Information and Resource Service; Jersey Shore Nuclear Watch, Inc.; Grandmothers, Mothers and More for Energy Safety; New Jersey Public Interest Research Group; New Jersey Sierra Club; New Jersey Environmental Federation; Riverkeeper; Pilgrim Watch and New England Coalition for Leave to Reply to Oppositions to Petition to Suspend License Renewal Reviews for Oyster Creek, Indian Point, Pilgrim and Vermont Yankee Nuclear Power Plants Pending Investigation of NRC Staff Review Process and Correction of Deficiencies (Jan. 25, 2008); Motion by Nuclear Information and Resource Service; Jersey Shore Nuclear Watch, Inc.; Grandmothers, Mothers and More for Energy Safety; New Jersey Public Interest Research Group; New Jersey Sierra Club; New Jersey Environmental Federation; Riverkeeper, Inc.; Pilgrim Watch and New England Coalition for Leave to Reply to NRC Staff's Oppositions to Supplemental Petition for Additional Investigation and Correction of Deficiencies Regarding License Renewal Reviews for Oyster Creek, Indian Point, Pilgrim, and Vermont Yankee Nuclear Power Plants (June 4, 2008).

<sup>59</sup> See NRC Staff's Response in Opposition to Motion for Leave to Reply (Feb. 4, 2008), and NRC Staff's Response to Joint Motion for Leave to Reply to NRC Staff Opposition to Supplemental Petition for Additional Investigation and Correction of Deficiencies in License Renewal Reviews (June 16, 2008). See 10 C.F.R. § 2.323(c) ("The moving party has no right to reply except as permitted by

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New York, a party to the *Indian Point* license renewal matter, filed a Response in support of the initial Petition.<sup>60</sup> We have considered the replies but we see nothing in them that alters our analysis of the initial Petition or the Supplemental Petition, which we deny for the reasons set forth below.

## II. DISCUSSION

Petitioners' requests do not fit cleanly within any of the procedures described within our rules of practice.<sup>61</sup> We treat them here as general motions brought under the procedural requirements of 10 C.F.R. § 2.323. Notwithstanding the requirement that motions initially be addressed to the Presiding Officer when a proceeding is pending,<sup>62</sup> here we agree with Petitioners that their motions are best addressed by us pursuant to our inherent supervisory authority over agency proceedings.<sup>63</sup>

### A. Merits of the Petitions

The purpose and scope of a licensing proceeding is to allow interested persons the right to challenge the sufficiency of the application. The NRC has not, and will not, litigate claims about the adequacy of the Staff's safety review in licensing adjudications.<sup>64</sup> Each of Petitioners' pleadings, however, simply builds upon the fundamentally flawed premise that Petitioners do have that right.

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the . . . presiding officer. Permission shall be granted only in compelling circumstances, such as where the moving party demonstrates that it could not have anticipated the arguments to which it seeks leave to reply'').

<sup>60</sup> State of New York's Response in Support of the Petition to Suspend License Renewal Reviews for Oyster Creek, Indian Point, Pilgrim, and Vermont Yankee Nuclear Power Plants Pending Investigation of NRC Staff Review Process and Correction of Deficiencies (Jan. 18, 2008). The New York State Attorney General's office also sent a letter to the Commissioners in support of the Petition. Letter from Katherine Kennedy to the Commissioners (Jan. 18, 2008).

<sup>61</sup> The Petitioners note at the outset that, in the context of this Petition, they do not seek enforcement action pursuant to 10 C.F.R. § 2.206, nor do they request rulemaking pursuant to 10 C.F.R. § 2.802. Petition at 7.

<sup>62</sup> 10 C.F.R. § 2.323(a).

<sup>63</sup> See *Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-02-23, 56 NRC 230, 237 (2002). As acknowledged by the Petition (at 7), our consideration of these petitions should not be read as tacit approval for participants in adjudicatory proceedings to bypass the Board by filing motions directly with us.

<sup>64</sup> See Final Rule: "Changes to Adjudicatory Process," 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004) (citing *Curators of the University of Missouri*, CLI-95-1, 41 NRC at 121-22, and prior agency rulings holding same). See also *Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), CLI-04-6, 59

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It is the applicant, not the Staff, that has the burden of proof in litigation.<sup>65</sup> Our contention pleading rules emphasize that the petitioner must show that a “genuine dispute exists *with the applicant/licensee* on a material issue of law or fact.”<sup>66</sup> Petitioners have had ample opportunity to present such contentions during the course of these proceedings. Their request for a complete overhaul of the license renewal review process is largely, if not entirely, outside the scope of these adjudications.

Furthermore, neither the OIG Report nor the OIG Memorandum establishes a need for a complete overhaul of the license renewal process. For instance, the OIG does not question the comprehensive SRP-LR or the capability of the Staff to conduct the necessary reviews under 10 C.F.R. Part 54. The OIG identified certain weaknesses in the review process (which it illustrated with concrete examples), and made precise recommendations for addressing the identified areas of improvement. The Staff agreed with, and is in the process of implementing, all but one of these recommendations (Recommendation 8). The OIG did not characterize any of the findings as posing a risk — imminent or otherwise — to the public health and safety, or to the common defense and security.

In sharp contrast to the OIG’s specific recommendations, the initial Petition asserted generally that the entire license renewal process is inadequate and needs a complete “overhaul.” Then, in response to the OIG Memorandum, which confirmed that Staff does indeed spend a significant amount of time and effort in the license renewal process, Petitioners shifted the focus of their complaint to the amount of documentation that is made publicly available.

### ***1. No Need Shown to Overhaul the License Renewal Review Process***

Petitioners’ fundamental concern appears to be that the NRC Staff is not faithfully carrying out the process that has been developed. But in support of their Petitions, Petitioners have offered nothing more than speculation that the Staff has simply copied the license renewal applications rather than conducting the audits and inspections described in the standard review plan.<sup>67</sup> They argue that the OIG Report “shows” that the Staff “merely copied directly from the

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NRC 62, 74 (2004); *Calvert Cliffs*, CLI-98-25, 48 NRC at 349-50. An exception to this is the NRC Staff’s review under the National Environmental Policy Act (NEPA). NEPA places legal duties on the NRC, not on license applicants.

<sup>65</sup> See *Curators of the University of Missouri*, CLI-95-1, 41 NRC at 121.

<sup>66</sup> 10 C.F.R. § 2.309(f)(1)(vi) (emphasis added).

<sup>67</sup> See, e.g., Petition at 14.

license renewal applications’’<sup>68</sup> and that ‘‘the Staff may not have conducted any independent reviews at all.’’<sup>69</sup>

As the Staff suggests, however, the Staff’s reliance on program basis documents in some instances is part of an overall review that reflects independent Staff judgment in a variety of ways.<sup>70</sup> For instance, the Staff notes that it propounded over a hundred requests for additional information and over 350 audit questions in the course of its review of the Oyster Creek license renewal application.<sup>71</sup>

Furthermore, the OIG Report *did not* conclude that the Staff generally neglected to conduct necessary reviews, audits, and inspections. Rather, the OIG Report identified one area where it might appear that the Staff may not be gathering facts independently, i.e., that portion of the application where the applicant describes its experience in implementing the aging management programs that are already in place. The OIG Report cites several examples in which the description in an SER of a licensee’s operating experience seemingly was copied directly out of a license renewal application.<sup>72</sup> However, the OIG Report notes that the Staff may have independently investigated operating experience even where the SERs’ description of operating experience is the same as in the license renewal application.<sup>73</sup> For example, the OIG Report cites a portion of the Oyster Creek SER with Open Items pertaining to the licensee’s flow-accelerated corrosion program as an example where the Staff’s discussion seems simply to repeat the licensee’s description of its operating experience.<sup>74</sup> In that instance, the Staff states that it confirmed the application information through interviews with the licensee’s technical staff.<sup>75</sup> The OIG Report did not opine that discussion with an applicant’s staff was an ‘‘invalid’’ method of verifying experience, *per se*. Rather, the OIG Report recommended use of license applicants’ corrective action databases for ‘‘spot checking’’ operating experience and establishment of guidelines for doing so.<sup>76</sup>

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<sup>68</sup> *Id.*

<sup>69</sup> *Id.* at 23.

<sup>70</sup> NRC Staff Answer to Supplemental Petition at 13.

<sup>71</sup> *Id.*

<sup>72</sup> OIG Report at 49.

<sup>73</sup> *Id.* at 10.

<sup>74</sup> *Id.* at 49. We note that the GALL Report only provided a brief and general description of operating experience on this aging management program, whereas the Oyster Creek application provided a lengthy description of that licensee’s operating experience in the implementation of this program. Compare GALL Report § XI.M17 (at XI M-62) with Oyster Creek Generating Station License Renewal Application, App. B at B-41 to B-42 (ADAMS Accession No. ML052080185) (July 22, 2005).

<sup>75</sup> See NUREG-1875, Vol. 2, at 3-15.

<sup>76</sup> See OIG Report at 19-21.

It is also important to keep in mind that “operating experience” is only one element of ten considered essential in evaluating an aging management program, which in turn is only one of the matters the Staff must consider for license renewal. Petitioners, however, would have us assume that what the OIG found with respect to this one element is true with respect to the entire safety review. Petitioners have provided no examples from other portions of the pertinent SERs, where it appears that the Staff copied material from the license renewal applications.

Petitioners’ complaint that the Staff is merely “parroting” the license application, which is in turn merely “parroting” NRC Guidance documents, merits comment.<sup>77</sup> The portions of the SERs that the OIG Report referenced as not showing independent verification concerned the plant’s individual operating experience, but neither the OIG nor the Petitioners cited any example from any license renewal application where the applicant’s description of operating experience was “copied” from the GALL Report. With respect to other elements of the aging management programs in particular, Petitioners are mistaken that it is inappropriate for the applications to “parrot” the GALL Report. The purpose of the GALL Report is to identify and describe programs which have proved effective in managing aging effects in reactors. Deviations from the generically approved programs must be individually justified by the license renewal applicant. The license renewal applicant would, therefore, naturally use similar wording to describe its own aging management programs in order to demonstrate that they are the same as the corresponding programs described in the GALL Report.

Significantly, the OIG Report did not suggest that the Staff should abandon all reliance on a license renewal applicant’s regulatory obligation to submit complete and accurate information.<sup>78</sup> Rather, it recommended that management should *standardize* the scope and depth to which the Staff verifies the facts with respect to operating experience.<sup>79</sup> Importantly, the OIG Report did not suggest, as Petitioners have, that members of the NRC Staff represented that they conducted audits or inspections that they did not in fact perform.<sup>80</sup>

Petitioners have not shown a compelling basis for their demand for a complete license renewal “overhaul.” The OIG Report provides no basis for such an overhaul, as we have explained. Further, Petitioners have not demonstrated any other basis to comprehensively revisit the Staff’s regulatory review process. Indeed, they have not pointed to any weakness in the SRP-LR or shown any reason why license renewal applicants should not be permitted to reference the GALL Report to show that their existing aging management programs will effectively maintain safety systems. They have not made any specific suggestions as to

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<sup>77</sup> See Petition at 3.

<sup>78</sup> See, e.g., 10 C.F.R. §§ 50.9, 54.13.

<sup>79</sup> OIG Report at 11.

<sup>80</sup> See, e.g., Petition at 14-15, 25, 29.

additional steps to be taken in addition to the procedures the Staff has developed for license renewal review.

Petitioners fail to make the important distinction between the entire license renewal review process — including the Staff’s document reviews, audits, and inspections — and the final step, which is documentation of the Staff’s review in an FSER. Many of the portions of the OIG Report to which Petitioners cite discuss the Staff’s report writing, not the substance of its review. For example, the OIG Report stated that the “lack of precision in differentiating quoted and unquoted text makes it difficult for the reader to distinguish between the licensee-provided data and NRC Staff’s independent assessment and conclusions.”<sup>81</sup> This is a question of effective documentation, not a question of whether Staff has verified an appropriate selection of facts. Similarly, the Report said that the Staff’s “description of the methods used and the support they provided for their conclusions often lack substance.”<sup>82</sup> As the Staff suggested in its brief, the recommendation could be implemented by adding “appropriately placed citations to the established methodologies in the SERs.”<sup>83</sup> Similarly, the issue raised in the Supplemental Petition — whether the Staff reviewers should have kept their working papers as agency records — relates to documentation.

In addition, Petitioners’ reference in their initial Petition to comments made by the licensing boards in three early site permit (ESP) cases adds no weight to Petitioners’ insinuations that the Staff does a generally poor job of reviewing any sort of license application. First of all, we note that all three boards (and, in each case, the Commission) found that the permit should be issued.<sup>84</sup> Even considering the Boards’ comments in a light most favorable to Petitioners, they were insufficient to render invalid the Staff’s ESP reviews, and do not support a determination that the Staff’s review processes (be they license renewal or otherwise) are substantively flawed.

Indeed, in reviewing the *Clinton* ESP decision, we expressly *rejected* the idea that the Staff’s review of that ESP application had not been adequate.<sup>85</sup> There, we explicitly endorsed the Staff’s “longstanding regulatory practice” of prioritizing which facts to verify and generally expecting the license applicants to provide correct and complete information in applications submitted under oath.<sup>86</sup> We take

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<sup>81</sup> *Id.* at 9.

<sup>82</sup> OIG Report at 11.

<sup>83</sup> Staff Brief at 19.

<sup>84</sup> In any event, a Board’s criticism of the Staff’s review with respect to one application is in no way material to the review of another, wholly distinct application, absent an obvious and direct connection to the licensing action at issue. We see no such connection here.

<sup>85</sup> *Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-07-12, 65 NRC 203, 207-08 (2007).

<sup>86</sup> *Id.*

this opportunity to reiterate that it is neither possible nor necessary for the Staff to verify each and every factual assertion in complex license applications, including license renewal applications. The Staff's audit, or sampling, method of verifying a license renewal applicant's aging management programs, together with the other components of its review, enables the Staff to make the safety findings necessary for issuance of a renewed license.<sup>87</sup>

In December, 2006, the NRC turned down a petition for rulemaking urging that deficiencies in the NRC Staff's safety reviews required fundamental changes in — and broadening the scope of — the license renewal process.<sup>88</sup> Lawsuits challenging the rulemaking denial, brought by some of the Oyster Creek intervenors (among others), were recently resolved in the NRC's favor.<sup>89</sup> For the reasons given in the NRC's rulemaking denial, we remain convinced that the agency's current license renewal approach and process are sensible and lawful. That is not to say that improvements cannot be made, as, for example, the transparency-driven enhancements OIG suggested in its recent report. But we are aware of nothing calling for the complete overhaul that Petitioners demand.

For these reasons, Petitioners have not demonstrated, nor do we otherwise find, a basis for conducting a "comprehensive overhaul" of the Staff's license renewal review process. With this in mind, we now turn to Petitioners' claims that the Staff improperly destroyed records.

## **2. *Claims That Staff Illegally Destroyed Records***

Petitioners' claim that the NRC Staff improperly destroyed official agency records does not support their motion to suspend these particular license renewal proceedings or to overhaul the license renewal review process in general. As discussed above, the Petitioners are mistaken that they have a legal entitlement to scrutinize, second guess, and adjudicate the "quality" of the Staff's review *per se*. Further, this claim is based on a misinterpretation of an NRC Management Directive intended to clarify the agency's obligations under the Federal Records

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<sup>87</sup> See also 10 C.F.R. § 54.13 (requiring, among other things, that information provided to the Commission by a license renewal applicant for a renewed license must be complete and accurate in all material respects).

<sup>88</sup> Petition for Rulemaking: Denial, 71 Fed. Reg. 74,848 (Dec. 13, 2006).

<sup>89</sup> *Spano v. NRC*, No. 07-0324-ag (L) (2d Cir. Sept. 19, 2008) (Summary order) (denying petitions for review).

Act (FRA)<sup>90</sup> and regulations promulgated by the National Archives and Records Administration.<sup>91</sup>

The focus of the license proceeding must be the sufficiency of the application, not the adequacy of the Staff's review. Petitioners' initial Petition acknowledged this principle.<sup>92</sup> But their Supplemental Petition goes well beyond the initial Petition in proposing that the Commission investigate the Staff's review of each aging management program, determine whether that review was sufficient, and allow Petitioners an opportunity to file new contentions.<sup>93</sup> Even if the working files at issue should have been preserved as agency records, the Petitioners have made no argument regarding how destruction of these working files could meet the contention admissibility standards in our regulations. The Commission pointed out in *Curators of the University of Missouri* that it would be unfair to deny a meritorious application because the Staff's review was found lacking.<sup>94</sup> It would make even less sense to punish the applicant for the Staff's paperwork management practices.

The FRA gives federal agencies some discretion in determining which documentary materials are appropriate for preservation as an agency "record." Agency "records" are defined as:

all books, papers, maps, photographs, or other documentary materials . . . made or received by an agency . . . in connection with the transaction of public business and preserved or appropriate for preservation by that agency . . . as evidence of the organization functions, policies, decisions, procedures, operations or other activities of the government or because of the informational value of the data in them.<sup>95</sup>

NRC's Management Directive 3.53<sup>96</sup> provides the Commission's interpretation of its obligations under the FRA, as well as the Commission's expectations for the Staff in fulfilling those obligations. It should be noted, however, that the Management Directive itself does not have the force of law. The pertinent section of the Management Directive provides that:

Working files, such as preliminary drafts and rough notes and other similar materials,

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<sup>90</sup>The "Federal Records Act" is the common name of a series of statutes that govern the creation, management, and disposal of records by federal agencies. See 44 U.S.C. §§ 2101-2118, 2901-2909, 3101-3107, 3301-3324.

<sup>91</sup>36 C.F.R. Part 1220.

<sup>92</sup>Petition at 6-7.

<sup>93</sup>Supplemental Petition at 17-18.

<sup>94</sup>CLI-95-1, 41 NRC at 121-22.

<sup>95</sup>FRA, 44 U.S.C. § 3301; see also 36 C.F.R. § 1220.14 (same definition).

<sup>96</sup>Handbook 1 of Management Directive 3.53, "NRC Records and Document Management Program" (Rev. Mar. 15, 2007).

will be maintained and filed with the official record for purposes of adequate and proper documentation if they meet the following two conditions:

- They were circulated or made available to employees, other than the creator, for official purposes such as approval, comment, action, recommendation, followup, and to communicate with agency staff about agency business.
- They contain unique information, such as substantive annotations or comments, that adds to a proper understanding of the agency's formulation and execution of basic policies, decisions, actions, or responsibilities.<sup>97</sup>

Petitioners interpret this provision as meaning any document that satisfies *either* condition must be preserved.<sup>98</sup> They contend that the destroyed Staff working papers satisfy the second condition, because they contain “unique information . . . that adds to a proper understanding of [the reviewer’s] decision” that a particular aging management program meets the criteria listed in the GALL Report.

We disagree with that interpretation. The phrase “if they meet the following two conditions” clearly requires that both conditions be satisfied.<sup>99</sup> Moreover, the provision in the Management Directive is taken almost word for word from National Archives and Records Administration regulations, with the exception that the *Code of Federal Regulations* provision uses the word “and” between the two conditions that must be present to qualify a “working file” as an agency record.<sup>100</sup> So, to constitute an agency record, a working file must contain unique information that underlies an agency decision, *and* it must also have been made available to other agency employees for purposes of helping to reach or support that decision. Otherwise, materials created by an employee for the individual’s own use in performing his or her job, and which are not circulated (and are not otherwise required by NRC policy to be maintained), may be discarded at the employee’s discretion.<sup>101</sup>

Petitioners make no concrete showing of the destruction of unique and significant documentary information. They also make only the faintest attempt to address the requirement of circulation for official purposes.<sup>102</sup> While the OIG

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<sup>97</sup> Handbook 1, Management Directive 3.53 (Rev. Mar. 2007), at 19-20.

<sup>98</sup> Supplemental Petition at 10.

<sup>99</sup> As with statutes, the plain meaning of a regulation controls its interpretation. *See, e.g., Tesoro Hawaii Corp. v. United States*, 405 F.3d 1339, 1346 (Fed. Cir. 2005); *Time Warner Entertainment Co. L.P. v. Everest Midwest Licensee, L.L.C.*, 381 F.3d 1039, 1051 (10th Cir. 2004); *U.S. Department of Energy* (High-Level Waste Repository), CLI-06-5, 63 NRC 143 (2006).

<sup>100</sup> 36 C.F.R. § 1222.34(c).

<sup>101</sup> Management Directive 3.53, at 45, 62. *See also* 36 C.F.R. § 1228.24(b)(5) (Nonrecords may be discarded in accordance with instructions in the agency’s published records control guidelines).

<sup>102</sup> Supplemental Petition at 13.

observed that license renewal review audit team members do not keep all notes and working papers that they utilize in preparing formal audit reports, the OIG made no finding of a violation of law, regulation, or agency policy regarding record retention, let alone wholesale violations warranting dramatic action.<sup>103</sup> We conclude, therefore, that there is no basis in the OIG Memorandum or in Petitioners' submission to find that Staff members improperly disposed of agency records.

## **B. The Petition Does Not Support Adjudicatory Relief**

As discussed below, given that we find no basis to “completely overhaul” the license renewal process, there is no reason to “suspend” or otherwise stay the currently pending license renewal reviews or the associated adjudicatory proceedings. Nor have Petitioners justified reopening the record in the *Oyster Creek* proceeding.

### ***1. Suspension of the Ongoing Adjudicatory Proceedings***

The Commission considers suspension of licensing proceedings a “drastic” action that is not warranted absent “immediate threats to public health and safety.”<sup>104</sup> While our regulations do not provide for a “motion to suspend” a proceeding, we have occasionally considered similar requests to suspend proceedings

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<sup>103</sup> Even if the working papers should have been retained under the terms of MD 3.53 and applicable National Archives and Records Administration regulations, and thus constituted “agency records,” Petitioners would not necessarily have been entitled to see them. The Freedom of Information Act (FOIA) protects intra-agency memoranda developed during the decisionmaking process under the deliberative process privilege. FOIA, 5 U.S.C. § 552(b)(5). If documents in the working papers were circulated for the purpose of reaching a decision on the adequacy of a particular aging management program, they would most likely fall under the deliberative process privilege. *See, e.g., Mapother v. Department of Justice*, 3 F.3d 1533, 1539 (D.C. Cir. 1993) (deliberative process privilege protected summaries of information gathered to assist the agency in reaching a “complex” and “significant” policy decision, where the summaries reflected the judgment or opinion of their compiler); *see also Montrose Chemical Corp. v. Train*, 491 F.2d 63, 70 (D.C. Cir. 1974) (deliberative process privilege purpose is “not only to encourage frank intra-agency discussion of policy but also to ensure that the mental processes of decision-makers are not subject to public scrutiny”). While this privilege is a qualified one, Petitioners would have to show that their need for the information outweighed potential harm to the agency from that disclosure. *Redland Soccer Club v. Department of the Army*, 55 F.3d 827, 854 (3d Cir. 1995), *cert. denied*, 516 U.S. 1071 (1996); *Chevron U.S.A. v. United States*, 80 Fed. Cl. 340, 356 (2008).

<sup>104</sup> *Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Power Station)*, CLI-00-20, 52 NRC 151, 173-74 (2000) (refusing request to suspend all license transfer proceedings involving a particular transferee while the Commission examined effects of ownership by limited liability companies).



or hold them in abeyance in the exercise of our inherent supervisory powers over proceedings. For example, we considered similar motions presented to us in the wake of the September 11 terrorist attacks. We ultimately rejected such requests pending the Commission's comprehensive review of anti-terrorist measures at licensed facilities.<sup>105</sup> We declined to suspend the Diablo Canyon independent spent fuel storage installation license proceeding pending the post-9/11 security review, citing the public's interest in expeditious resolution of adjudicatory matters.<sup>106</sup> But we also reasoned that, should the review result in security enhancements for spent fuel storage facilities, those enhancements could be implemented at Diablo Canyon even after the license issued.<sup>107</sup>

Similarly, we expect licensees and license renewal applicants to adjust their aging management programs to reflect lessons learned in the future through individual and industrywide experiences. "The license renewal program is a living program"<sup>108</sup> that continues to evolve. As new insights or changes emerge over time, we expect the Staff to require, as appropriate, any modification to systems, structures, or components that is necessary to assure adequate protection of the public health and safety, or to bring the facility into compliance with a license, or the rules and orders of the Commission.<sup>109</sup>

Finally, in all proceedings the stakeholders have an interest in "efficient and expeditious" resolution.<sup>110</sup> We see no reason to suspend the proceedings to await an "overhaul," which we have found unnecessary, to the license review process.

## **2. Motion to Reopen the Record in Oyster Creek**

Petitioners in the *Oyster Creek* proceeding have not met the requirements for reopening the record, which closed on September 25, 2007.<sup>111</sup> Reopening a closed record requires, among other things, a showing that the motion is timely. Petitioners' motion was filed 4 months after the OIG Report on which it is based became available to the public.<sup>112</sup> Next, such a motion "must address a significant

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<sup>105</sup> See *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-26, 54 NRC 376 (2001). See also *Diablo Canyon*, CLI-02-23, 56 NRC 230; *Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), CLI-01-28, 54 NRC 393 (2001).

<sup>106</sup> CLI-02-23, 56 NRC at 238.

<sup>107</sup> *Id.* at 239.

<sup>108</sup> *E.g.*, *Oyster Creek FSER*, NUREG-1875 at 1-6.

<sup>109</sup> 10 C.F.R. § 50.109. See *Diablo Canyon*, CLI-02-23, 56 NRC at 240.

<sup>110</sup> See generally *Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC 18 (1998).

<sup>111</sup> See 10 C.F.R. § 2.326. An appeal is currently pending before the Commission on a request to reopen the record and admit a contention on an unrelated matter. See *Oyster Creek*, LBP-08-12, 68 NRC 5 (denying Citizen's motion to reopen the record and to add a new contention).

<sup>112</sup> The OIG Report was released to the public on September 7, 2007.

safety or environmental issue.’’<sup>113</sup> Petitioners offer only the speculation that the Staff may have failed to identify such an issue because their review may have been insufficiently thorough.

The moving party must show that a ‘‘materially different result . . . would have been likely’’ if the new information had been available to the Board.<sup>114</sup> In fact, the OIG Report was publicly available at the time of the hearing. But it could not have altered the result in the license renewal hearing in a ‘‘material’’ way, both because the OIG Report does not provide support for a substantive challenge to the license renewal application and because the Staff review is outside the scope of the hearing.<sup>115</sup>

Finally, a motion to reopen must be supported by ‘‘affidavits that set forth the factual and/or technical basis for the movants’ claim’’ that a significant and material safety or environmental issue exists.<sup>116</sup> Petitioners provided no affidavits — only mere speculation that, if the Staff undertook another review of the Oyster Creek license renewal application starting after all of the OIG recommendations have been fully implemented, the conclusions in the FSER might be materially different — something, in other words, *might* turn up supporting Petitioners’ concerns. This does not justify restarting the hearing process. For these reasons, the Oyster Creek Petitioners’ motion to reopen the proceeding is denied.<sup>117</sup>

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<sup>113</sup> 10 C.F.R. § 2.326(a)(2).

<sup>114</sup> 10 C.F.R. § 2.326(a)(3).

<sup>115</sup> Five of the Petitioners participated as intervenors in the *Oyster Creek* license renewal proceeding, and thus have had opportunity to be heard on litigable issues appropriately within the scope of the agency’s license renewal review. After an evidentiary hearing, the Board ruled in the applicant’s favor. (See LBP-07-17, 66 NRC 327 (2007)). Although in response to Intervenors’ Petition for Review, the Commission requested additional briefs (see CLI-08-10, 68 NRC 357 (2008)) and referred a single issue to the Board for consideration of additional evidence (Order of the Secretary (Aug. 21, 2008) (unpublished)), it would be unfair to the applicant to delay this proceeding even further because of supposed deficiencies in the Staff’s review. Compare *Curators of the University of Missouri*, CLI-95-1, 41 NRC at 121 (‘‘even assuming *arguendo* that Staff did conduct an insufficient review, a denial of a meritorious application on that ground would be grossly unfair — punishing the applicant for an error by Staff’’).

<sup>116</sup> 10 C.F.R. § 2.326(b).

<sup>117</sup> Petitioners also cite an incident pertaining to the Oyster Creek facility (Petition at 17-19), relevant to maintenance of certain equipment and the plant’s commitment tracking system. It is not clear that this issue would appropriately fall within the scope of license renewal review, and therefore, it does not support Petitioners’ fundamental premise that the Staff’s license renewal review process is flawed. To the extent that Petitioners are attempting to raise concerns regarding an ongoing operational issue at the Oyster Creek facility, the appropriate avenue for resolution of such a concern is via the 10 C.F.R. § 2.206 process.

### C. Other Matters

As an alternative to completely overhauling the review process, Petitioners suggest that “if the problems identified by the OIG turn out to primarily concern reporting rather than a failure to perform the reviews,” then the SERs should be “comprehensively revised.”<sup>118</sup>

We would not call upon the Staff to undertake cumbersome and resource-intensive revisions of the already-completed Oyster Creek, Vermont Yankee, and Pilgrim FSERs, or of other previously completed license renewal reviews, where we have no basis for concluding that the Staff’s safety reviews were inadequate to assure that the licensees have appropriate aging management programs in place.<sup>119</sup> As discussed above, we find no evidence, in either the OIG Report or the Petition, to require an “overhaul” of the license renewal review process. We base this conclusion on the fact that neither the Petition nor the OIG Report has identified any safety issue resulting from the OIG investigation.

It also bears noting that each license renewal application addressed by the Petition has been the subject of a hearing opportunity. In that context, Petitioners have had, or will have, the opportunity to ventilate litigable issues within the scope of license renewal. Substantive challenges to license renewal applications are appropriately made in that context.<sup>120</sup>

In summary, we find no basis to require the Staff to revisit any completed SERs for license renewal. We expect that such an exercise would not result in any change to the Staff’s conclusions or recommendations and, therefore, is not warranted.<sup>121</sup>

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<sup>118</sup> Petition at 30.

<sup>119</sup> We note that, with respect to the *Indian Point* review, the Staff has stated its intent to revise the schedule for completion of its review for a number of reasons, including to account for corrective actions stemming from the OIG recommendations. See letter from Brian Holian, Director, Division of License Renewal, Office of Nuclear Reactor Regulation, to Joseph E. Pollock (Vice President Operations, Entergy Nuclear Operations, Inc.) (Sept. 2, 2008) (ADAMS Accession No. ML082400214).

<sup>120</sup> In addition, even though Petitioners expressly declined to seek enforcement action pursuant to 10 C.F.R. § 2.206, if they, or any other person, wish to institute a proceeding to modify, suspend, or revoke a license, or to request other action, that mechanism remains open to them.

<sup>121</sup> Commissioner Jaczko, in his partial dissent, expresses the view that the Commission should require the Staff to supplement the record with information on whether Staff followed applicable guidance and to provide verifications with respect to its exercise of independent judgment and its documentation. For multiple reasons discussed above, the Commission majority does not find it necessary to do so. For instance, the Staff’s safety and environmental findings are already reflected in its formal reports that are made part of the record, and the applications themselves have been subject to adjudicatory hearing opportunities. In addition, it bears repeating that it is appropriate for the Staff to exercise judgment in deciding which facts to verify and the extent of its audits, since applicants

(Continued)

### III. CONCLUSION

For the foregoing reasons, the Petitions are denied.  
IT IS SO ORDERED.

For the Commission

ANNETTE L. VIETTI-COOK  
Secretary of the Commission

Dated at Rockville, Maryland,  
this 6th day of October 2008.

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are expected to provide complete and accurate information in all material respects. The OIG, while identifying methods for improving the Staff's review and documentation, also found that the Staff in fact expended enormous effort in conducting its license renewal reviews, including its review of the Oyster Creek application. Asking the Staff to provide verifications regarding completed reviews likely would subject the Staff to the task of replicating much of its prior work in order to complete a meaningful and thorough re-review — a task with no obvious end point.

### **Commissioner Gregory B. Jaczko Respectfully Dissents, in Part**

While I concur with a majority of this decision, I respectfully dissent, in part. The Office of Inspector General's (OIG) Audit of the License Renewal Program found that the Staff did not consistently provide adequate descriptions of audit methodology or support for conclusions in license renewal reports. I agree with the majority that this does not necessarily mean that the Staff's safety findings are invalid, but it certainly means that it is difficult in some instances to ascertain the basis for the Staff's safety findings from the license renewal documentation. And as the OIG noted, "adequate documentation of review methodologies and support for staff conclusions in license renewal reports is important for supporting the sufficiency and rigor of NRC's review process." (OIG Audit of NRC's License Renewal Program at 7).

Because of the importance of these license renewal reports and their role in establishing a complete and sound basis for the agency's ultimate license renewal decisions, I supported a version of the Order that would have required the Staff in each of the cases before us to supplement the record with information as to whether Staff followed applicable guidance and whether its review reflected an exercise of independent Staff judgment. I want to be clear that this is not an issue about the integrity of the NRC Staff, but an issue about the integrity of the documents upon which the agency relies in making its decision. I believe requiring these documents to be clarified or supplemented as necessary, would have been a simple yet effective way to verify to the public that the Staff's analysis and findings in each of these cases was the result of an independent Staff judgment — something that the IG report does call into question and something that the current record neglects to address.

I believe this is not only the obvious next step, but a necessary one if we intend to confirm what we think we know. After all, if this is, as we all assume, simply an issue with transparency of documentation, then it is a straightforward thing to resolve — request verification of the documentation. If it is more than that, there is only one way to find out — request verification of the documentation. In either instance, the answer is the same. Thus, I disagree with the majority's decision on this point and instead believe we should have required Staff to supplement the record with this information. I can find no justification or benefit to leaving a record begging these obvious questions.

I also believe, similarly, that the issue raised in the supplemental petition — that the Staff improperly destroyed documentation — could be resolved through verification of the documentation. While the Petitioners have not argued how this issue could meet the standards for an admissible contention in our regulations, verification of the documentation could provide a basis for the Commission to judge the significance of the Staff's discarding field notes created during onsite audits. This would assist us not only in resolving the issues raised by the

Petitioners, but would provide us with information that might lead us to direct the Staff to change its practices with respect to documenting field audits, or to initiate additional OIG investigation, if either of these actions is warranted.

Finally, I believe that the majority order misses an opportunity to highlight the ongoing efforts aimed at improving reviews in the license renewal area, including Staff's efforts to address the recommendations in the IG's original report. Whether one characterizes such efforts as an "overhaul" or not, I believe these changes will bring increased transparency to the hard work the Staff does in reviewing license renewal applications and I look forward to their implementation.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**COMMISSIONERS:**

**Dale E. Klein**, Chairman  
**Gregory B. Jaczko**  
**Peter B. Lyons**  
**Kristine L. Svinicki**

**In the Matter of**

**Docket Nos. 110-05711**  
**(Import)**  
**110-05710**  
**(Export)**

**ENERGYSOLUTIONS, LLC**  
**(Radioactive Waste Import/Export**  
**Licenses)**

**October 6, 2008**

The Commission holds in abeyance an application for a license to import low-level radioactive waste from Italy for processing and ultimate disposal in Utah and an export license that would authorize the export back to Italy of any low-level radioactive waste that cannot be disposed of in Utah following processing. The Commission also holds in abeyance requests for hearing on these applications.

**IMPORT LICENSES: CRITERIA**

Under the NRC's regulations governing imports and exports of nuclear materials, the Commission will issue a low-level radioactive waste import license if it finds that: (1) the proposed import will not be inimical to the common defense and security; (2) the proposed import will not constitute an unreasonable risk to the public health and safety; (3) the environmental requirements of Part 51 have been satisfied (to the extent applicable); and (4) an appropriate facility has agreed to accept the waste for management or disposal.

## **IMPORT LICENSES: APPROPRIATENESS OF FACILITY FOR DISPOSAL OF IMPORTED WASTE**

The NRC will not grant an import license for waste intended for disposal unless it is clear that a disposal facility, host state, and compact (where applicable) will accept the waste. An integral aspect of the Commission's determination of a facility's appropriateness for disposal of imported waste is whether the facility can actually accept that waste for disposal.

## **RULES OF PRACTICE: REQUESTS FOR HEARING**

In light of litigation in federal court between the Applicant and the Northwest Compact over whether the disposal facility may accept imported low-level waste without the Compact's authorization, the Commission held in abeyance further proceedings on the import application, accompanying export application, and hearing requests on the applications pending resolution of the legal dispute.

## **ORDER**

By this Order, we hold the above-captioned proceedings pertaining to EnergySolutions' application for a license to import low-level radioactive waste (LLW) from Italy and its accompanying application for a license to export LLW back to Italy in abeyance pending further Commission action. This Order also holds in abeyance Commission action on two requests for a hearing on the applications.

### **I. BACKGROUND**

On September 14, 2007, EnergySolutions applied for an NRC license to import low-level radioactive waste (LLW) from Italy for processing at an EnergySolutions facility in Tennessee. The application indicated that EnergySolutions would dispose of a portion of that LLW at its state-licensed facility in Utah. At the same time, EnergySolutions also applied for an NRC export license to allow any material that cannot be disposed of in Utah to be exported back to Italy. The State of Utah<sup>1</sup> and a consortium of public interest groups (calling themselves

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<sup>1</sup> "State of Utah's Request for Hearing and Petition for Leave to Intervene" (June 10, 2008) (Utah's Hearing Request).



Multiple Organizations)<sup>2</sup> requested a hearing on EnergySolutions' import and export applications. For the reasons discussed in this Order, we hold review of the EnergySolutions import and export license applications as well as the two hearing requests in abeyance until further notice.

EnergySolutions' license application seeks permission to import up to 20,000 tons of LLW from decommissioned nuclear facilities in Italy.<sup>3</sup> These materials would be primarily metals, wood, paper, plastic, liquids, and ion-exchange resins that have various levels of radioactive contamination.<sup>4</sup> According to the import application, EnergySolutions would process and recycle (as shielding blocks for use in nuclear facilities) most of the LLW at its Bear Creek facility in Oak Ridge, Tennessee.<sup>5</sup> The remaining waste would be sent to EnergySolutions' LLW disposal facility in Clive, Utah (the Clive facility).<sup>6</sup> But the Clive facility is only licensed by the State of Utah for disposal of Class A radioactive waste — the lowest level of LLW.<sup>7</sup> EnergySolutions has proposed that any waste that does not qualify for disposal at the Utah facility (i.e., LLW that is greater than Class A) would be returned to Italy under the proposed export license.<sup>8</sup> In its Answer to Utah's Hearing Request, EnergySolutions informed the Commission that it does not expect to need to use the export license to ship any waste back to Italy.<sup>9</sup>

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<sup>2</sup> "Request from Multiple Organizations for Hearing in Middle Tennessee" (June 10, 2008) (Multiple Organizations' Hearing Request). The groups are: Nuclear Information and Resource Service, Tennessee Environmental Council, Citizens to ENDIT, Tennessee Conservation Voters, Friends of the Earth, the Sierra Club, Bellefonte Efficiency and Sustainability Team, American Environmental and Health Studies Project, Inc., Southern Alliance for Clean Energy, and Nuclear Watch South.

Also on June 10, 2008, Steven Sondheim (an individual identified as joining in the Multiple Organizations' Hearing Request) submitted a separate e-mail on behalf of the Tennessee Sierra Club (one of the multiple organizations), which duplicated much of the text of the Multiple Organizations' Hearing Request. The only issue raised in Mr. Sondheim's e-mail not addressed in the Multiple Organizations' Hearing Request is his "expect[ation of] a full-fledged Environmental Impact Statement to both investigate alternatives to and impacts of such proposed nuclear material processing." Because both Mr. Sondheim and his organization joined in the Multiple Organizations' Hearing Request and his e-mail raises the same issues, we will consider them as a single hearing request.

<sup>3</sup> See "EnergySolutions Request for: (1) Specific License to Import Radioactive Material (from Italy); (2) Specific License to Export Radioactive Material (to Italy)" (Application) (Sept. 14, 2007) (ADAMS Accession No. ML072950080) at 4 of 10.

<sup>4</sup> *Id.*

<sup>5</sup> *Id.* at 6 of 10.

<sup>6</sup> *Id.*

<sup>7</sup> *Id.*

<sup>8</sup> *Id.*

<sup>9</sup> "EnergySolutions' Answer Opposing the State of Utah's Request for a Hearing and Petition for Leave to Intervene" (July 10, 2008) at 2.

## II. ANALYSIS

Under the Atomic Energy Act (AEA), the NRC is responsible for authorizing the export and import of byproduct, source, and special nuclear material. Under the NRC's regulations governing imports and exports of nuclear materials, the Commission will issue an LLW import license if it finds that: (1) the proposed import will not be inimical to the common defense and security; (2) the proposed import will not constitute an unreasonable risk to the public health and safety; (3) the environmental requirements of Part 51 have been satisfied (to the extent applicable); and (4) an appropriate facility has agreed to accept the waste for management or disposal.<sup>10</sup>

The Northwest Interstate Compact on Low-Level Radioactive Waste Management ("Northwest Compact"), of which the State of Utah is a member, is a federally chartered compact of eight states and was authorized by the Low-Level Radioactive Waste Policy Amendments Act of 1985 (the Act). The Act announced a federal policy that the states' responsibilities to dispose of LLW could be best handled on a regional basis.<sup>11</sup> To carry out that policy, the Act authorized creation of interstate compacts "as may be necessary to provide for the establishment and operation of regional disposal facilities" for LLW.<sup>12</sup> When authorized by Congress, these interstate compacts are allowed to "restrict the use of the regional disposal facilities under the compact to the disposal of [LLW] generated within the compact region."<sup>13</sup> Congress consented to the creation of the Northwest Compact in Title II of the Act, the "Omnibus Low-Level Radioactive Waste Interstate Compact Consent Act."<sup>14</sup>

The Northwest Compact exercises its exclusionary authority granted by Congress in the Omnibus Consent Act; the Compact itself provides that "no facility located in any party state may accept low-level waste generated outside the region comprised of the party states," except under a specific procedure requiring approval of the member states.<sup>15</sup> As the Clive facility is in Utah, a member state of the Northwest Compact, the Northwest Compact has taken the position that the Clive facility may not accept for disposal any LLW generated outside the region without express authorization of the Compact. The Compact has authorized EnergySolutions to accept *domestic* out-of-compact LLW, but made clear in a recent resolution that this existing authorization does not allow disposal

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<sup>10</sup> 10 C.F.R. § 110.45(b).

<sup>11</sup> Low-Level Radioactive Waste Policy Amendments Act of 1985 § 4(a)(1), 42 U.S.C. § 2021d(a)(1).

<sup>12</sup> *Id.* § 4(a)(2), 42 U.S.C. § 2021d(a)(2).

<sup>13</sup> *Id.* § 4(c), 42 U.S.C. § 2021d(c).

<sup>14</sup> 42 U.S.C. § 2021d(note).

<sup>15</sup> Northwest Interstate Compact on Low-Level Radioactive Waste Management, art. IV(2).

of *foreign* LLW at the Clive facility.<sup>16</sup> EnergySolutions disagrees, arguing that it is not a “regional disposal facility” under the Act and that the Northwest Compact lacks jurisdiction over the Clive facility. EnergySolutions is currently seeking a declaratory judgment from a federal court that its facility is not subject to the restrictions of the Northwest Compact.<sup>17</sup>

The NRC will defer action on the pending import license application until the dispute over the authority of the Northwest Compact is resolved or EnergySolutions outlines an alternative plan for disposal of the imported LLW. As we explained in our Statement of Considerations for the Final Rule governing LLW imports, “[t]he NRC will not grant an import license for waste intended for disposal unless *it is clear* that the waste will be accepted by a disposal facility, host state, and compact (where applicable).”<sup>18</sup> This is part of the Commission’s “determination regarding the appropriateness of the facility that has agreed to accept the waste for management or disposal.”<sup>19</sup> In other words, an integral aspect of the Commission’s determination of a facility’s appropriateness for disposal of imported waste is whether the facility can actually accept that waste for disposal.

While both EnergySolutions and the State of Utah briefed this issue, the Commission will not wade into the legal dispute between EnergySolutions and the Northwest Compact now before the federal district court in Utah. A Commission decision on the extent of the Northwest Compact’s exclusionary jurisdiction would not be binding on the courts. Until a court of competent jurisdiction determines that the Northwest Compact cannot exclude foreign waste from the Clive facility, the Northwest Compact itself indicates to the Commission that it chooses not to exercise such authority, or some other basis upon which to address the disposal question arises, the Commission is not in a position to determine that the Clive facility is appropriate for disposal of this particular imported LLW as proposed in the application as filed. Therefore, it would be inefficient to devote further adjudicatory (and NRC Staff) resources to this proceeding now.<sup>20</sup>

### III. CONCLUSION AND ORDER

Thus, the Commission hereby holds further proceedings on the EnergySolutions import and export license applications in abeyance until further notice.

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<sup>16</sup> Northwest Compact Resolution Clarifying the Third Amended Resolution and Order (May 12, 2008).

<sup>17</sup> *EnergySolutions, LLC v. Northwest Interstate Compact on Low-Level Radioactive Waste Management*, Case No. 08-00352 (D. Utah filed May 5, 2008).

<sup>18</sup> 60 Fed. Reg. at 37,560 (emphasis added).

<sup>19</sup> *Id.*; see also 10 C.F.R. § 110.45(b).

<sup>20</sup> See generally *CBS Corp.* (Waltz Mill Facility), CLI-07-15, 65 NRC 221, 235 (2007).

The Commission directs EnergySolutions to provide the Commission with status reports every 6 months until there is a judicial resolution of the pending lawsuit or the jurisdictional dispute is otherwise resolved, or earlier if there are pertinent developments that could affect the Commission's decisions on these applications. Because the Commission will not act on the application at this time, it is not yet necessary to determine whether to grant either hearing request, both of which also are hereby held in abeyance until this Order holding the import and export license applications in abeyance is lifted. If future events allow this licensing proceeding to continue, the Commission will then consider the pending hearing requests.<sup>21</sup>

IT IS SO ORDERED.

For the Commission

ANNETTE L. VIETTI-COOK  
Secretary of the Commission

Dated at Rockville, Maryland,  
this 6th day of October 2008.

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<sup>21</sup> At that time, the Commission will rule on the two pending motions in this proceeding, "EnergySolutions' Motion to Strike Various Organizations' Untimely Second Reply" (July 30, 2008) and "14 Organizations' Motion to File Reply out of Time and Response to Motion to Strike" (July 31, 2008).

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**COMMISSIONERS:**

**Dale E. Klein**, Chairman  
**Gregory B. Jaczko**  
**Peter B. Lyons**  
**Kristine L. Svinicki**

**In the Matter of**

**Docket No. 63-001**

**U.S. DEPARTMENT OF ENERGY  
(High-Level Waste Repository)**

**October 17, 2008**

**ORDER**

**(Department of Energy; Notice of Hearing and Opportunity to  
Petition for Leave to Intervene on an Application for Authority  
to Construct a Geologic Repository at a Geologic Repository  
Operations Area at Yucca Mountain)**

**I. NOTICE OF HEARING**

By letter dated June 3, 2008, the Department of Energy (DOE) submitted an application seeking authorization to construct a geologic repository at a geologic repository operations area at Yucca Mountain in Nye County, Nevada. The NRC published a notice of receipt and availability of this application in the *Federal Register* (73 Fed. Reg. 34,348, corrected in 73 Fed. Reg. 40,883 (June 17, 2008)). Notice is hereby given that a hearing on the application will be held at a time and place to be set in the future by the Nuclear Regulatory Commission (the Commission) or an Atomic Safety and Licensing Board (Board).

The hearing will consider the application for construction authorization filed by DOE pursuant to section 114 of the Nuclear Waste Policy Act of 1982 (NWPA), 42 U.S.C. § 10134, and pursuant to 10 C.F.R. Parts 2 and 63. The NRC Staff accepted the DOE application for docketing on September 8, 2008 (73 Fed. Reg.

53,284 (Sept. 15, 2008)), and the docket number established for this application is 63-001.

The NRC Staff determined that it is practicable to adopt, with further supplementation, the Environmental Impact Statement (EIS) and supplements prepared by DOE. The Staff concluded that neither the 2002 Final Environmental Impact Statement (FEIS) nor the 2008 Final Supplemental Environmental Impact Statement (Repository Supplemental EIS) adequately addresses all the impacts on groundwater, or from surface discharges of groundwater, from the proposed action. The Staff therefore found that additional supplementation is needed to ensure that the 2002 FEIS and 2008 Repository Supplemental EIS are adequate. The basis for the Staff's position is presented in the "U.S. Nuclear Regulatory Commission Staff's Adoption Determination Report for the U.S. Department of Energy's Environmental Impact Statements for the Proposed Geologic Repository at Yucca Mountain," which is available in the Agencywide Documents Access and Management System (ADAMS) online document system at <http://www.nrc.gov/reading-rm/adams/web-based.html>, at Accession No. ML082420342.

The NRC Staff will complete a detailed technical review of the DOE application, and will document its findings in a safety evaluation report. If the Commission finds that the DOE application meets the applicable standards of the Atomic Energy Act of 1954, as amended (AEA), the NWPA, and the Commission's regulations, then the Commission will issue a construction authorization, in the form and containing such conditions and limitations, if any, as the Commission finds appropriate and necessary.

## **II. OPPORTUNITY TO PETITION FOR LEAVE TO INTERVENE**

A hearing on DOE's construction authorization application will be held in the public interest pursuant to 10 C.F.R. § 2.101(e)(8). The hearing will be governed by the rules of procedure in 10 C.F.R. Part 2, Subpart C, "Rules of General Applicability: Hearing Requests, Petitions to Intervene, Availability of Documents, Selection of Specific Hearing Procedures, Presiding Officer Powers, and General Hearing Management for NRC Adjudicatory Hearings"; Subpart J, "Procedures Applicable to Proceedings for the Issuance of Licenses for the Receipt of High-Level Radioactive Waste at a Geologic Repository"; and Subpart G, "Rules for Formal Adjudications." The matters of fact and law to be considered are whether the application satisfies the applicable safety, security, and technical standards of the AEA and NWPA and the NRC's standards in 10 C.F.R. Part 63 for a construction authorization for a high-level waste geologic repository, and also whether the applicable requirements of the National Environmental

Policy Act (NEPA) and NRC's NEPA regulations, 10 C.F.R. Part 51, have been met.

Any person whose interest may be affected by this proceeding and who desires to participate as a party must file a written petition for leave to intervene in accordance with the requirements in 10 C.F.R. § 2.309, including contentions that satisfy the admissibility standards in section 2.309. Petitioners seeking to intervene as parties must also comply with the procedural case management requirements set forth in the Advisory Pre-License Application Presiding Officer (PAPO) Board's Memorandum and Order, LBP-08-10, 67 NRC 450 (2008) (Case Management Order Concerning Petitions to Intervene, Contentions, Responses, Replies, Standing Arguments, and Referencing or Attaching Supporting Materials), dated June 20, 2008, slip opinion available at ADAMS Accession No. ML081720154, and the Advisory PAPO Board's Order (Regarding Contention Formatting and Tables of Contents), dated September 29, 2008, available at ADAMS Accession No. ML082730764. In addition, as outlined further below, the regulations in 10 C.F.R. Part 2, Subpart J require electronic production, filing, and service of all documents in this proceeding.

In ruling on a petition to intervene in this proceeding, the presiding officer shall consider any failure of the petitioner to participate as a potential party in the pre-license application phase under 10 C.F.R. Part 2, Subpart J, in addition to the factors on standing to intervene outlined in 10 C.F.R. § 2.309(d).

A petition for leave to intervene must be filed no later than 60 days after the date of publication of this notice in the *Federal Register*. A nontimely petition or contention will not be entertained unless the Commission, an Atomic Safety and Licensing Board, or a presiding officer designated to rule on the petition determines that the late petition or contention meets the late-filed requirements of 10 C.F.R. § 2.309(c)(1)(i)-(viii).

Certain hearing schedule milestones in Appendix D to 10 C.F.R. Part 2, as well as the 30-day hearing petition and contention-filing deadlines set forth in 10 C.F.R. §§ 2.309(b)(2) and 51.109(a)(2) are superseded by this notice. A revised hearing schedule with new milestones for actions through the First Prehearing Conference Order appears in Section VI of this notice.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, and will have the opportunity to participate fully in the conduct of the hearing.

The regulations in 10 C.F.R. Part 2, Subpart J require electronic document production (via the Licensing Support Network) and electronic filing and service of adjudicatory documents via the Electronic Information Exchange (EIE). This requirement applies to all documents filed in the proceeding, including a petition for leave to intervene, and any motion or other document filed in the proceeding prior to the submission of a petition to intervene. Pursuant to 10 C.F.R. § 2.1012(b)(1), a petitioner, including a potential party given access to the Licens-

ing Support Network, may not be granted party status under 10 C.F.R. § 2.309, or status as an interested governmental participant under 10 C.F.R. § 2.315, if the petitioner cannot demonstrate substantial and timely compliance with the requirements in 10 C.F.R. § 2.1003 at the time of the request for participation in the high-level waste proceeding.<sup>1</sup> In addition, a petitioner will not be found to be in substantial and timely compliance unless the petitioner complies with all orders of the Pre-License Application Presiding Officer (PAPO) regarding electronic availability of documents. PAPO orders are available on the NRC's high-level waste electronic hearing docket at: [http://hlwehd.nrc.gov/Public\\_HLW-EHD/home.asp](http://hlwehd.nrc.gov/Public_HLW-EHD/home.asp), under HLW-EHD, folder titled PAPO\_HLW, subfolder titled Orders\_PAPO.

A petition for leave to intervene, and all filings in the adjudicatory proceeding, must be filed electronically in accordance with 10 C.F.R. § 2.1013(c)(1). At least 30 days prior to the filing deadline for a petition to intervene, the petitioner must contact the Office of the Secretary (SECY) by e-mail at: [HEARING-DOCKET@NRC.GOV](mailto:HEARING-DOCKET@NRC.GOV) or by calling (301) 415-1677, to request (1) a digital ID certificate, which allows the participant (or its counsel or representative) to digitally sign documents and access the E-Submittal server for any proceeding in which it is participating; and/or (2) creation of an electronic docket for the proceeding (even in instances in which the petitioner, or its counsel or representative, already holds an NRC-issued digital certificate). Each petitioner will need to download the Workplace Forms Viewer™ to access the EIE, a component of the E-Filing system. The Workplace Forms Viewer™ is free and is available at <http://www.nrc.gov/site-help/e-submittals/install-viewer.html>. Information about applying for a digital ID certificate is available on the NRC's public website at <http://www.nrc.gov/site-help/e-submittals/apply-certificates.html>.

Once a petitioner has obtained a digital ID certificate, has had a docket created, and has downloaded the EIE viewer, the petitioner can then submit a petition for leave to intervene. Submissions should be in Portable Document Format (PDF) in accordance with NRC guidance available on the NRC public website at <http://www.nrc.gov/site-help/e-submittals.html>. *Guidance for Electronic Submissions to the NRC* is a consolidated guidance document that sets forth the technical standards for electronic transmission and formatting electronic documents, and provides instructions on how to obtain and use the agency-provided digital ID certificate. A person who holds a current digital ID certificate for use in the proceedings before the PAPO or the Advisory PAPO need not obtain a new certificate. That certificate will remain valid for this proceeding.

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<sup>1</sup> A person denied party or interested governmental participant status under 10 C.F.R. § 2.1012(b)(1) may request such status upon a showing of subsequent compliance with the requirements of 10 C.F.R. § 2.1003. The subsequent admission of such a party or interested governmental participant shall be conditioned on accepting the status of the proceeding at the time of admission.



Section 2.1013(c) defines service as completed when the filer/sender receives electronic acknowledgment (“delivery receipt”) that the electronic submission has been placed in the recipient’s electronic mailbox. To be timely, an electronic filing must be submitted to the EIE system no later than 11:59 p.m. Eastern Time on the due date.

Upon receipt of a transmission, the E-Filing system time-stamps the document and sends the submitter an e-mail notice confirming receipt of the document. The EIE system also distributes an e-mail notice that provides access to the document to the NRC Office of General Counsel and any others who have advised the Office of the Secretary that they wish to participate in the proceeding, so that the filer need not serve the documents on those participants separately. Therefore, the Applicant and any other participant (or their counsel or representative) must apply for and receive a digital ID certificate before a petition to intervene is filed so that they can obtain access to the document via the E-Filing system.

A person filing electronically may seek assistance through the “Contact Us” link located under the heading “Additional Information” on the NRC website at <http://www.nrc.gov/site-help/e-submittals.html> or by calling the NRC technical help line, which is available between 8:30 a.m. and 4:15 p.m., Eastern Time, Monday through Friday. The help line number is (800) 397-4209 or locally (301) 415-4737.

Documents submitted in adjudicatory proceedings will appear in the NRC’s high-level waste electronic hearing docket at [http://hlwehd.nrc.gov/Public\\_HLW-EHD/home.asp](http://hlwehd.nrc.gov/Public_HLW-EHD/home.asp), unless excluded pursuant to an order of the Commission, an Atomic Safety and Licensing Board, or a presiding officer. Participants are requested not to include personal privacy information, such as social security numbers, home addresses, or home phone numbers in the filing. With respect to copyrighted works, except for limited excerpts that serve the purpose of the adjudicatory filing and would constitute a Fair Use application, participants are requested not to include copyrighted materials in their submission.

Documents may be examined, and/or copied for a fee, at the NRC’s Public Document Room (PDR), located at One White Flint North, Public File Area 01 F21, 11555 Rockville Pike (first floor), Rockville, Maryland, and will be accessible electronically through the ADAMS Public Electronic Reading Room link at the NRC website <http://www.nrc.gov/reading-rm/adams.html>. The ADAMS accession number for the ADAMS package containing the DOE application is ML081560400. The ADAMS accession number for the ADAMS package containing DOE’s Final Environmental Impact Statement is ML032690321, and the accession number for the ADAMS package containing DOE’s Final Supplemental Environmental Impact Statement is ML081750191. The ADAMS accession number for the ADAMS package containing DOE’s Final Rail Corridor Supplemental EIS and Rail Alignment EIS is ML082460227. The application is also available at [www.nrc.gov/waste/hlw-disposal/yucca-lic-app.html](http://www.nrc.gov/waste/hlw-disposal/yucca-lic-app.html). Persons who do not have

access to ADAMS or who encounter problems in accessing documents located in ADAMS should contact the NRC Public Document Room (PDR) Reference staff by telephone at 1-800-397-4209, or 301-415-4737, or by e-mail to pdr@nrc.gov.

### **III. ADDITIONAL MATTERS PERTAINING TO THE HEARING AND INTERVENTION REQUESTS**

#### **A. Standing as of Right**

Pursuant to 10 C.F.R. § 2.309(d)(2)(iii), the Commission shall permit intervention by the State and local governmental body (county, municipality, or other subdivision) in which the geologic repository operations area is located, and by any affected federally recognized Indian Tribe, as defined in 10 C.F.R. Part 63, if the contention requirements in 10 C.F.R. § 2.309(f) are satisfied with respect to at least one contention. Section 2.309(d)(2) specifies that such State, affected federally recognized Indian Tribe, and local governmental body need not address the standing requirements in 10 C.F.R. § 2.309(d).

In LBP-08-10, the Advisory PAPO Board requested that the Commission clarify whether an “affected unit of local government” (AULG), as defined in section 2 of the NWPA, as amended (42 U.S.C. § 10101), also need not address the standing requirements of section 2.309(d). Any AULG seeking party status shall be considered a party to this proceeding, provided that it files at least one admissible contention in accordance with 10 C.F.R. § 2.309. An AULG need not address the standing requirements under that section.

#### **B. Environmental Contentions**

In addition to meeting NRC’s regular contention admissibility requirements in 10 C.F.R. § 2.309(f), environmental contentions addressing any DOE environmental impact statement or supplement must also conform to the requirements and address the applicable factors outlined in 10 C.F.R. § 51.109 governing NRC’s adoption of DOE’s environmental impact statements. The requirements of section 51.109 should be applied consistent with *Nuclear Energy Institute, Inc. v. Environmental Protection Agency*, 373 F.3d 1251, 1313-14 (D.C. Cir. 2004), a court decision discussing section 51.109, and consistent with the Commission’s denial of the State of Nevada’s petition to amend section 51.109 (73 Fed. Reg. 5762 (Jan. 31, 2008)), and the Office of the General Counsel’s subsequent letter clarifying the Commission’s denial (Letter from Bradley W. Jones, Assistant General Counsel to Martin G. Malsch, dated March 20, 2008, ADAMS Accession No. ML080810175). Under 10 C.F.R. § 51.109(c), the presiding officer should treat as a cognizable “new consideration” an attack on the Yucca Mountain

environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate. Under 10 C.F.R. § 51.109(a)(2), a presiding officer considering environmental contentions should apply NRC “reopening” procedures and standards in 10 C.F.R. § 2.326 “to the extent possible.”

### **C. Hearing Procedures**

The construction authorization hearing will be conducted by one or more presiding officers (licensing boards) that will be designated by the Chief Judge of the Atomic Safety and Licensing Board Panel. The Commission anticipates and authorizes the establishment of multiple licensing boards throughout the proceeding. Notice as to the membership of the board(s) will be published at a later date.

In 1991, the Commission suggested that it would use the notice of hearing for a high-level waste (HLW) proceeding to announce detailed case management procedures (56 Fed. Reg. 7787, 7793-94 (Feb. 26, 1991)). In the intervening years, however, the Atomic Safety and Licensing Board Panel has engaged in extensive case management planning for this proceeding. The Commission therefore believes that the presiding officer(s) in this proceeding will be in the best position to establish and efficiently resolve case management issues, some of which the Commission-authorized Advisory PAPO Board resolved in LBP-08-10.

### **D. Scope of the Hearing**

In accordance with 10 C.F.R. § 2.1027, in any initial decision on the application for construction authorization, the presiding officer shall make findings of fact and conclusions of law on, and otherwise give consideration to, only material issues put into controversy by the parties and determined to be litigable in the proceeding. The Commission has determined that the scope of the adjudicatory proceeding on safety, security, or technical issues is limited to litigable contested issues. *See* State of Nevada; Denial of Petition for Rulemaking, Docket No. PRM-2-14, available at ADAMS Accession No. ML082900618. The presiding officer has no authority or duty to resolve uncontested issues in those areas. *See* 10 C.F.R. § 2.1023(c)(2) and 10 C.F.R. § 2.1027.

Notwithstanding the provisions in section 2.1023(c)(2) and 10 C.F.R. § 2.1027, the presiding officer shall make the environmental findings required by 10 C.F.R. § 51.109(e), even on uncontested issues, “to the extent it is not practicable to adopt the environmental impact statement prepared by the Secretary of Energy.”

#### **E. Participation by a Nonparty**

A person who is not a party may be permitted to make a limited appearance statement by making an oral or written statement of his or her position on the issues at any session of the hearing or any prehearing conference within the limits and conditions fixed by the presiding officer, but may not otherwise participate in the proceeding.

#### **IV. ACCESS TO NONPUBLIC INFORMATION**

Those petitioners who seek access to nonpublic information must follow the access requirements contained in the PAPO Board's Third Case Management Order (August 30, 2007), available at ADAMS Accession No. ML072420327. This and other case management orders issued by the PAPO Board govern protection of various categories of protected and privileged information. The Board's case management orders are available on the high-level waste electronic hearing docket, Docket No. PAPO-00, at [http://hlwehd.nrc.gov/Public\\_HLW-EHD/home.asp](http://hlwehd.nrc.gov/Public_HLW-EHD/home.asp), under HLW-EHD, folder titled PAPO\_HLW, subfolder titled Orders\_PAPO.

#### **V. MOTIONS**

To avoid unnecessary disputes and filings, a party who files a motion must certify, pursuant to 10 C.F.R. § 2.323, that he or she has made a reasonable effort to consult with counsel for the Applicant and counsel for the NRC Staff, as well as other interested counsel or litigants, in an effort to resolve the matter in advance of filing the motion. Motions must also meet all other section 2.323 requirements.

#### **VI. REVISED HEARING SCHEDULE MILESTONES**

In CLI-08-18, 68 NRC 246 (2008), slip opinion available at ADAMS Accession No. ML082261241, the Commission granted the State of Nevada, as well as any other petitioner, an additional thirty (30) days in which to file a petition to intervene, or a petition for status as an interested government participant, in this proceeding. In addition, the Commission proposed further modifications to the schedule codified in 10 C.F.R. Part 2, Appendix D.

The Commission invited any party or potential party participating in the matters before the PAPO Board to provide comments on certain additional proposed extensions of time. The Commission also sought the views of the Atomic Safety and Licensing Board Panel on the reasonableness of current and

proposed time frames. The Commission has considered the comments received, and has determined that the revised schedule below will replace certain hearing milestones set forth in Appendix D to 10 C.F.R. Part 2.

The Commission hereby doubles the time permitted to file answers and replies, pursuant to 10 C.F.R. § 2.309(h)(1) and (2), respectively, to fifty (50) and fourteen (14) days, respectively. The Commission also extends the period for the First Prehearing Conference from eight (8) to sixteen (16) days after the deadline for filing replies, and extends the period for issuance of the First Prehearing Conference Order from thirty (30) to sixty (60) days after the First Prehearing Conference. The revised Appendix D schedule, reflected in the table below, replaces only the milestones up to, and including, the First Prehearing Conference Order. The presiding officer retains authority to grant extensions of time of no more than 15 days, and the Commission retains authority to grant extensions of longer than 15 days, but in either case the litigant seeking the extension must follow the requirements of 10 C.F.R. § 2.1026.

**Partially Revised Appendix D Schedule**

<b>Day</b>	<b>Action</b>
0	Federal Register Notice of Hearing
60	Petition to intervene/request for hearing, w/contentions
110	Answers to intervention and interested government participant Petitions
124	Petitioner’s response to answers
140	First Prehearing Conference
200	First Prehearing Conference Order identifying participants in proceeding, admitted contentions, and setting discovery and other schedules

The regulatory requirements governing the balance of the Appendix D schedule remain unchanged.

**VII. SEPTEMBER 9, 2008, PETITION**

On September 9, 2008, the State of Nevada submitted to the Commission a

“petition” directed to the content of this hearing notice.<sup>2</sup> In this petition, Nevada argues that the Commission cannot issue a notice of hearing unless it first resolves “at least three important legal and procedural issues.”<sup>3</sup>

Nevada’s first issue, now partially mooted, is the lack of final Environmental Protection Agency (EPA) standards and implementing NRC rules for the post-10,000-year period. The EPA has now established post-10,000-year standards, and the Staff is developing implementing regulations.<sup>4</sup> Nevada argued that potential parties cannot draft contentions based upon standards that have not been finalized. As a possible remedy, Nevada proposed that today’s notice of hearing include a delay — essentially a bifurcation of contention-filing deadlines — with respect to all issues related to the EPA standards and the NRC’s implementing rules until some date to be determined after the standards and rules are issued. Nevada argued alternatively that this delay could be avoided if the Commission declined to be bound by its Staff’s decision to docket the application.

The Commission recognizes Nevada’s concern but does not believe Nevada’s extraordinary remedies are necessary, especially since the EPA has now issued the relevant standards, and the NRC’s regulations are in preparation. Under the NRC’s ordinary practice, Nevada and other hearing petitioners are free to file contentions arguing that the Commission may not authorize construction in the absence of implementing NRC rules. And they are also free to file contentions maintaining that DOE’s application does not meet EPA’s standards. Such contentions would require no change in the contention-filing schedule set out in CLI-08-18. Nevada or other hearing petitioners may amend their “EPA standards”-related contentions later, after the NRC’s implementing rules are issued, if the new NRC rules establish fresh grounds for contentions. Under the unusual circumstances of this case, where controlling agency rules have been delayed, and to ensure that no one is prejudiced, any contentions so amended — *on EPA standards-related issues only* — will be deemed timely for admissibility

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<sup>2</sup> Petition to Publish a Fair and Reasonable Notice of Hearing on DOE’s Yucca Mountain Application (Sept. 9, 2008), available at ADAMS Accession No. ML082550289 (September 9 Petition). The procedural identity of Nevada’s “petition” is not obvious. The Commission addresses the issues Nevada raises as part of this notice of hearing solely as a matter of expedience since they touch on topics the Commission already addresses independently.

Both DOE and the NRC Staff responded to the September 9 Petition. See U.S. Department of Energy Response to State of Nevada “Petition to Publish a Fair and Reasonable Notice of Hearing on DOE’s Yucca Mountain Application” (Sept. 19, 2008); NRC Staff’s Response to the State of Nevada’s Petition to Publish a Fair and Reasonable Notice of Hearing on DOE’s Yucca Mountain Application (Sept. 19, 2008).

<sup>3</sup> September 9 Petition at 3.

<sup>4</sup> Final Rule: “Public Health and Environmental Radiation Protection Standards for Yucca Mountain, Nevada,” 73 Fed. Reg. 61,256 (Oct. 15, 2008).

purposes if filed within 60 days after the *Federal Register* publication of the NRC rules implementing the new EPA standards.<sup>5</sup>

The second issue Nevada raises in its September 9 Petition concerns a petition for rulemaking it filed regarding the specification of issues for the mandatory hearing portion of this proceeding.<sup>6</sup> That petition has now been ruled on, and the Commission's rulemaking decision is reflected in the discussion of the scope of the hearing addressed in Section III.D, above.<sup>7</sup>

Finally, the third issue Nevada raises in its September 9 Petition concerns the status of security clearances and access to classified information in the Yucca Mountain construction authorization application. Nevada argues that its representatives have not been informed of decisions on their security clearances and on access to classified information, "notwithstanding timely applications," so no contentions based on classified information can be prepared.<sup>8</sup> To remedy this, Nevada again asks for a bifurcation of contention-filing deadlines.

It is the Commission's understanding that, as of the end of July, one of Nevada's security clearance applications was complete and was being processed, another application was incomplete, and two applications had been withdrawn.<sup>9</sup> From this, the Commission concludes that the timeliness of Nevada's security clearance applications is factually ambiguous. Moreover, it is not immediately clear that the perceived problem could not be remedied by the provision of redacted versions of classified documents that could provide a basis for the formulation of contentions before the security clearance application reviews are completed. The Commission directs the PAPO Board to resolve both of these questions.

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<sup>5</sup> NRC rules ordinarily call on licensing boards to balance several factors in deciding whether to allow late-filed (or amended) contentions. See 10 C.F.R. § 2.309(c)(1)(i)-(viii). In the case of the yet-to-issue NRC rules, however, the Commission is dispensing in advance with all "late-filed" factors except the "good cause" factor. It is obvious even now that promptly filed and well-pled contentions based on new, previously unavailable NRC rules — rules that will govern important aspects of NRC's safety review — must be admitted for hearing. There plainly would be "good cause" for filing such contentions late, and no conceivable justification for rejecting them at the threshold.

<sup>6</sup> Petition by the State of Nevada for Rulemaking to Specify Issues for the Yucca Mountain Mandatory Hearing (June 19, 2007).

<sup>7</sup> See State of Nevada; Denial of Petition for Rulemaking, Docket No. PRM-2-14, available at ADAMS Accession No. ML082900618.

<sup>8</sup> September 9 Petition at 6.

<sup>9</sup> See Letter from Aby Mohseni, Deputy Director, Licensing and Inspection Directorate, Division of High-Level Waste Repository Safety, Office of Nuclear Material Safety and Safeguards to Robert R. Loux, Executive Director, Agency for Nuclear Projects, Office of the Governor, State of Nevada (July 31, 2008), available at ADAMS Accession No. ML081910097.

IT IS SO ORDERED.

For the Commission

ANNETTE L. VIETTI-COOK  
Secretary of the Commission

Dated at Rockville, Maryland,  
this 17th day of October 2008.



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**COMMISSIONERS:**

**Dale E. Klein**, Chairman  
**Gregory B. Jaczko**  
**Peter B. Lyons**  
**Kristine L. Svinicki**

**In the Matter of**

**Docket No. 72-26-ISFSI**

**PACIFIC GAS AND ELECTRIC  
COMPANY  
(Diablo Canyon Power Plant  
Independent Spent Fuel Storage  
Installation)**

**October 23, 2008**

**RULES OF PROCEDURE: SUBPART K**

Subpart K (10 C.F.R. Part 2) implements the “totally new procedure” established by the Nuclear Waste Policy Act for adjudicating spent fuel storage controversies expeditiously. Subpart K allows the presiding officer to resolve factual and legal disputes, including disagreements between experts, on the basis of a brief discovery period and written submissions and oral argument — without a full trial-type evidentiary hearing. Under Subpart K and the Nuclear Waste Policy Act we resort to full evidentiary hearings “only” when necessary for “accuracy.”

**RULES OF PROCEDURE: SUBPART K**

The Commission’s rules, in 10 C.F.R. § 2.1113, do not provide for supplementing Subpart K presentations.

## **NATIONAL ENVIRONMENTAL POLICY ACT: ENVIRONMENTAL REVIEW**

Under the National Environmental Policy Act, an environmental assessment, with its accompanying finding of no significant impact, constitutes an agency's evaluation of the environmental effects of a proposed action — unless a more detailed statement is required. A more detailed environmental impact statement is not required unless the contemplated action is a “major federal [action] *significantly* affecting the quality of the human environment.”

## **DISCLOSURE, CLASSIFIED AND SAFEGUARDS INFORMATION; TERRORISM**

Hearings on alternate terrorist scenario claims could not be conducted in a meaningful way without substantial disclosure of classified and safeguards information on threat assessments and security arrangements and without substantial litigation over their significance. Such information — disclosure of which is prohibited by law — would lie at the center of any adjudicatory inquiry into the probability and success of various terrorist scenarios. The National Environmental Policy Act does not require the Commission to reveal sensitive government security information regarding the agency's environmental analysis.

## **DISCLOSURE, NATIONAL ENVIRONMENTAL POLICY ACT; FREEDOM OF INFORMATION ACT**

National Environmental Policy Act claims are governed by the Act's own specific nondisclosure provision, as construed by the Supreme Court in *Weinberger v. Catholic Action League*, 454 U.S. 139 (1981), rather than by more general provisions in the Atomic Energy Act or in the Commission's regulations. Under the National Environmental Policy Act, the Commission may withhold from public disclosure any information that is exempt under the Freedom of Information Act.

## **MEMORANDUM AND ORDER**

This proceeding is a reopening, on remand from the Ninth Circuit,<sup>1</sup> of a proceeding to license an independent spent fuel storage installation (ISFSI) at the site of the Diablo Canyon nuclear power plant in California. In February of last

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<sup>1</sup> *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016 (9th Cir. 2006), *cert. denied*, 127 S. Ct. 1124 (2007).

year, we directed the NRC Staff to prepare a revised environmental assessment, pursuant to the Ninth Circuit's remand and the National Environmental Policy Act (NEPA), addressing "the likelihood of a terrorist attack at the Diablo Canyon ISFSI site and the potential consequences of such an attack."<sup>2</sup> The NRC Staff responded to our direction by preparing draft<sup>3</sup> and final<sup>4</sup> environmental assessment supplements (the latter taking into account public comments) and a finding of no significant impact. The Staff's supplemental assessment led San Luis Obispo Mothers for Peace (SLOMFP) to request a hearing and to file five proposed contentions,<sup>5</sup> which the Staff<sup>6</sup> and the Pacific Gas and Electric Company (PG&E)<sup>7</sup> opposed.

In January of this year, we issued an order admitting limited portions of two of the contentions proposed by SLOMFP.<sup>8</sup> We delegated to a previously designated presiding officer the resolution of one of these, Contention 1(b), a Freedom of Information Act (FOIA)-based claim on the availability and withholding of certain documents (or portions of documents) underlying the NRC Staff's NEPA findings.<sup>9</sup> The presiding officer resolved Contention 1(b) on an unopposed NRC Staff motion for summary disposition.<sup>10</sup> We retained jurisdiction over Contention 2, and on July 1, 2008, we heard oral argument on it under 10 C.F.R. § 2.1109 (10 C.F.R. Part 2, Subpart K).<sup>11</sup> As called for under 10 C.F.R. § 2.1113, the parties based their oral arguments on previously filed summaries of the facts, data, and

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<sup>2</sup> CLI-07-11, 65 NRC 148, 149 (2007).

<sup>3</sup> Supplement to the Environmental Assessment and Draft Finding of No Significant Impact Related to the Construction and Operation of the Diablo Canyon Independent Spent Fuel Storage Installation, 72 Fed. Reg. 30,398 (May 31, 2007) (Draft EA Supplement).

<sup>4</sup> Supplement to the Environmental Assessment and Final Finding of No Significant Impact Related to the Construction and Operation of the Diablo Canyon Independent Spent Fuel Storage Installation (Aug. 2007) (Final EA Supplement), available as ADAMS Accession No. ML072400303.

<sup>5</sup> San Luis Obispo Mothers for Peace's Contentions and Request for a Hearing Regarding Diablo Canyon Environmental Assessment Supplement (June 28, 2007) (SLOMFP Petition), with attachment: Thompson, Gordon R., Assessing Risks of Potential Malicious Actions at Commercial Nuclear Facilities: The Case of a Proposed Spent Fuel Storage Installation at the Diablo Canyon Site (June 27, 2007) (Thompson Report).

<sup>6</sup> NRC Staff's Answer to Contentions Submitted by San Luis Obispo Mothers for Peace (July 13, 2007).

<sup>7</sup> Pacific Gas and Electric Company's Response to Proposed Contentions (July 9, 2007).

<sup>8</sup> CLI-08-1, 67 NRC 1 (2008).

<sup>9</sup> CLI-08-5, 67 NRC 174, 177 (2008).

<sup>10</sup> LBP-08-7, 67 NRC 361 (2008).

<sup>11</sup> This proceeding is being conducted under our pre-2004 procedural rules. See CLI-08-1, 67 NRC at 5.

arguments.<sup>12</sup> The parties also relied on reply briefs<sup>13</sup> we authorized in a scheduling order<sup>14</sup> prior to the oral argument.

SLOMFP made an additional filing seeking to supplement its Subpart K summary by adding a Staff affidavit obtained as part of the Contention 1(b) discovery process before the presiding officer.<sup>15</sup> The NRC Staff and PG&E both opposed this request.<sup>16</sup>

We find that SLOMFP's Contention 2 is without merit. SLOMFP's arguments do not require the Staff to prepare an environmental impact statement.

## I. DISCUSSION

The sole question remaining in this Subpart K proceeding — arising out of SLOMFP's Contention 2, as we narrowed it in CLI-08-1 — is whether the NRC Staff has shown that potential land contamination and latent health effects from the terrorist scenarios it considered credible are insignificant, not warranting a full environmental impact statement.

SLOMFP asks us, “as provided by 10 C.F.R. § 2.1115(a)(2), [to] rule that there is no unresolved dispute of law or fact regarding Contention 2, and that SLOMFP should prevail on the claims raised in the contention.”<sup>17</sup> As a remedy, SLOMFP asks us to compel the NRC Staff to prepare an environmental impact statement. The NRC Staff and PG&E also ask for disposition on the merits pursuant to 10 C.F.R. § 2.1115(a)(2). PG&E argues that the environmental

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<sup>12</sup> San Luis Obispo Mothers for Peace's Detailed Summary of Facts, Data, and Arguments on Which it Intends to Rely at Oral Argument to Demonstrate the Inadequacy of the U.S. Nuclear Regulatory Commission's Final Supplement to the Environmental Assessment for the Proposed Diablo Canyon Indep[e]ndent Spent Fuel Storage Installation to Consider the Environmental Impacts of an Attack on the Facility (Contention 2) (April 14, 2008) (SLOMFP Summary); NRC Brief and Summary of Relevant Facts, Data and Arguments upon Which the Staff Proposes to Rely at Oral Argument on San Luis Obispo Mothers for Peace's Contention 2 (April 14, 2008) (Staff Summary); Summary of Facts, Data, and Arguments on Which Pacific Gas and Electric Company Will Rely at the Subpart K Oral Argument on Contention 2 (April 14, 2008) (PG&E Summary).

<sup>13</sup> NRC Staff's Response to San Luis Obispo Mothers for Peace's Subpart K Presentation (June 16, 2008) (Staff Reply); San Luis Obispo Mothers for Peace's Reply to NRC Staff and PG&E Subpart K Presentations (June 16, 2008) (SLOMFP Reply).

<sup>14</sup> Order (June 6, 2008) (unpublished), available at ADAMS Accession No. ML081580413.

<sup>15</sup> San Luis Obispo Mothers for Peace's Request to Supplement Subpart K Presentation with NRC Staff Affidavit (April 26, 2008) (SLOMFP Request to Supplement).

<sup>16</sup> NRC Staff Response to San Luis Obispo Mothers for Peace's Request to Supplement Subpart K Presentation with NRC Staff Affidavit (May 12, 2008) (Staff Response to SLOMFP Request); Pacific Gas and Electric Company's Answer to San Luis Obispo Mothers for Peace Request to Supplement Subpart K Presentation (May 6, 2008) (PG&E Response to SLOMFP Request).

<sup>17</sup> SLOMFP Summary at 3-4.

assessment supplement satisfies NEPA on its face since it omitted no required analysis, and that in any event Contention 2 can be resolved in PG&E's favor based on the adjudicatory filings and oral argument, with no further analysis, evidence, or testimony.<sup>18</sup> The Staff argues that the Commission should resolve the contention in the Staff's favor because "SLOMFP . . . failed to raise any genuine issue concerning the adequacy of the Staff's environmental review, [as] documented in the [s]upplemental [environmental assessment],"<sup>19</sup> and because the Staff's analysis of land contamination and latent health impacts satisfied NEPA.

#### **A. Legal Framework**

Under our Subpart K rules, the presiding officer, here, the Commission itself, is required to issue a written order based on due consideration of the parties' oral arguments and written filings that:

- (1) Designate[s] any disputed issues of fact, together with any remaining issues of law, for resolution in an adjudicatory hearing; and
- (2) Dispose[s] of any issues of law or fact not designated for resolution in an adjudicatory hearing.

. . . With regard to issues not designated for resolution in an adjudicatory hearing, the presiding officer shall include a brief statement of the reasons for the disposition. If the presiding officer finds that there are no disputed issues of fact or law requiring resolution in an adjudicatory hearing, the presiding officer shall also dismiss the proceeding.<sup>20</sup>

Designating an issue of fact or law for resolution in an adjudicatory hearing requires a determination that:

- (1) There is a genuine and substantial dispute of fact which can only be resolved with sufficient accuracy by the introduction of evidence in an adjudicatory hearing; and
- (2) The decision of the Commission is likely to depend in whole or in part on the resolution of that dispute.<sup>21</sup>

Subpart K implements the "totally new procedure" established by the Nuclear Waste Policy Act (NWPA)<sup>22</sup> for adjudicating spent fuel storage controversies

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<sup>18</sup> PG&E Summary at 15-16.

<sup>19</sup> Staff Reply at 1.

<sup>20</sup> 10 C.F.R. § 2.1115(a).

<sup>21</sup> 10 C.F.R. § 2.1115(b).

<sup>22</sup> 42 U.S.C. §§ 10101 *et seq.*

expeditiously.<sup>23</sup> Subpart K allows the presiding officer to resolve factual and legal disputes, including disagreements between experts, on the basis of a brief discovery period and written submissions and oral argument — without a full trial-type evidentiary hearing.<sup>24</sup> Under Subpart K and the NWPAs we resort to full evidentiary hearings “only” when necessary for “accuracy.”<sup>25</sup>

Under NEPA, an environmental assessment, with its accompanying finding of no significant impact, constitutes an agency’s evaluation of the environmental effects of a proposed action — unless a more detailed statement is required. A more detailed environmental impact statement is not required unless the contemplated action is a “major Federal [action] *significantly* affecting the quality of the human environment.”<sup>26</sup> Our implementing regulations<sup>27</sup> provide that “environmental assessment”:

means a *concise* public document for which the Commission is responsible that serves to:

- (1) *Briefly* provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.
- (2) Aid the Commission’s compliance with NEPA when no environmental impact statement is necessary.
- (3) Facilitate preparation of an environmental impact statement when one is necessary.<sup>28</sup>

Similarly, “finding of no significant impact”:

[M]eans a *concise* public document for which the Commission is responsible that briefly states the reasons why an action, not otherwise excluded, will not have a significant effect on the human environment and for which therefore an environmental impact statement will not be prepared.<sup>29</sup>

## B. Procedural History of Contention 2

Contention 2, as initially proposed by SLOMFP,<sup>30</sup> asserted that the Staff’s

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<sup>23</sup> *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), CLI-01-11, 53 NRC 370, 383-86 (2001), *citing* 42 U.S.C. § 10154.

<sup>24</sup> *See id.* at 385-86.

<sup>25</sup> *See id.*

<sup>26</sup> 42 U.S.C. § 4332(2)(C) (emphasis added).

<sup>27</sup> Our regulation, 10 C.F.R. § 51.14, tracks the implementing regulation of the Council on Environmental Quality (CEQ), 40 C.F.R. § 1508.9.

<sup>28</sup> 10 C.F.R. § 51.14(a) (emphasis added).

<sup>29</sup> *Id.* (emphasis added).

<sup>30</sup> *See* SLOMFP Petition.

environmental assessment supplement failed to satisfy NEPA because the NRC's decision not to prepare an environmental impact statement was based on "hidden and unjustified assumptions."<sup>31</sup> SLOMFP challenged the Staff's screening of attack scenarios and also sought to litigate whether a successful attack on the ISFSI hypothesized by its expert would result in increased cancers and illnesses. SLOMFP argued that a main effect of an attack would be land contamination that could "render uninhabitable a large land area, causing significant economic and social impacts."<sup>32</sup> SLOMFP also argued as part of Contention 2 that the environmental assessment supplement's discussion of emergency planning upgrades that could mitigate the effects of an attack on the ISFSI was inadequate for NEPA purposes.

In CLI-08-1, we rejected that portion of proposed Contention 2 that sought litigation of alternate attack scenarios (an inquiry we also rejected by denying Contention 3), noted that SLOMFP's concern with the Staff's reliance on "hidden and unjustified" information would be considered as part of Contention 1(b), and excluded litigation of the mitigating effects of emergency planning measures. As narrowed in CLI-08-1, the following parts of SLOMFP's Contention 2 remained, and were the subject of the parties' written presentations and the oral argument held on July 1, 2008:

CONTENTION 2: The NRC Staff's "environmental assessment ignore[d] environmental effects on the surrounding land" and failed to consider "nonfatal health effects (e.g., latent cancers) from a hypothetical terrorist attack."<sup>33</sup>

Because all parties agree that there is no unresolved dispute of law or fact regarding Contention 2 and that consequently no further adjudicatory hearing is necessary in this proceeding, our task at this juncture is to determine the merits of Contention 2 — unless we find *sua sponte*, despite the parties' view, that further adjudicatory hearing is required in order to resolve an issue of fact or law. Based on our evaluation of the record we find that no further adjudicatory hearing is required, and we turn, therefore, to the merits of the contention.

### C. Resolution of Contention 2

In its Subpart K written presentation and at the oral argument, SLOMFP offered little evidence on Contention 2, as admitted, but instead attempted to relitigate elements of Contention 2 relating to attack-scenario selection that we

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<sup>31</sup> *Id.* at 10.

<sup>32</sup> *Id.* at 12.

<sup>33</sup> CLI-08-1, 67 NRC at 18.

had already excluded from the proceeding.<sup>34</sup> In contrast, the NRC Staff and PG&E provided essentially uncontradicted evidence that the probability of a significant radioactive release caused by a terrorist attack was low, and that the potential latent health and land contamination effects of the most severe plausible attack would be small. We agree with the Staff and PG&E.

To analyze potential land contamination and radiation exposure levels (and thus, potential latent health effects of the most severe plausible attack) the NRC Staff performed a series of calculations. The Staff expert located the residence nearest the Diablo Canyon ISFSI, which is approximately 1.5 miles north-northwest of the facility on property owned by PG&E, and reasonably assumed that its occupant would be the maximally exposed individual in the unlikely event of a significant radioactive release.<sup>35</sup> The Staff rightly concluded that the only plausible way for radioactive material to reach that residence would be by air and that any airborne release would disperse and settle on the ground as it continued downwind.<sup>36</sup> The Staff's "dose calculation assumed that the individual would be exposed to radiation from inhalation and also from radiation that has been deposited on the ground and assumes the individual will be in the same place for four days."<sup>37</sup> As part of her calculations, the Staff expert "accounted for the contribution of land contamination to dose . . . and concluded that the dose would result in a low likelihood of developing discern[i]ble health effects."<sup>38</sup> The Staff expert's calculations are described in detail in her testimony.<sup>39</sup>

In performing her calculations, the Staff expert used a computer code that implements a mathematical model of the behavior of pollutants in the atmosphere (the Gaussian plume model, HOTSPOT computer code developed by Lawrence Livermore National Laboratory<sup>40</sup>), inputting values such as source term, height of release above ground level, wind speed, turbulence, and distance to calculate both downwind concentrations of radioactive material in the air and on the ground.<sup>41</sup> After calculating downwind concentrations of radioactive material in the air and on the ground using HOTSPOT, the Staff expert performed a series of additional calculations to determine the total effective dose, which is the 50-year committed effective dose from internally deposited radionuclides plus the equivalent dose from outside the body — that is, radionuclides in passing clouds and in ground

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<sup>34</sup> SLOMFP Summary at 21.

<sup>35</sup> Staff Summary, Affidavit of Elizabeth A. Thompson ¶ 20.

<sup>36</sup> *Id.* ¶ 21.

<sup>37</sup> Transcript at 27.

<sup>38</sup> Staff Summary at 19.

<sup>39</sup> Staff Summary, Affidavit of Elizabeth A. Thompson ¶¶ 15-51.

<sup>40</sup> *Id.*, Reference 11.

<sup>41</sup> *Id.* ¶ 29.



contamination.<sup>42</sup> The Staff expert’s calculation included the dose contributed by 4 days of exposure to contaminated ground<sup>43</sup> as a result of the release of radioactive material from the casks. For the case with the most serious potential consequences, the Staff expert calculated that the 50-year total effective dose equivalent to this nearest resident would be less than 5 rem — and “at that low dose level there would not be any discernible health effects of any kind.”<sup>44</sup>

Supporting the Staff’s view, PG&E highlights instances where the NRC has concluded that a 5-rem dose would be insignificant, notes that the Environmental Protection Agency limits doses to workers during emergencies to 5 rem, and states that the Food and Drug Administration sets a 5-rem threshold for recommended emergency action.<sup>45</sup> PG&E states that 5 rem is “the current occupational annual

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<sup>42</sup> *Id.* ¶¶ 39-49.

<sup>43</sup> *Id.* ¶ 48.

<sup>44</sup> Transcript at 29. *See also* Staff Summary, Affidavit of Elizabeth A. Thompson ¶ 51, Ref. 19 (citing a 2004 Health Physics Society position paper stating that below 5-10 rem “risks of health effects are either too small to be observed or are nonexistent”).

<sup>45</sup> Regarding the use of a 5-rem dose as an indicator of environmental impacts, the PG&E experts point to:

- 10 C.F.R. § 72.106(b), which sets a dose limit of 5 rem at the boundary of the ISFSI as a result of any design basis accident. The experts provide citations to the rulemaking history and to NUREG-1092 for support noting that in the rulemaking (citing Licensing Requirements for the Independent Storage of Spent Nuclear Fuel and High-Level Radioactive Waste, 53 Fed. Reg. 31,651, 31,658, 31,672-73 (Aug. 19, 1988)) the NRC concluded the associated environmental and human health effects would be insignificant at this exposure level. PG&E Summary, Testimony of Jearl Strickland and Mark Mayer ¶¶ 21-22.
- 10 C.F.R. § 20.1201(a)(1)(i), which sets a 5-rem total effective dose equivalent for adult occupational exposures. The experts provide citations to the rulemaking history and to Reg. Guide 8.29 (attached at Tab 7 of PG&E’s filing) for support. Citing to Reg. Guide 8.29, the experts state that approximately 20% of people die from cancer irrespective of occupational exposure, and that a 5-rem exposure would increase the cancer risk by about 0.2%. PG&E’s experts note that in the rulemaking (citing Standards for Protection Against Radiation; Republication, 51 Fed. Reg. 1092, 1102 (Jan. 9, 1986)) the NRC concluded the associated environmental and human health effects would be insignificant at this exposure level. PG&E Summary, Testimony of Jearl Strickland and Mark Mayer ¶ 23.
- U.S. Environmental Protection Agency (EPA), *Manual of Protective Action Guides and Protective Actions for Nuclear Incidents*, EPA-400-R-92-001 (May 1992) (excerpts attached at Tab 8 of PG&E’s filing), which PG&E’s experts cite for the propositions that, to the extent practicable, doses to workers during emergencies should be limited to 5 rem; exposures for workers during emergencies should be limited to 10 rem to protect valuable property; and exposures for workers during emergencies should be limited to 25 rem for lifesaving activities and protection of large populations. The experts also review the EPA’s definitions of the “phases” of a nuclear incident. PG&E Summary, Testimony of Jearl Strickland and Mark Mayer ¶¶ 25-28.
- Food and Drug Administration (FDA) exposure pathway based recommended protective actions, which have 5-rem trigger points. *Id.* ¶¶ 29-36.

limit, which is permitted each year over a working lifetime, and is associated with the expectation of minimal increased radiation risks.”<sup>46</sup> PG&E argues that costs of preventive actions (with respect, for example, to dairy farms, the nearest of which is 12 miles away) would be limited.<sup>47</sup> PG&E’s input reinforces our view that the Staff’s finding of no significant impact was reasonable.

The Staff’s use of HOTSPOT to perform its quantitative analysis was contested by SLOMFP, which maintained that the HOTSPOT computer code is not suited for accurately modeling the complex behaviors of atmospheric plumes released in a location with the topology of the Diablo Canyon site. But SLOMFP offered little more than a bare assertion that HOTSPOT, a readily available and “widely used model for emergency preparedness and nuclear safety analysis,”<sup>48</sup> was inadequate. Even if SLOMFP’s expert would have selected a different computer code to perform the analysis,<sup>49</sup> “[w]hen specialists express conflicting views, an agency must have discretion to rely on the reasonable opinions of its own qualified experts . . . .”<sup>50</sup> SLOMFP has given us no basis for overturning the Staff expert’s reasonable use of HOTSPOT to perform a quantitative dose assessment in this case.<sup>51</sup>

The Staff’s finding of no significant impact was supported not only by quantitative dose assessment, but by additional qualitative analysis. The Staff’s qualitative analysis showed that the probability of a significant radioactive release caused by terrorist attack on the Diablo Canyon ISFSI is very low. In its qualitative analysis, the NRC Staff points first to the “robustness” of the storage system PG&E plans to use at Diablo Canyon:

By design, *dry cask storage systems are highly resistant to penetration*. To be licensed or certified by [the] NRC, these systems must meet stringent requirements for structural, thermal, shielding, and criticality performance, and confinement integrity, for normal and accident events. Consequently, *spent fuel storage casks are extremely robust structures, specifically designed to withstand severe accidents, including the impact of a tornado-generated missile such as a 4000-pound automobile*

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<sup>46</sup> PG&E Summary at 12-13.

<sup>47</sup> *Id.* at 13.

<sup>48</sup> Staff Summary, Affidavit of Elizabeth A. Thompson ¶ 22.

<sup>49</sup> *See* Transcript at 81.

<sup>50</sup> *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 378 (1989).

<sup>51</sup> Even assuming, *arguendo*, that HOTSPOT is not the most sophisticated means for modeling atmospheric plumes at the Diablo Canyon site, “NEPA does not require [a decision] whether an [environmental impact report] is based on the best scientific methodology available, nor does NEPA require [resolution of] disagreements among various scientists as to methodology.” *Friends of Endangered Species, Inc. v. Jantzen*, 760 F.2d 976, 986 (1985).

*at 126 miles per hour.*<sup>52</sup> The massive HI-STORM 100SA storage casks to be used at the Diablo Canyon ISFSI are made of inner and outer cylindrical carbon steel shells, filled with 30 inches of concrete, and weighing up to 170 tons when fully loaded with spent fuel. Each cask surrounds an internal multi-purpose canister, which safely confines the spent fuel in a completely sealed, welded stainless steel cylinder. The spent fuel is further protected by the metallic zircaloy cladding surrounding the fuel pellets in each fuel rod of a spent fuel assembly. Finally, *the nuclear fuel itself is in the form of solid ceramic pellets of uranium dioxide; this means that a large amount of the radioactive material would remain in solid form and in the immediate vicinity of the ISFSI, even if a terrorist act were successful in breaching the multiple layers of protection. Thus, only a small fraction of the radioactive material released would be in the dispersible form of fine particulate material or radioactive gases with the potential to be transported offsite.*<sup>53</sup>

PG&E's experts<sup>54</sup> describe the Holtec HI-STORM 100SA storage system as an anchored version of the design certified for general use, specifically licensed for the Diablo Canyon ISFSI. When loaded, the fully sealed, multipurpose storage canisters will hold up to thirty-two fuel assemblies (or certain other hardware), in an "egg-crate" fuel basket. The overpack allows natural circulation of air around the outside surface of the multipurpose canister through four air inlet ducts spaced at 90-degree intervals at the base of the overpack and four outlet ducts in the top lid of the overpack. The inlet ducts are below the base plate of the multipurpose canister and the outlet ducts are above the steel lid of the multipurpose canister. Because there is no direct line of sight through the upper and lower vents to the multipurpose canister inside, access to the surface of the multipurpose canister is prevented, as is a direct impact of an airborne missile or projectile on that surface. Within the multipurpose canister, the solid fuel pellets are protected by metallic zircaloy cladding. As a result, even if the external barriers are breached, only a small fraction of the radioactive material could be released in a form that could be transported offsite. The fuel rod array and the geometry of the fuel basket also would act as a filter to limit escaping material.<sup>55</sup> These details, provided by the Staff and PG&E, support the Staff's finding that because there is "a very low

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<sup>52</sup> PG&E adds that, structurally, the dry cask design has been demonstrated to withstand certain design basis events, documented in PG&E's Safety Analysis Report and Environmental Report (originally submitted Dec. 21, 2001) and in the NRC Staff's Safety Evaluation Report (Mar. 22, 2004). These design basis events include not just the impacts of an automobile hurled into the cask at 126 miles per hour but also the impacts of other solid steel objects hurled at high velocities (by tornados and other natural phenomena), as well as the impacts from a postulated collapse of two transmission towers close to the ISFSI. PG&E Summary, Testimony of Jearl Strickland and Mark Mayer ¶¶ 9, 10.

<sup>53</sup> Final EA Supplement at 6 (emphasis added).

<sup>54</sup> PG&E Summary, Testimony of Jearl Strickland and Mark Mayer ¶¶ 6-8, 11.

<sup>55</sup> PG&E Summary at 10-11.

probability that there will be any significant release from the casks in the event of a terrorist attack . . . there would not be any significant impacts from land contamination.”<sup>56</sup>

The record indicates that significant health or environmental consequences are particularly unlikely under site conditions at Diablo Canyon. The Staff explains that it compared the assumptions underlying the post-9/11/2001 generic ISFSI and determined that conditions at the Diablo Canyon site rendered potential doses “much lower” than generic assessments might suggest:

[T]he assumptions used in [the] generic [ISFSI] security assessments, regarding the storage cask design, the source term (amount of radioactive material released), and the atmospheric dispersion, were representative, and in some cases, conservative, relative to the actual conditions at the Diablo Canyon ISFSI. In fact, because of the specific characteristics of the spent fuel authorized for storage at the Diablo Canyon ISFSI (lower burnup fuel), and the greater degree of dispersion of airborne radioactive material likely to occur at the site, *any dose to affected residents nearest to the Diablo Canyon site calculated using site-specific parameters will be much lower than doses calculated using the assumptions made for the generic assessments.*<sup>57</sup>

PG&E lists several additional characteristics of the Diablo Canyon site that would further limit the human health, land contamination, and other environmental effects of a terrorist attack. First of all, the power plant site is large and is located in a sparsely populated region, so the number of exposed individuals would be small and the costs of evacuation or relocation also would be small. Moreover, PG&E also owns and controls a large area of land surrounding the site — relatively little of this land is productive, and the nearest dairy is 12 miles away, so “any costs associated with protective actions for ingestion pathways would be minimal.”<sup>58</sup> Also, if there were a terrorist attack that caused a release of radioactive material, the site emergency plan would be activated, further assuring low long-term health impacts, “both in the 10-mile emergency planning zone and in the 50-mile ingestion pathway zone.”<sup>59</sup>

Finally, as the NRC Staff’s threat-assessment expert stresses, the likelihood that a terrorist attack would even be attempted at the Diablo Canyon ISFSI is low.<sup>60</sup>

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<sup>56</sup> Transcript at 28.

<sup>57</sup> Final EA Supplement at 7 (emphasis added).

<sup>58</sup> PG&E Summary at 14.

<sup>59</sup> *Id.* at 14-15.

<sup>60</sup> Staff Summary, Affidavit of Kelley, Hall, Warren, and Sanders ¶ 6. *See also* Transcript at 10 (stating “the Staff believes that the probability an attack will be attempted on the Diablo Canyon ISFSI is low”); Final EA Supplement at 7 (describing the mitigating potential of emergency response actions “in the unlikely event that an attack were attempted at the Diablo Canyon ISFSI”).

While the Staff's expert acknowledges the precise probability of a successful terrorist attack on the Diablo Canyon ISFSI cannot be calculated or quantified,<sup>61</sup> that does not mean we should disregard her opinion that the likelihood of such an event is low.<sup>62</sup> Where quantification is "not possible," we expect our license applicants and our Staff to assess pertinent factors "in qualitative terms."<sup>63</sup>

In sum, after considering the entire record, we find by a preponderance of the evidence<sup>64</sup> that SLOMFP's Contention 2 lacks merit. The Staff examined a range of plausible terrorist attacks on the Diablo Canyon ISFSI and found that even the most severe would cause no immediate or latent health effects after quantitatively evaluating how air and land contamination would contribute to those effects.<sup>65</sup> Additional qualitative analysis by the Staff showed that an attempted attack is improbable, but even if a plausible attack occurred, the likelihood of a significant radioactive release is very low because of the nature of the Diablo Canyon storage casks and ISFSI site.

Thus, Contention 2, as illuminated by the parties' written submissions and oral argument, provides no basis for invalidating the NRC Staff's supplemental environmental assessment or for requiring the NRC Staff to prepare a full environmental impact statement.

#### **D. Selection of Attack Scenarios**

As we indicated above, in CLI-08-1 we rejected SLOMFP's proposed Contention 3, which presented SLOMFP's view that the Staff should have considered a broader range of terrorist attack scenarios, as well as the portions of SLOMFP's Contention 2 that made similar complaints:

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<sup>61</sup> Staff Summary, Affidavit of Kelley, Hall, Warren, and Sanders ¶ 6.

<sup>62</sup> *Id.* As indicated in her Statement of Qualifications submitted along with her affidavit, NRC Staff expert Roberta Warren currently heads the agency's Intelligence Liaison and Threat Assessment Branch and has over 30 years' experience in "counterterrorism analysis." SLOMFP apparently does not agree with the Staff's view, but SLOMFP brought no equivalent expertise to the proceeding.

<sup>63</sup> 10 C.F.R. § 51.45(c). *See also* 10 C.F.R. § 51.71(d).

<sup>64</sup> *See Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-763, 19 NRC 571, 577 (1984) ("[T]o prevail on . . . factual issues, the . . . position must be supported by a preponderance of the evidence"); *Tennessee Valley Authority* (Hartsville Nuclear Plant, Units 1A, 2A, 1B, and 2B), ALAB-463, 7 NRC 341, 360 (1978), *reconsideration denied*, ALAB-467, 7 NRC 459 (1978) ("Absent some special statutory standard of proof, factual issues . . . are determined by a preponderance of the evidence").

<sup>65</sup> We do not read the Staff's supplemental environmental assessment in isolation. Rather, we consider it in conjunction with evidence presented in the adjudicatory record, including the affidavit of the Staff expert who performed the dose calculation. That affidavit explains in detail how air and ground contamination would contribute to dose in the unlikely event of a significant release.

The NRC Staff's supplemental environmental assessment explains that the Staff considered "[p]lausible threat scenarios . . . includ[ing] a large aircraft impact similar in magnitude to the attacks of September 11, 2001, and ground assaults using expanded adversary characteristics consistent with the design basis threat for radiological sabotage for nuclear power plants." This approach, grounded in the NRC Staff's access to classified threat assessment information, is reasonable on its face. We do not understand the Ninth Circuit's remand decision — which expressly recognized NRC security concerns and suggested the possibility of a "limited proceeding" — to require a contested adjudicatory inquiry into the credibility of various hypothetical terrorist attacks against the Diablo Canyon ISFSI.

Adjudicating alternate terrorist scenarios is impracticable. The range of conceivable (albeit highly unlikely) terrorist scenarios is essentially limitless, confined only by the limits of human ingenuity. And hearings on such claims could not be conducted in a meaningful way without substantial disclosure of classified and safeguards information on threat assessments and security arrangements and without substantial litigation over their significance. Such information — disclosure of which is prohibited by law — would lie at the center of any adjudicatory inquiry into the probability and success of various terrorist scenarios.<sup>66</sup>

In its Subpart K written presentation and at the oral argument, SLOMFP attempted to relitigate elements of Contention 2 relating to attack-scenario selection, arguing primarily that an attack of the nature postulated by SLOMFP's expert would result in consequences that the NRC Staff had not analyzed.<sup>67</sup> SLOMFP's arguments amount to a request that we revisit our decision in CLI-08-1 against litigating the Staff's screening of plausible terrorist scenarios.<sup>68</sup> This we decline to do. As we held in CLI-08-1, NEPA does not require us to reveal sensitive government security information regarding the agency's environmental analysis, and there is no compelling policy reason to do so in this case.

As a legal matter, NEPA claims are governed by NEPA's own specific nondisclosure provision, as construed by the Supreme Court in *Weinberger v.*

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<sup>66</sup> CLI-08-1, 67 NRC at 20 (internal footnotes omitted).

<sup>67</sup> SLOMFP Summary at 21.

<sup>68</sup> SLOMFP also attempts to resurrect its claim from the proposed Contention 2 that the NRC Staff inappropriately used terrorist attacks' potential for "early fatalities" as an inappropriate criterion to screen out other kinds of terrorist attacks or as a proxy for environmental effects. *See* SLOMFP Summary at 21-24. But in CLI-08-1 the Commission *rejected* that aspect of SLOMFP's Contention 2. 67 NRC at 18; *see also* 67 NRC at 28 (Commissioner Lyons, dissenting in part). The terrorist event the Staff analyzed in depth was one with a 5-rem release, far lower than any "fatal" threshold. And at the public hearing on the supplemental environmental assessment, the Staff explained that it "did not apply a threshold of early fatalities in screening out security scenarios." Transcript at 88. Contrary to SLOMFP's repeated assertions, the record shows that the Staff did not use an "early fatalities" criterion to avoid analyzing environmental effects.

*Catholic Action League*,<sup>69</sup> rather than by more general provisions in the AEA or in NRC regulations.<sup>70</sup> Under NEPA, the agency may withhold from public disclosure any information that is exempt under the Freedom of Information Act.<sup>71</sup> Accordingly, in CLI-08-1 we directed the Staff to redact FOIA-exempt information from relevant documents, provide whatever was not exempt to other parties, and identify the exemption relied upon so that the proposed withholding could be challenged. As a result, the Staff released all information regarding its environmental assessment that was suitable for public dissemination.

Further disclosure of sensitive, security-related information would not assist the Commission in determining whether the agency's environmental review was reasonable under NEPA. We have read the Staff's supplemental environmental assessment, reviewed outside of this adjudication the nonpublic documents that provide the basis for the Staff's selection of the attack scenarios evaluated, and considered the pleadings and transcripts developed by the parties in support of our public hearing in this case. In our judgment, the environmental information developed by the Staff and the parties is more than adequate to permit informed decision making by the Commission in this case, which is what NEPA requires.

Nothing in our procedural hearing rules requires greater disclosure of the agency's environmental analysis.<sup>72</sup> Although those rules have been used in a very few cases to disclose classified information in contested licensing proceedings, in those cases the information was necessary to evaluate challenges to the agency's compliance with security requirements in the Atomic Energy Act, not NEPA.<sup>73</sup> And in those prior cases, the interest in providing classified information to NRC hearing litigants was clearer than in this case, where no party has challenged the ability of the Diablo Canyon ISFSI to meet NRC safety or security requirements. In our view, any benefit to be gained in this case from further disclosure is outweighed by the risks inherent in disseminating security-related information, even under protective order.<sup>74</sup>

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<sup>69</sup> *Weinberger v. Catholic Action League*, 454 U.S. 139 (1981).

<sup>70</sup> In statutory construction, "the specific prevails over the general." See, e.g., *Bonneville Power Administration v. Federal Energy Regulatory Commission*, 422 F.3d 908, 916 (9th Cir. 2005). *Accord Guidry v. Sheet Metal Workers National Pension Fund*, 493 U.S. 365, 375 (1990).

<sup>71</sup> See NEPA § 102(2)(C). Contrary to the suggestion made by Commissioner Jaczko in his dissent, the authority granted by NEPA § 102(2)(C) to withhold sensitive information from public disclosure is not limited to withholding of military or state secrets.

<sup>72</sup> 10 C.F.R. § 2.900 *et seq.* (Subpart I).

<sup>73</sup> See *Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), CLI-02-19, 56 NRC 143 (2002); *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-653, 14 NRC 629 (1981).

<sup>74</sup> We agree with Commissioner Jaczko's dissent insofar as it suggests there should be no "false choice" between protecting sensitive information and meeting our responsibilities under NEPA. The

(Continued)

As we made clear in CLI-08-1,<sup>75</sup> our decision not to permit litigation of attack scenarios does not equate to disinterest in SLOMFP's or other citizens' views and opinions on terrorist risks. The NRC Staff, for instance, was made aware of SLOMFP's alternate scenarios both when considering contentions in this adjudication and when reviewing SLOMFP's comments on the draft supplemental environmental assessment. At the oral argument before us the Staff's counsel repeatedly asserted that the Staff was familiar with SLOMFP's "zircaloy fire" scenario and had concluded that it did not alter the Staff's finding of no significant environmental impact.<sup>76</sup>

#### **E. SLOMFP's Request to Supplement Subpart K Presentation**

In its request to supplement its Subpart K presentation, SLOMFP asks to add an affidavit the NRC Staff attached to its motion for summary disposition of Contention 1(b). Our rules, in 10 C.F.R. § 2.1113, do not provide for supplementing Subpart K presentations. Moreover, in its request, SLOMFP says that its intended use of the Staff affidavit is to further its argument that "the Staff violated [NEPA] by arbitrarily applying an irrational — and secret — screening criterion to exclude consideration of reasonably foreseeable attack scenarios that would cause significant offsite contamination, human illness, and adverse socioeconomic effects."<sup>77</sup> SLOMFP's reason for asking us to allow it to supplement its written presentation is thus to support a proposition — the consideration of alternate terrorist attack scenarios — that is outside the scope of the admitted contention. We deny the request.

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information-protection balance we have struck in this case avoids such a "false choice" by making public meaningful information about the bases for the agency's environmental analysis (including references to sensitive documents relied upon by the Staff) while minimizing the risk that sensitive, security-related information will be compromised. The result is a far greater sharing of information than in *Weinberger*, a case in which no part of the agency's environmental analysis was made public.

<sup>75</sup> 67 NRC at 21 n.98.

<sup>76</sup> See, e.g., Transcript at 26, 90. In a written submission prior to the oral argument, the Staff said: "Since the factual information regarding terrorist threat scenarios considered credible by the Staff has been withheld from public disclosure to protect national security, it follows that SLOMFP's speculation that the Staff may have ignored credible threat scenarios with significant environmental impacts or misapprehended the vulnerability of the ISFSI to a terrorist attack by ignoring attack scenarios with greater sophistication is factually unsupported. Further, SLOMFP's claims cannot be considered undisputed simply because they cannot be addressed by the Staff in this public adjudication." Staff Reply at 4-5.

<sup>77</sup> SLOMFP Request to Supplement at 2.



## II. SUMMARY

This remand proceeding has presented a number of new and difficult issues for us to resolve. In doing so, our choice of procedures has been guided by NEPA, which is meant to inform agency decision making and to provide the public with information about the environmental impacts of our action. We have also been guided by the Ninth Circuit, which recognized the value of qualitative analysis and the importance of protecting sensitive, security-related information.<sup>78</sup> We are confident that our approach strikes a reasonable balance between public disclosure and information protection while permitting informed agency decision making.

Much of this case has centered on the Staff's determination of "plausible" attack scenarios. The Staff's selection of plausible attack scenarios — a concept it used to assess the effects of a terrorist attack — was based on information gathered through the agency's regular interactions with the law enforcement and intelligence communities regarding the capabilities of potential adversaries, as well as the Staff's expert judgment in intelligence analysis.<sup>79</sup> Although that information cannot be made public for reasons of national security, as we pledged earlier in this remand proceeding<sup>80</sup> and as required by *Weinberger*,<sup>81</sup> we ourselves, outside the adjudicatory proceeding, have reviewed the nonpublic information underlying the NRC Staff's selection of terrorist attack scenarios, and are satisfied that the selection was reasonable.

Once plausible scenarios were selected, the Staff did not attempt to quantify the probability that any given scenario would actually be attempted, but instead conservatively "assume[d] that the attack would be attempted [and] successfully completed."<sup>82</sup> The Staff then quantitatively analyzed the human health impacts that would result from the most severe plausible scenario. The Staff's quantitative analysis showed that the worst-consequence scenario would result in a "projected

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<sup>78</sup> See *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d at 1031-32, 1034-35.

<sup>79</sup> See Final EA Supplement at 7; Transcript at 88.

<sup>80</sup> 67 NRC at 21 n.98.

<sup>81</sup> 454 U.S. at 146.

<sup>82</sup> Transcript at 15. Commissioner Jaczko in his dissent points to statements by the Staff that it "did not analyze any specific [attack] scenario for probability" and "[doesn't] believe that the probability of a terrorist attack can be quantified in any way" to cast doubt on the Staff's finding of no significant impact. We do not understand those statements to mean that the Staff's selection of plausible attack scenarios was arbitrary. The record shows scenarios were selected based on intelligence and law-enforcement information regarding attack trends and the demonstrated capabilities of potential adversaries. Rather, we understand those statements to mean that the Staff did not quantify the probability that an adversary would attempt a "plausible" attack scenario. Instead, the Staff assumed that a plausible attack, *if attempted*, would succeed. We consider the Staff's assumption a reasonable (and conservative) approach to consequence analysis.

dose of less than 5 rem for the nearest resident,”<sup>83</sup> a dose lower than that permitted by a number of NRC health and safety regulations and other federal radiation-protection guidelines.<sup>84</sup> The Staff used a reliable quantitative methodology that took into account the contribution of air and land contamination to dose, and we find it reasonable.

The Staff bolstered its quantitative analysis with a qualitative assessment showing that the likelihood of a significant release in the event of a plausible attack would be very low. The Staff’s qualitative assessment reasonably credited the robustness of ISFSI cask designs, the effectiveness of NRC security requirements, the mitigating effect of emergency planning and response actions, and site-specific meteorology and source term to show that its quantitative dose analysis likely overstated the significance of the impacts that would result in the event of a plausible attack.<sup>85</sup> The Staff also found that an attack would be improbable. Having shown through a combination of quantitative and qualitative analysis that the projected dose resulting from the most severe plausible attack “would likely be well below 5 rem,”<sup>86</sup> and that the chance of any attack at all was low, the Staff reasonably concluded that further analysis of the economic or other environmental impacts was not necessary.

Finally, the Staff made its draft supplemental environmental assessment public, received public comments on the draft and provided public responses, and published a final supplement that included a bibliography of the sensitive, security-related information upon which it relied. We then held a public hearing to consider additional evidence and argument regarding the Staff’s assessment. The result is a far greater sharing of information than in *Weinberger*, a case in which no part of the agency’s environmental analysis was made public.

Accordingly, we conclude that the Staff’s final, supplemental environmental assessment and finding of no significant impact, the adjudicatory record in this case, and our own supervisory review of the nonpublic information underlying portions of the Staff’s analyses, are more than sufficient to satisfy the agency’s NEPA obligations. Consistent with longstanding NRC practice, today’s decision becomes part of the environmental record of decision along with the environmental assessment itself.<sup>87</sup>

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<sup>83</sup> Final EA Supplement at 7.

<sup>84</sup> See, e.g., 10 C.F.R. § 72.106(b) (setting a 5-rem dose limit for ISFSI design-basis accidents); 10 C.F.R. § 20.1201(a)(1)(i) (setting a 5-rem total effective dose equivalent for adult occupational exposures). See also note 45, *supra*.

<sup>85</sup> See Final EA Supplement at 4-7.

<sup>86</sup> *Id.* at 7.

<sup>87</sup> “The adjudicatory record and Board decision (and, of course, any Commission appellate decisions) become, in effect, part of the FEIS.” *Louisiana Energy Services, L.P.* (Claiborne Enrich-

(Continued)

### III. CONCLUSION

For the reasons stated above, we reject SLOMFP's Contention 2 on the merits and find that an environmental impact statement is not required in order to address the land contamination and latent health effect issues raised in the contention.

IT IS SO ORDERED.

For the Commission

ANNETTE L. VIETTI-COOK  
Secretary of the Commission

Dated at Rockville, Maryland,  
this 23d day of October 2008.

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ment Center), CLI-98-3, 47 NRC 77, 89 (1998), citing *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 705-07 (1985). See also *Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174, CLI-01-4, 53 NRC 31, 53 (2001); *Allied-General Nuclear Services* (Barnwell Nuclear Fuel Plant Separations Facility), ALAB-296, 2 NRC 671, 680 (1975).

**Commissioner Gregory B. Jaczko's Dissent on SECY-08-0120**  
**Docket No. 72-26-ISFSI**  
**Decision on the Merits of San Luis Obispo Mothers for Peace Contention**

I disapprove of this Order. In short, nothing in the record justifies the Staff approach to land contamination and nonfatal health effects. For the reasons described below, admitted Contention 2 should be sustained, and the environmental assessment (EA) remanded to the Staff for revision to address these topics.

The San Luis Obispo Mothers for Peace (SLOMFP) Contention 2, as admitted, states:

The NRC Staff's "environmental assessment ignore[d] environmental effects on the surrounding land" and failed to consider "nonfatal health effects (e.g., latent cancers from a hypothetical terrorist attack."

CLI-08-1, 67 NRC at 18. The Staff EA at issue here describes that the Staff "screened" threat scenarios to determine "plausibility." EA at 7. The EA goes on to state that the NRC "made conservative assessments of consequences, to assess the potential for early fatalities from radiological impacts from those plausible scenarios." *Id.* After describing how the Staff arrived at source term and meteorology inputs, the EA describes how the Staff calculated the dose to the nearest affected resident from the most severe plausible threat scenarios, which "would likely be well below 5 rem." *Id.* *The EA is silent on how such a dose relates to land contamination or nonfatal health effects.* The EA is also devoid of any other analysis of land contamination and nonfatal health effects.

By failing to address these matters, the Staff failed to meet the challenge the Commission posed to it in the January 15, 2008, Order (CLI-08-1, 67 NRC at 18) to demonstrate that it considered the environmental effects of a terrorist attack in the EA. The burden in this proceeding to show the EA is complete is on the NRC Staff and nothing in the record, including the oral argument proceeding, alters the clear conclusion that the Staff did not consider land contamination.

The Staff's support for its argument that it did analyze the environmental effects on the surrounding land is remarkably thin. The Staff says it *considered* land contamination but did not *analyze* it — "we did not explicitly do an analysis of land contamination." Transcript at 21 (Ms. Clark); *see also* Transcript at 23, 29. How does one square these facts with a statement that a contention claiming that the EA ignored environmental effects on surrounding land "is without merit"? Order at p. 512.

The Staff made two conclusions not supported by the record before the Commission. First, the Staff concluded that a 5-rem exposure to a resident over 5 days can only be caused by a release of radioactive material that, by definition, cannot cause a significant adverse effect on the environment. This judgment may

be true, but it is a conclusion unsupported by data in the EA. The Staff may view this as an obvious matter, but it must be documented on a case-specific basis. We have no rule stating that the NRC may regard the environmental effects of any specified amount of radiological exposure as insignificant. The NEPA process is about ensuring that high-quality, scientifically accurate environmental information is documented and made available to public officials and citizens before decisions are made and before actions are taken. Therefore, any such conclusion must be documented either through reference to adequate previous analysis or to an application-specific analysis which shows this to be the case. Clearly this was not done in the current EA.

This leads me to the second insufficiently supported Staff conclusion, that is, the probability of a successful terrorist attack is so low that an analysis of the effects on the environment is unnecessary. In response to a line of questioning from Commissioner Svinicki, the Staff makes clear it believed it did not need to do this analysis because there is a very low probability of significant land contamination. The Staff comes to this conclusion even though it stated at oral argument that it cannot calculate a probability of such an event and that it “did not analyze any specific scenario for probability.” Transcript at 34 (Ms. Clark). The Staff went on to state that “we don’t believe that the probability of a terrorist attack can be quantified in any way.” Transcript at 38 (Ms. Clark).

This argument is entirely inconsistent with the Staff position that some scenarios are “plausible.” Either the Staff should have described how its analyses showed that every release scenario is of very low probability and therefore land contamination (and human health effects) need not be considered further, or it should have analyzed why the plausible scenarios would not result in significant land contamination and human health effects.

The majority further clouds this issue by stating in the Order (at p. 520) that “as the NRC Staff’s threat-assessment expert stresses, the likelihood that a terrorist attack would even be attempted at the Diablo Canyon ISFSI is low.” The actual quote from the expert referenced in note 60, however, is “Because of the uncertainty inherent in assessing the likelihood of a terrorist attack, the Staff recognizes that under general credible threat conditions although the probability of such an attack is believed to be low it cannot be reliably quantified.” Affidavit of Kelley, Hall, Warren, and Sanders ¶6. Thus, the full quote from the Staff expert elicits a very different sentiment — one that is more accurate, much closer to the views expressed by the Staff at the oral argument, and that reflects the limits of what we can know.

Other portions in the Order similarly miss the point. The Order contains the majority’s explanation about why the HOTSPOT computer code was the correct tool for the dose calculations the Staff did perform. The Order states that “SLOMFP offered little more than a bare assertion” that this code was not appropriate for accurately modeling the behavior of a plume at Diablo Canyon.

Order at p. 518. But this is not an argument about dose calculations; rather, it is about whether the Staff performed any land contamination analysis. SLOMFP's objection is that HOTSPOT is "not an appropriate code for considering land contamination." Transcript at 81 (Ms. Curran). SLOMFP went further and made clear that there was an appropriate code that could perform the required analysis — a code known as MACCS.

The portion of the Order addressing this issue is simply irrelevant to Contention 2, as admitted. The Order states that SLOMFP did not adequately make their case against HOTSPOT, that the agency has the discretion to rely on the reasonable opinions of its own qualified experts, and that we have "no basis for overturning the Staff expert's reasonable use of HOTSPOT." Order at p. 518. The Staff itself, however, *also* stated at the oral argument that HOTSPOT is not the correct code to analyze land contamination. The Staff agreed that MACCS would be required "if one were to project the land contamination that could result and then calculate, for example, the economic costs of cleanup." Transcript at 23 (Ms. Clark). The Staff further noted that it has contracted for the use of that code in the past. *Id.* Therefore, HOTSPOT was the wrong code to use to analyze land contamination and MACCS was the correct one. There is no disagreement between the Staff and SLOMFP regarding that conclusion.

The Order also categorically dismisses any link between consideration of terrorist scenarios and the admitted contention, without addressing the SLOMFP argument that it is difficult to separate an analysis of consequences from the event that causes them. Transcript at 76 (Ms. Curran). The record of the oral argument makes it clear that a majority of the members of the Commission were similarly unable to completely separate the two, as they pursued lines of questioning about scenarios.

The credibility of the Staff on this issue was undermined when they were unable to answer a technical question I asked about a zirconium fire scenario as posited by SLOMFP. The Staff first said it could not discuss the topic because it was Safeguards Information. Transcript at 33-34. Later, the Staff admitted it did not have the expertise to answer this straightforward scientific question without hiring an outside contractor to do an analysis. Transcript at 92 (Ms. Clark). The Staff refuses to answer whether the scenario proposed by SLOMFP is bounded by their analysis and then further admits to not having the in-house expertise to analyze a related topic. Combining this with the fact that the agency's message all along has been "trust us to have looked at this information that we refuse to give you access to," I would say the agency is standing on a very weak foundation to reject this contention.

In addition, the discussion on pp. 522-23 of the Order overreaches in an attempt to withhold information. Nothing occurred during the oral argument to change my view that the Commission is overly relying on a court decision concerning the public release of state secrets to categorically withhold classes of information

from one of the parties. The proceeding before us does not involve military or state secrets and we do have mechanisms to ensure that sensitive information provided to the participants in the proceeding is protected from disclosure. The majority also seeks credit for providing *more* information than was shared in *Weinberger*, “The result is a far greater sharing of information than in *Weinberger*, a case in which no part of the agency’s environmental analysis was made public.” Order at p. 526.

This is a somewhat disingenuous argument. The reason the Supreme Court held that the Navy did not need to make the environmental analysis public (if there was one) was because its very existence would have revealed national security information. The Navy was not required to prepare an environmental impact statement unless they actually stored nuclear weapons at the site in question, and whether or not the Navy stored nuclear weapons there was in itself classified. In the situation where the very act of *publicly* complying with NEPA would have revealed military secrets, the Navy could withhold the EIS that it still must prepare for internal purposes if it did store weapons at the site.

The circumstances in the Diablo Canyon hearing are categorically different. There is no national security secret involving whether or not the ISFSI would contain spent nuclear fuel and the proposals I have made involve sharing sensitive information with appropriately cleared representatives of the parties, not making it publicly available. The fact that previous Commissions have demonstrated the ability in proceedings to share information to appropriately cleared individuals, appropriately safeguarded through a protective order, contradicts the arguments made in the order that this is not possible.

In addition, the very case that the majority hangs their hats on clearly states, “Section 102(2)(C) of NEPA, 42 U.S.C. § 4332(2)(C), provides that, “to the fullest extent possible,” all federal agencies shall “include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement” discussing, *inter alia*, the environmental impact of the proposed action and possible alternatives. . . .” *Weinberger*, 454 U.S. at 142.

The majority’s argument in the Order presents a false choice between protecting sensitive information and meeting our responsibilities under NEPA. The Order argues that the agency is prohibited from doing more to satisfy NEPA, but limiting information disclosure is simply a choice the majority has made, as is clear from the Order’s discussion of finding a “balance.” Again, no one is proposing that sensitive information be publicly disclosed. The agency has established and convened closed proceedings in the past and could do so again. Finally, in the absence of holding a closed session, the Commission committed in CLI-08-1 to review the range of terrorist events considered by the Staff. We put in place no process to collectively do so and I am aware of no discussion among the members of the Commission about the results of their ad hoc reviews.

Finally, after spending twenty pages explaining why the Staff's EA is adequate and stands on its own, the majority does an admirable job of attempting to craft a coherent argument in the summary of the Order. The summary states "we conclude that the Staff's final, supplemental environmental assessment and finding of no significant impact, the adjudicatory record in this case, and our own supervisory review of the nonpublic information underlying portions of the Staff's analyses, are more than sufficient to satisfy . . . NEPA obligations." Order at p. 526. This statement, however, is a fundamental recognition on the part of the majority that the EA by itself is insufficient. Since the burden was on the Staff to prove the EA was sufficient and they were not able to, the contention cannot be rejected.

A compromise approach was clearly feasible. First, the Commission should have held a closed proceeding of appropriately cleared representatives of the parties, and in the presence of whatever appropriately cleared contractors the Staff needs to have on hand, to adjudicate the issue of whether or not the SLOMFP's scenario is bounded by the work the Staff did. Second, the Commission should have directed the Staff to use the appropriate computer code to perform an adequate analysis of land contamination. Third, assuming the results of those actions did not change the facts of the matter before us, the EA should have been supplemented with the additional information that resulted from these steps. The EA should also have been supplemented to include the detailed discussion from P&GE about preventive measure that would be taken to limit the impact of any release. Transcript at 50-51 (Mr. Repka). If the results of these steps led to additional questions and concerns, the agency would have had a basis to, and no choice but to, accept SLOMFP's position and prepare an environmental impact statement.

This alternative would have been a more transparent approach for the agency to take in resolving the issues in this specific case and it would have been a better public policy position. I strongly believe this was the only path forward that would be true to our responsibilities under both NEPA and the AEA.



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**William J. Froehlich, Chairman**  
**Thomas S. Moore**  
**Michael F. Kennedy**

**In the Matter of**

**Docket Nos. 50-250**  
**50-251**  
**(ASLBP No. 08-869-03-OLA-BD01)**  
**(License Amendment Request)**

**FLORIDA POWER & LIGHT**  
**COMPANY**  
**(Turkey Point Nuclear Generating**  
**Plant, Units 3 and 4)**

**October 14, 2008**

**RULES OF PRACTICE: STANDING**

In license amendment cases such as that in this proceeding, “a petitioner cannot base his or her standing simply upon a residence or visits near the plant, unless the proposed action quite ‘obvious[ly]’ entails an increased potential for offsite consequences.” *Commonwealth Edison Co.* (Zion Nuclear Power Station, Units 1 and 2), CLI-99-4, 49 NRC 185, 191 (1999).

**RULES OF PRACTICE: CONTENTIONS**

Pursuant to 10 C.F.R. § 50.58(b)(6), a “petition or other request for review of or hearing on the staff’s significant hazards consideration determination” will not be entertained by the Commission. 10 C.F.R. § 50.58(b)(6). For significant hazards consideration determinations, “[t]he staff’s determination is final, subject only to the Commission’s discretion, on its own initiative, to review the determination.”

*Id. See also Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), LBP-91-7, 33 NRC 179, 183 (1991).

#### **RULES OF PRACTICE: CONTENTIONS**

A reply cannot be used to substantively supplement or amend a contention. *Nuclear Management Co., LLC* (Palisades Nuclear Plant), CLI-06-17, 63 NRC 727, 732 (2006).

#### **RULES OF PRACTICE: SANCTIONS**

The Commission and licensing boards have imposed sanctions against a party seeking to file a written request for hearing only when that party “has not followed established Commission procedures” despite prior agency warnings. *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-06-4, 63 NRC 32, 38 (2006). *See also Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-07-28, 66 NRC 275, 275 (2007). A meritless petition warrants denial, not sanctions.

### **MEMORANDUM AND ORDER (Denying Request for Hearing)**

Before the Licensing Board is a request for hearing filed by Saporito Energy Consultants by and through its President, Thomas Saporito (Petitioner or SEC),<sup>1</sup> concerning a license amendment request (LAR) that would remove certain technical specification notes associated with License Amendment Numbers 221 and 230 at the Turkey Point Nuclear Plant in Miami-Dade County, Florida. For the reasons set forth below, we find that the Petitioner has failed to demonstrate standing and has not proffered an admissible contention. Accordingly, we deny the request for hearing.

#### **I. BACKGROUND**

On September 5, 2007, Florida Power & Light Company (FPL or Applicant) submitted a request to amend operating licenses DPR-31 and DPR-41 for the

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<sup>1</sup> Request for Hearing and Leave to Intervene (Aug. 18, 2008) [hereinafter SEC Request].

Turkey Point Nuclear Plant Units 3 and 4, respectively.<sup>2</sup> The proposed license amendment would remove technical specification notes that were inserted in two prior license amendments.<sup>3</sup> Those notes instituted alternate methods for determining the position of control rod M-6 in Unit 3 and F-8 in Unit 4 while the rod position indication systems for those two control rods were being repaired.<sup>4</sup> The Applicant stated that, because it had repaired the control rod position indication systems during a prior outage, the alternate methods, and therefore the notes, were no longer required.<sup>5</sup> On July 29, 2008, the NRC Staff (Staff) published the Notice of Consideration of Issuance of Amendments to Facility Operating Licenses, Proposed No Significant Hazards Consideration Determination, and Opportunity for a Hearing in the *Federal Register*.<sup>6</sup> In response to this notice, SEC, through Mr. Saporito, timely filed a request for hearing.<sup>7</sup>

In its petition, SEC states that: (1) Thomas Saporito is a U.S. citizen and therefore has an “inherent right under the Act to be made a party to the proceeding,” and SEC has a right to be made a party because Mr. Saporito is its President;<sup>8</sup> and (2) it has

real property and personal property and financial interests of which can be adversely affected should operations at the Florida Power & Light Company (“FPL”) or licensee’s, Turkey Point nuclear plants cause a release of radioactive particles into the environment. Moreover, such and [*sic*] event could render the requestor’s/petitioner’s home and property unavailable for human contact or use for many years or forever. Additionally, such and [*sic*] event could forever compromise the environment where the petitioners reside, live, and do business.<sup>9</sup>

SEC’s first contention asserts that “the proposed amendments involve a significant increase in the probability or consequences of an accident previously evaluated because the proposed amendments, although administrative in nature, could directly or indirectly result in substantive changes to the Technical Specifications that preserve safety analysis assumption[s].”<sup>10</sup> SEC’s second contention claims that the proposed amendments “create the probability of a new or different

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<sup>2</sup> See Letter from William Jefferson, Jr., Vice President, Turkey Point Nuclear Plant, to the Nuclear Regulatory Commission (Sept. 5, 2007) (ADAMS Accession No. ML072600150).

<sup>3</sup> The prior amendments are No. 221 (Unit 4) and No. 230 (Unit 3), issued on August 20, 2004, and October 5, 2006, respectively. *Id.* at 1.

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

<sup>6</sup> 73 Fed. Reg. 43,953 (July 29, 2008).

<sup>7</sup> See SEC Request.

<sup>8</sup> *Id.* at 1.

<sup>9</sup> *Id.* at 2.

<sup>10</sup> *Id.*

accident from any accident previously evaluated since the proposed amendments may change the physical plant or the modes of plant operation defined in the facility operating licenses.”<sup>11</sup> SEC’s third contention states that “the proposed amendments involve a significant reduction in a margin of safety since the removal of the technical notes may reduce margins of safety.”<sup>12</sup>

FPL and the Staff both oppose the grant of SEC’s petition. In its Answer, FPL asserts that SEC has not demonstrated standing or identified any admissible contentions.<sup>13</sup> With regard to standing, FPL argues that SEC “fails to demonstrate that the proposed action in any way will affect its interests. Aside from the bald assertions that it can be adversely affected by a radioactive release, SEC offers not a scintilla of evidence linking it to the area around Turkey Point.”<sup>14</sup> Moreover, FPL argues that although SEC complains that an accident at Turkey Point could “forever compromise the environment” where it does business, it

fails to provide any rational link between some alleged accident and the proposed administrative changes to the facility’s technical specifications. Notably, SEC offers no insights as to the kind of accident that would impact it (more than 100 miles from Turkey Point) as a result of making minor administrative changes to two notes in technical specifications.<sup>15</sup>

FPL also asserts that SEC’s contentions are inadmissible because they “merely reframe the 10 CFR § 50.91(a) standards” for proposed significant hazards consideration determinations and therefore lack the basis, specificity, and support necessary to be admissible. Further FPL argues that SEC’s contentions constitute impermissible challenges to the Staff’s significant hazards consideration determination.<sup>16</sup>

The Staff asserts that SEC lacks standing and has no “‘inherent right’ under the [Atomic Energy Act (AEA)], based on U.S. citizenship or otherwise, to participate as a party in a proceeding.”<sup>17</sup> It argues that the Petitioner’s “vague assertions of possible harm do not amount to a showing of ‘concrete and particularized’ injury to Mr. Saporito’s . . . or SEC’s interests that is ‘actual or imminent, not conjectural

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<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

<sup>13</sup> FPL’s Answer to Request for Hearing and Petition for Leave to Intervene of Saporito Energy Consultants (Sept. 11, 2008) at 1.

<sup>14</sup> *Id.* at 5.

<sup>15</sup> *Id.*

<sup>16</sup> *Id.* at 7-8.

<sup>17</sup> NRC Staff Answer to Saporito Energy Consultants’ Petition to Intervene and Request for Hearing (Sept. 11, 2008) at 7-8 (quoting *Business and Professional People for the Public Interest v. AEC*, 502 F.2d 424, 428 (D.C. Cir. 1974)).

or hypothetical.’”<sup>18</sup> Moreover, the Staff argues, the Petitioner “vaguely assert[s] only that harm could result from ‘operations at . . . Turkey Point’ . . . and fail[s] to demonstrate that such injury would result *from the challenged license amendment.*”<sup>19</sup> Additionally, the Staff argues that the Petitioner has made “no showing of an ‘obvious potential for offsite consequences’ from the requested action that would justify recognizing any proximity presumption, much less one extending over 100 miles from the plant site.”<sup>20</sup> Nor, according to the Staff, has the Petitioner shown “‘a plausible chain of events that would result in offsite radiological consequences posing a distinct new harm or threat’ from this purely administrative license amendment.”<sup>21</sup>

Finally, the Staff asserts that all three of SEC’s proffered contentions are inadmissible challenges to the Staff’s proposed significant hazards consideration determination under 10 C.F.R. § 50.58(b)(6) and that they fail to satisfy or to address the requirements of 10 C.F.R. § 2.309(f)(1).<sup>22</sup>

On September 16, 2008, SEC filed a Reply to the Answers filed by FPL and the Staff.<sup>23</sup> In the Reply, the Petitioner reiterates its standing assertions and claims that it “operates its business across the continental United States of America,” including the area within 50 miles of the Turkey Point facility, and “requires physical access” to potential customers and business partners in the area.<sup>24</sup> The Petitioner also greatly expands its contentions in an attempt to comply with the requirements of 10 C.F.R. § 2.309(f)(1). On September 26, 2008, FPL filed a Motion to Strike the Petitioner’s Reply and for sanctions.<sup>25</sup> The following day,

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<sup>18</sup> *Id.* at 8 (quoting *Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 72 (1994)).

<sup>19</sup> *Id.* (quoting *PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), LBP07-10, 66 NRC 1, 15 (2007)).

<sup>20</sup> *Id.* at 9 (quoting *Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325, 329-30 (1989)).

<sup>21</sup> *Id.* (quoting *Commonwealth Edison Co.* (Zion Nuclear Power Station, Units 1 and 2), CLI-99-4, 49 NRC 185, 192 (1999)).

<sup>22</sup> *Id.* at 9-10.

<sup>23</sup> Petitioner’s Response to Answers by the Nuclear Regulatory Commission Staff and by the Florida Power and Light Company (Sept. 16, 2008) [hereinafter SEC Reply].

<sup>24</sup> *Id.* at 3-4.

<sup>25</sup> FPL’s Motion to Strike Saporito’s Reply and for Sanctions (Sept. 26, 2008) [hereinafter Motion].

the Petitioner filed an Answer opposing FPL's Motion.<sup>26</sup> On October 6, 2008, the Staff filed a Response in support of FPL's Motion.<sup>27</sup>

## II. STANDARDS GOVERNING STANDING AND CONTENTION ADMISSIBILITY

A. A petitioner's right to participate in a licensing proceeding stems from section 189a of the AEA. That section provides a hearing "upon the request of any person whose interest may be affected by the proceeding."<sup>28</sup> The Commission's regulations have implemented that section of the AEA.<sup>29</sup> A determination on a request for hearing is made by considering (1) the nature of the petitioner's right under the AEA to be made a party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any decision or order that may be issued in the proceeding on the petitioner's interest.<sup>30</sup>

When assessing whether a petitioner has set forth a sufficient interest to intervene under 10 C.F.R. § 2.309, licensing boards apply judicial concepts of standing.<sup>31</sup> Judicial concepts of standing require a petitioner to show that (1) it has personally suffered or will personally suffer in the future a distinct and palpable harm that constitutes injury-in-fact; (2) the injury fairly can be traced to the challenged action; and (3) the injury is likely to be redressed by a favorable decision.<sup>32</sup> To satisfy the first requirement, the petitioner "must allege that he has been or will in fact be perceptibly harmed by the challenged agency action, not that he can imagine circumstances in which he could be affected by the agency's action."<sup>33</sup> A petitioner also "must himself fulfill the requirement for

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<sup>26</sup> Petitioner's Opposition to FPL's Motion to Strike Saporito's Reply and for Sanctions (Sept. 27, 2008). On October 1, 2008, FPL filed an Answer to the Petitioner's September 27, 2008 alleged "Motion to Strike." FPL's Answer in Opposition to Saporito Energy Consultant's Motion to Strike (Oct. 1, 2008). The Petitioner's Answer opposing FPL's Motion was not, in fact, a Motion, and therefore, FPL had no authority to file its own Answer on October 1, 2008. *See* 10 C.F.R. § 2.323(c).

<sup>27</sup> NRC Staff's Response in Support of FPL's Motion to Strike SEC's Reply and for Sanctions (Oct. 6, 2008).

<sup>28</sup> 42 U.S.C. § 2239(a)(1)(A).

<sup>29</sup> *See* 10 C.F.R. § 2.309(d).

<sup>30</sup> *Id.* § 2.309(d)(1).

<sup>31</sup> *See Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-04-28, 60 NRC 548, 552 (2004).

<sup>32</sup> *See id.* at 552-53.

<sup>33</sup> *See International Uranium (USA) Corp.* (White Mesa Uranium Mill), LBP-01-15, 53 NRC 344, 349 (2001).

standing’’<sup>34</sup> and cannot base standing on the rights of third parties without the third parties’ express authorization to represent them.<sup>35</sup>

When the proceeding is for a construction permit or operating license or the renewal of an operating license, a petitioner does not need “specifically to plead injury, causation, and redressability if the petitioner lives within, or otherwise has frequent contacts with, the zone of possible harm from the nuclear reactor or other source of radioactivity.”<sup>36</sup> This proximity presumption extends to petitioners living in or having frequent contacts with an area within a 50-mile radius of a nuclear reactor.<sup>37</sup> However, in license amendment cases such as that in this proceeding, “a petitioner cannot base his or her standing simply upon a residence or visits near the plant, unless the proposed action quite ‘obvious[ly]’ entails an increased potential for offsite consequences.”<sup>38</sup>

B. Pursuant to 10 C.F.R. § 50.58(b)(6), a “petition or other request for review of or hearing on the staff’s significant hazards consideration determination” will not be entertained by the Commission.<sup>39</sup> For significant hazards consideration determinations, “[t]he staff’s determination is final, subject only to the Commission’s discretion, on its own initiative, to review the determination.”<sup>40</sup>

C. The Commission’s regulations, 10 C.F.R. § 2.309(f)(1), set out the requirements that must be met for a contention to be admitted in an NRC licensing or enforcement adjudication. An admissible contention must (1) provide a specific statement of the legal or factual issue sought to be raised; (2) “[p]rovide a brief explanation of the basis for the contention”; (3) “[d]emonstrate that the issue

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<sup>34</sup> *St. Lucie*, CLI-89-21, 30 NRC at 329. See also *Nuclear Fuel Services, Inc.* (Erwin, Tennessee), LBP-04-5, 59 NRC 186, 193 n.10, 194 (2004) (petitioner does not have standing to assert rights of employees or caretakers on her land where caretakers are not minors or otherwise legally incapable of representing their own interests), *aff’d on other grounds*, CLI-04-13, 59 NRC 244 (2004).

<sup>35</sup> *Id.*

<sup>36</sup> *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 146, *aff’d*, CLI-01-17, 54 NRC 3 (2001).

<sup>37</sup> *Gore*, CLI-94-12, 40 NRC at 75 n.22; *Susquehanna*, LBP-07-10, 66 NRC at 14; *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 270 (2006); *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), LBP-98-33, 48 NRC 381, 385 n.1 (1998).

<sup>38</sup> *Zion*, CLI-99-4, 49 NRC at 191 (rejecting proximity argument in proceeding for amendment to reflect plant’s permanent shutdown status). See also *St. Lucie*, CLI-89-21, 30 NRC at 329-30 (unless proposed action involves “obvious potential for offsite consequences,” such as with construction or operation of reactor or certain major alterations to facility, “petitioner must allege some specific ‘injury in fact’ which will result from the action taken”).

<sup>39</sup> 10 C.F.R. § 50.58(b)(6).

<sup>40</sup> *Id.* See also *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), LBP-91-7, 33 NRC 179, 183 (1991).

raised in the contention is within the scope of the proceeding’’; (4) ‘‘[d]emonstrate that the issue raised . . . is material to the findings the NRC must make to support the action that is involved in the proceeding’’; (5) provide a concise statement of the alleged facts or expert opinions, including references to specific sources and documents, that support the petitioner’s position and upon which the petitioner intends to rely at the hearing; and (6) provide sufficient information to show that a genuine dispute exists with regard to a material issue of law or fact, including references to specific portions of the application that the petitioner disputes, or if the application is alleged to be deficient, the identification of such deficiencies and supporting reasons for this belief.<sup>41</sup> The purpose of the contention rule is to ‘‘focus litigation on concrete issues . . . result[ing] in a clearer and more focused record for decision.’’<sup>42</sup> The Commission has stated that it ‘‘should not have to expend resources to support the hearing process unless there is an issue that is appropriate for, and susceptible to, resolution in an NRC hearing.’’<sup>43</sup> The Commission has emphasized that the rules on contention admissibility are ‘‘strict by design’’;<sup>44</sup> failure to comply with any of these requirements is grounds for the dismissal of a contention.<sup>45</sup> Additionally, the initial contention must meet these requirements and may not be substantively supplemented in a reply.<sup>46</sup>

### III. BOARD RULING ON SEC REQUEST

A. The Petitioner has failed to establish that it has standing to intervene in this proceeding pursuant to 10 C.F.R. § 2.309(d).<sup>47</sup> It has not shown that it will be harmed as a result of the approval of the Applicant’s LAR. Instead, the Petitioner states that its ‘‘real property and personal property and financial interests’’ may be affected adversely ‘‘should operations at the [Turkey Point Nuclear Plant] . . . cause a release of radioactive particles into the environment.’’<sup>48</sup> Absent from the SEC’s Request is an explanation of how the approval of the Applicant’s LAR could cause a release of radioactive particles and, moreover, how this alleged release could specifically impact the Petitioner’s interests. Similarly, the

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<sup>41</sup> 10 C.F.R. § 2.309(f)(1)(i)-(vi).

<sup>42</sup> Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004).

<sup>43</sup> *Id.*

<sup>44</sup> *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358 (2001), *petition for reconsideration denied*, CLI-02-1, 55 NRC 1 (2002).

<sup>45</sup> 69 Fed. Reg. at 2221; *see also Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999).

<sup>46</sup> *Nuclear Management Co., LLC* (Palisades Nuclear Plant), CLI-06-17, 63 NRC 727, 732 (2006).

<sup>47</sup> *See* 10 C.F.R. § 2.309(d).

<sup>48</sup> SEC Request at 2.



Petitioner fails to explain how the denial of the LAR would remedy or prevent the Petitioner's asserted injury.

Further, the proximity presumption for standing in license applications is inapplicable in this license amendment proceeding. In such a proceeding, a petitioner cannot base its standing upon its distance from the nuclear facility unless the proposed action "quite obvious[ly] entails an increased potential for offsite consequences."<sup>49</sup> As stated above, the Petitioner does not explain how any specific offsite harm would result from the proposed amendments. The Petitioner also fails to explain how any release of radioactive particles that could be linked to the proposed amendment would cause an increased potential for consequences to the environment or the Petitioner's residence, life, or business in particular.<sup>50</sup>

B. In addition to failing to demonstrate its standing, the Petitioner fails to proffer an admissible contention because each of its contentions challenges the proposed license amendment as not meeting the various parts of the standard set out in 10 C.F.R. § 50.92(c) for significant hazards consideration determinations.<sup>51</sup> Given that 10 C.F.R. § 50.58(b)(6) provides that "[n]o petition or other request for review of or hearing on the staff's significant hazards consideration determination will be entertained by the Commission,"<sup>52</sup> the Petitioner's contentions are not appropriate for review by this Licensing Board.

C. Even if the Petitioner had standing and did not request an impermissible review of, or hearing on, the Staff's significant hazards consideration determination, its request for a hearing would nonetheless fail because it has not raised an admissible contention under 10 C.F.R. § 2.309(f)(1). In particular, the Petitioner fails to provide the necessary supporting facts or expert opinion,<sup>53</sup> or raise a genuine dispute of material fact or law with the Applicant.<sup>54</sup> A contention must be rejected if it fails to meet any one of these requirements.<sup>55</sup>

The Petitioner's attempt to supplement its contentions in its Reply also must

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<sup>49</sup> *Zion*, CLI-99-4, 49 NRC at 191.

<sup>50</sup> See SEC Request at 2.

<sup>51</sup> Contention 1 asserts that the proposed amendment "increases the probability or consequences of an accident previously evaluated," Contention 2 asserts that the proposed amendment "creates the possibility of a new or different accident from any accident previously evaluated," and Contention 3 asserts that the amendment "involves a significant reduction in a margin of safety." SEC Request at 2. These contentions quote almost verbatim the language of 10 C.F.R. § 50.92(c)(1)-(3).

<sup>52</sup> 10 C.F.R. § 50.58(b)(6).

<sup>53</sup> 10 C.F.R. § 2.309(f)(1)(v).

<sup>54</sup> *Id.* § 2.309(f)(1)(vi).

<sup>55</sup> *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155 (1991).

fail.<sup>56</sup> A reply cannot be used to substantively supplement or amend a contention.<sup>57</sup> Additionally, pursuant to 10 C.F.R. § 2.309(f)(2), a petitioner may amend contentions after the initial filing

only with leave of the presiding officer upon a showing that —

(i) The information upon which the amended or new contention is based was not previously available;

(ii) The information upon which the amended or new contention is based is materially different than information previously available; and

(iii) the amended or new contention has been submitted in a timely fashion based on the availability of the subsequent information.<sup>58</sup>

Here, however, the Petitioner failed to request leave of the presiding officer to file its amended contentions, and failed to meet the other three requirements for submitting amended contentions. Accordingly, the Petitioner's amended contentions are inadmissible.

#### IV. BOARD RULING ON FPL'S MOTION

As previously noted, FPL also moved to strike SEC's Reply and for sanctions.<sup>59</sup> In its Motion, FPL argues that SEC's Reply "impermissibly raises entirely new allegations," provides an affidavit with testimony not found in its initial August 18, 2008 petition, and fails to seek leave to amend its initial contentions as required by 10 C.F.R. § 2.309(f)(2).<sup>60</sup> Given our ruling on the inadmissibility of Petitioner's contentions, this portion of FPL's Motion is moot.

FPL's Motion also alleges a long history of judicial and administrative litigation between FPL and Thomas Saporito.<sup>61</sup> FPL concludes that SEC's hearing requests before the NRC are "vexatious and amount to harassment and an abuse of the administrative process."<sup>62</sup> For this reason, FPL moves, pursuant to 10 C.F.R. §§ 2.319(l) and 2.323(f)(2), that we certify to the Commission the question of whether to impose sanctions against Mr. Saporito and SEC, including but not

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<sup>56</sup> SEC Reply at 6.

<sup>57</sup> *Palisades*, CLI-06-17, 63 NRC at 732.

<sup>58</sup> 10 C.F.R. § 2.309(f)(2).

<sup>59</sup> Motion at 1.

<sup>60</sup> *Id.*

<sup>61</sup> *Id.* at 3-11. Indeed, this same Licensing Board ruled on a request for hearing from Mr. Saporito in August of this same year. *Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 and 2), LBP-08-14, 68 NRC 279 (2008).

<sup>62</sup> Motion at 2.

limited to, “barring him from filing further meritless hearing requests against FPL Group entities.”<sup>63</sup>

We decline to certify FPL’s request for sanctions to the Commission. The NRC regulations permit “[a]ny person whose interest may be affected by a proceeding and who desires to participate as a party [to] . . . file a written request for hearing and a specification of the contentions which the person seeks to have litigated in the hearing.”<sup>64</sup> The Commission and licensing boards have imposed sanctions against a party seeking to file a written request for hearing only when that party “has not followed established Commission procedures” despite prior agency warnings.<sup>65</sup> Here, although we find that SEC’s hearing request must be denied, we are loath at this juncture to conclude that SEC has transgressed Commission procedures to the extent that sanctions are warranted. A meritless petition warrants denial, not sanctions. The Petitioner should be aware, however, that repeated filings of meritless petitions may result in summary denials of such petitions.

For the foregoing reasons, it is on this 14th day of October 2008, ORDERED that:

1. The hearing request of Saporito Energy Consultants by and through its President, Thomas Saporito, regarding FPL’s September 5, 2007 license amendment request is *denied*.

2. FPL’s Motion to strike SEC’s Reply and to certify its question to the Commission regarding the imposition of sanctions against Mr. Saporito is *denied*.

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<sup>63</sup> *Id.* (citing 10 C.F.R. § 2.314(c)). FPL states that the Staff supports the Motion to strike SEC’s Reply and does not oppose the Motion for certification to the Commission.

<sup>64</sup> 10 C.F.R. § 2.309(a).

<sup>65</sup> *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-06-4, 63 NRC 32, 38 (2006). *See also Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-07-28, 66 NRC 275, 275 (2007).

3. In accordance with the provisions of 10 C.F.R. § 2.311, any appeal to the Commission from this Memorandum and Order must be taken within ten (10) days after it is served.

THE ATOMIC SAFETY AND  
LICENSING BOARD<sup>66</sup>

William J. Froehlich, Chairman  
ADMINISTRATIVE JUDGE

Thomas S. Moore  
ADMINISTRATIVE JUDGE

Michael F. Kennedy  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
October 14, 2008

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<sup>66</sup> A copy of this Memorandum and Order was sent this date by the Agency's E-Filing System to: (1) Counsel for the Staff; (2) Counsel for FPL; and (3) Thomas Saporito.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**William J. Froehlich**, Chairman  
**Thomas S. Moore**  
**Mark O. Barnett**

**In the Matter of**

**Docket No. 50-266-LA**  
**(ASLBP No. 08-870-01-LA-BD01)**  
**(License Amendment Request)**

**FPL ENERGY POINT BEACH, LLC**  
**(Point Beach Nuclear Plant, Unit 1)**

**October 14, 2008**

**RULES OF PRACTICE: CONTENTIONS**

SEC's proffered contentions challenge the proposed license amendments as failing to meet the various parts of the 10 C.F.R. § 50.92(c) standard for significant hazards consideration determinations. Because 10 C.F.R. § 50.58(b)(6) provides that "[n]o petition or other request for review of or hearing on the staff's significant hazards consideration determination will be entertained by the Commission," the Petitioner's contentions are not appropriate for review by the Licensing Board.

**RULES OF PRACTICE: SANCTIONS**

The Commission and the licensing board have imposed sanctions against a party seeking to file a written request for hearing only when that party "has not followed established Commission procedures." A meritless petition warrants denial, not sanctions.

**MEMORANDUM AND ORDER**  
**(Denying Request for Hearing)**

Before the Licensing Board is a request for hearing<sup>1</sup> filed by Saporito Energy Consultants by and through its President, Thomas Saporito (Petitioner or SEC).<sup>2</sup> This docket concerns a May 28, 2008 license amendment request (LAR) filed by FPL Energy Point Beach, LLC (FPL or Applicant) for the Point Beach Nuclear Plant, Unit 1, in Manitowoc County, Wisconsin. The LAR proposes a one-cycle revision to the technical specifications that would incorporate interim alternate repair criteria into the criteria for Steam Generator (SG) tube repair to be used during the Unit 1 2008 fall refueling outage and the subsequent operating cycle. For the reasons discussed below, we deny SEC's hearing request.

As in its recent pleadings in other cases (*supra* note 1), SEC has not shown it has standing. Specifically, SEC has not linked any specific offsite harm to the proposed amendments, demonstrated how it will be harmed as a result of the approval of the Applicant's LAR, or shown how, should the LAR be rejected, the Petitioner's asserted injury would be remedied.

SEC's proffered contentions challenge the proposed license amendments as failing to meet the various parts of the 10 C.F.R. § 50.92(c) standard for significant hazards consideration determinations.<sup>3</sup> Because 10 C.F.R. § 50.58(b)(6) provides that "[n]o petition or other request for review of or hearing on the staff's significant hazards consideration determination will be entertained by the Commission," the Petitioner's contentions are not appropriate for review by this Licensing Board.

Additionally, SEC has not satisfied the contention admissibility requirements set forth in 10 C.F.R. § 2.309(f)(1), all of which must be met for a contention to be

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<sup>1</sup> This is the third of a recent series of hearing requests by this Petitioner that consist of unsupported allegations. *See, e.g.*, Request for Hearing and Leave to Intervene (Aug. 18, 2008) (regarding Turkey Point License Amendment); Request for Hearing and Leave to Intervene (July 2, 2008) (regarding St. Lucie confirmatory order). As in *Turkey Point*, the Petitioner has improperly attempted to supplement its initial contentions in its reply. *Compare* Petitioner's Response to Answers by the Nuclear Regulatory Commission Staff and by the Florida Power and Light Company (Sept. 20, 2008) at 6-14, with Petitioner's Response to Answers by the Florida Power and Light Company (regarding Turkey Point License Amendment) (Sept. 16, 2008) at 6-13.

<sup>2</sup> Request for Hearing and Leave to Intervene (August 20, 2008) [hereinafter SEC Request].

<sup>3</sup> Contentions 1 and 2 assert that the proposed amendment "increases the probability or consequences of an accident previously evaluated," Contention 3 asserts that the proposed amendment "creates the possibility of a new or different accident from any accident previously evaluated," and Contention 4 asserts that the amendment "involves a significant reduction in a margin of safety." SEC Request at 2-3. These contentions quote almost verbatim the language of 10 C.F.R. § 50.92(c)(1)-(3).

admissible.<sup>4</sup> Specifically, the Petitioner's contentions fail to provide supporting facts or expert opinion<sup>5</sup> or raise a genuine dispute of material fact or law with the Applicant.<sup>6</sup>

On September 30, 2008, FPL moved to strike SEC's Reply and for Sanctions.<sup>7</sup> On October 4, 2008, SEC opposed FPL's motion.<sup>8</sup> Because we reject SEC's hearing request, FPL's motion to strike is moot. Regarding the motion for sanctions, NRC regulations permit "[a]ny person whose interest may be affected by a proceeding and who desires to participate as a party [to] . . . file a written request for hearing and a specification of the contentions which the person seeks to have litigated in the hearing."<sup>9</sup> The Commission and the licensing board have imposed sanctions against a party seeking to file a written request for hearing only when that party "has not followed established Commission procedures."<sup>10</sup> Here, although we find SEC's request for hearing must be denied, we are loath to conclude that SEC has transgressed agency procedures to the extent that sanctions should be imposed. As we noted in *Turkey Point*, "[a] meritless petition warrants denial not sanctions."<sup>11</sup> The Petitioner should be aware, however, that repeated filings of meritless petitions may result in their summary denial.

For the reasons set forth in our decisions in the *Turkey Point*<sup>12</sup> and *St. Lucie*<sup>13</sup> cases, we find that the Petitioner (1) fails to demonstrate standing as required by 10 C.F.R. § 2.309(d), (2) impermissibly attempts to challenge the Staff's significant hazards consideration in derogation of 10 C.F.R. § 50.58(b)(6), and (3) fails to provide an admissible contention as required by 10 C.F.R. § 2.309(f). Therefore, the Board denies the hearing request and terminates this proceeding.

Accordingly, it is on this 14th day of October 2008, ORDERED that:

1. The hearing request of Saporito Energy Consultants by and through its

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<sup>4</sup> *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155 (1991).

<sup>5</sup> 10 C.F.R. § 2.309(f)(1)(v).

<sup>6</sup> *Id.* § 2.309(f)(1)(vi).

<sup>7</sup> FPL's Motion to Strike Saporito's Reply and for Sanctions (Sept. 30, 2008).

<sup>8</sup> Petitioners' Opposition to FPL Energy Seabrook, LLC's Motion to Strike Saporito's Reply and for Sanctions (Oct. 4, 2008).

<sup>9</sup> 10 C.F.R. § 2.309(a).

<sup>10</sup> *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-06-4, 63 NRC 32, 38 (2006). *See also Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-07-28, 66 NRC 275, 275 (2007).

<sup>11</sup> *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-08-18, 68 NRC 533, 543 (2008).

<sup>12</sup> *Id.*

<sup>13</sup> *Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 and 2), LBP-08-14, 68 NRC 279 (2008).

President, Thomas Saporito, regarding FPL's May 28, 2008 license amendment request is *denied*.

2. FPL's Motion to strike SEC's reply and certify its question to the Commission regarding the imposition of sanctions against Mr. Saporito is *denied*.

3. In accordance with the provisions of 10 C.F.R. § 2.311, any appeal to the Commission from this Memorandum and Order must be taken within ten (10) days after it is served.

THE ATOMIC SAFETY AND  
LICENSING BOARD<sup>14</sup>

William J. Froehlich, Chairman  
ADMINISTRATIVE JUDGE

Thomas S. Moore  
ADMINISTRATIVE JUDGE

Mark O. Barnett  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
October 14, 2008

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<sup>14</sup> A copy of this Memorandum and Order was sent this date by the Agency's E-Filing System to: (1) Counsel for the NRC Staff; (2) Counsel for FPL; and (3) Thomas Saporito.



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**William J. Froehlich, Chairman  
E. Roy Hawkens  
Thomas S. Elleman**

**In the Matter of**

**Docket No. 50-443-LA  
(ASLBP No. 08-872-02-LA-BD01)  
(License Amendment Request)**

**FPL ENERGY SEABROOK, LLC  
(Seabrook Station, Unit 1)**

**October 14, 2008**

**RULES OF PRACTICE: CONTENTIONS**

[T]he contentions are not appropriate for review by this Licensing Board under 10 C.F.R. § 50.58(b)(6), which provides that “[n]o petition or other request for review of or hearing on the staff’s significant hazards consideration determination will be entertained by the Commission. The staff’s determination is final, subject only to the Commission’s discretion, on its own initiative, to review the determination.” SEC’s impermissible attempt to challenge the Staff’s significant hazards consideration determination in derogation of section 50.58(b)(6) provides an independent basis for rejecting the hearing request.

**RULES OF PRACTICE: SANCTIONS**

The Commission and the licensing board have imposed sanctions against a party seeking to file a written request for hearing only when that party “has not followed established Commission procedures.” A meritless petition warrants denial, not sanctions.

**MEMORANDUM AND ORDER**  
**(Denying Request for Hearing)**

Before the Licensing Board is a request for hearing<sup>1</sup> filed by Saporito Energy Consultants by and through its President, Thomas Saporito (Petitioner or SEC).<sup>2</sup> This docket concerns a February 8, 2008 license amendment request (LAR) proposing a revision to the technical specifications filed by FPL Energy Seabrook, LLC (FPL or Applicant) for Seabrook Station, Unit 1, in Rockingham County, New Hampshire. For the reasons discussed below, we deny SEC's hearing request.

First, as in its recent pleadings in other cases (*supra* note 1), SEC fails to show that it has standing. Specifically, SEC has not identified any harm, much less any harm to itself, that would result if the Applicant's LAR is approved, nor has SEC shown how, should the LAR be rejected, any asserted injury would be remedied.

Even if SEC had standing, its proffered contentions challenge the proposed license amendments as failing to meet the various parts of the 10 C.F.R. § 50.92(c) standard for significant hazards consideration determinations.<sup>3</sup> As such, the contentions are not appropriate for review by this Licensing Board under 10 C.F.R. § 50.58(b)(6), which provides that "[n]o petition or other request for review of or hearing on the staff's significant hazards consideration determination will be entertained by the Commission. The staff's determination is final, subject only to the Commission's discretion, on its own initiative, to review the determination." In short, SEC's impermissible attempt to challenge the Staff's significant hazards

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<sup>1</sup> This is the fourth of a recent series of hearing requests by this Petitioner that consist of unsupported allegations. *See, e.g.*, Request for Hearing and Leave to Intervene (Aug. 20, 2008) (regarding Point Beach License Amendment); Request for Hearing and Leave to Intervene (Aug. 18, 2008) (regarding Turkey Point License Amendment); Request for Hearing and Leave to Intervene (July 2, 2008) (regarding St. Lucie confirmatory order). This is also the third of those four proceedings in which this Petitioner has improperly attempted to supplement its initial contentions in its reply. *See* Petitioner's Response to Answers by the Nuclear Regulatory Commission Staff and by the Florida Power and Light Company (Sept. 20, 2008) (Point Beach); Petitioner's Response to Answers by the Nuclear Regulatory Commission Staff and by the Florida Power and Light Company (Sept. 16, 2008) (Turkey Point).

<sup>2</sup> Request for Hearing and Leave to Intervene (August 29, 2008) [hereinafter SEC Request].

<sup>3</sup> Contention 1 asserts that the proposed amendment "increases the probability or consequences of an accident previously evaluated," Contention 2 asserts that the proposed amendment "creates the possibility of a new or different accident from any accident previously evaluated," and Contention 3 asserts that the amendment "involves a significant reduction in a margin of safety." SEC Request at 3-4. These contentions quote almost verbatim the language of 10 C.F.R. § 50.92(c)(1)-(3).

consideration determination in derogation of section 50.58(b)(6) provides an independent basis for rejecting the hearing request.<sup>4</sup>

Additionally, SEC's hearing request may be rejected on the alternative ground that it fails to satisfy the contention admissibility requirements set forth in 10 C.F.R. § 2.309(f)(1), all of which must be met for a contention to be admissible.<sup>5</sup> Specifically, the Petitioner has failed to provide a brief explanation of the basis for its contentions,<sup>6</sup> provide supporting facts or expert opinion,<sup>7</sup> or raise a genuine dispute of material fact or law with the Applicant.<sup>8</sup>

On October 3, 2008, FPL moved (1) to strike SEC's reply for improperly raising new arguments, and (2) to certify to the Commission the question of whether to impose sanctions on SEC for abusing the administrative process.<sup>9</sup> SEC opposes FPL's motion.<sup>10</sup> Although we believe that FPL supports its motion to strike with compelling arguments, we decline to grant the requested relief, because our conclusions that SEC lacks standing and impermissibly seeks to challenge the Staff's significant hazards consideration determination mandate the rejection of the hearing request, thereby rendering FPL's motion to strike moot. We likewise decline to grant FPL's request to certify. NRC regulations permit "[a]ny person whose interest may be affected by a proceeding and who desires to participate as a party [to] . . . file a written request for hearing and a specification of the contentions which the person seeks to have litigated in the hearing."<sup>11</sup> The Commission and the licensing board have imposed sanctions against a party seeking to file a written request for hearing only when that party

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<sup>4</sup> See also 15 Fed. Reg. 7744, 7759 (Mar. 6, 1986) ("[T]he Commission has modified § 50.58(b)(6) to state that only it on its own initiative may review the staff's final no significant hazards consideration determination"); *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), CLI-01-7, 53 NRC 113, 117-18 (2001) (rejecting "petition for review and request for immediate suspension and stay of the NRC staff's no significant hazards determination and issuance of license amendment for Harris spent fuel pool expansion" under 10 C.F.R. § 50.58(b)(6)); *Commonwealth Edison Co.* (Zion Nuclear Power Station, Units 1 and 2), LBP-98-24, 48 NRC 219, 222-23 (1998) ("The Licensing Board has no jurisdiction to consider an intervention petition seeking to challenge a Staff's final no significant hazards consideration determination").

<sup>5</sup> *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155 (1991).

<sup>6</sup> 10 C.F.R. § 2.309(f)(1)(ii). Instead, the Petitioner's proffered contentions merely challenge the Staff's significant hazards consideration determinations. SEC Request at 3-4.

<sup>7</sup> 10 C.F.R. § 2.309(f)(1)(v).

<sup>8</sup> *Id.* 2.309(f)(1)(vi).

<sup>9</sup> FPL's Motion to Strike Saporito's Reply and for Sanctions (Oct. 3, 2008).

<sup>10</sup> Petitioners' Opposition to FPL Energy Seabrook, LLC's Motion to Strike Saporito's Reply and for Sanctions (Oct. 4, 2008).

<sup>11</sup> 10 C.F.R. § 2.309(a).

“has not followed established Commission procedures.”<sup>12</sup> Here, although we find on the merits that SEC lacks standing, impermissibly seeks to challenge the Staff’s significant hazards consideration determination, and fails to proffer an admissible contention, we are reluctant to conclude at this juncture that SEC has transgressed Commission procedures to such an extent that sanctions ought to be imposed. A meritless petition warrants denial, not sanctions. The Petitioner should be aware, however, that repeated filings of meritless petitions may result in their summary denial, and repeated violations of Commission procedures may give rise to sanctions.

In sum, as the licensing boards found in *Turkey Point*<sup>13</sup> and *Point Beach*,<sup>14</sup> we find that the Petitioner (1) fails to demonstrate standing as required by 10 C.F.R. § 2.309(d), (2) impermissibly attempts to challenge the Staff’s significant hazards consideration in derogation of 10 C.F.R. § 50.58(b)(6), and (3) fails to proffer an admissible contention as required by 10 C.F.R. § 2.309(f). For each of these reasons, we deny the hearing request and terminate this proceeding.

For the foregoing reasons, it is on this 14th day of October 2008, ORDERED that:

1. The hearing request of Saporito Energy Consultants by and through its President, Thomas Saporito, regarding FPL’s February 8, 2008 license amendment request is *denied*.

2. FPL’s motion to strike SEC’s reply and to certify its question to the Commission regarding the imposition of sanctions against Mr. Saporito is *denied*.

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<sup>12</sup> *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-06-4, 63 NRC 32, 38 (2006). See also *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-07-28, 66 NRC 275, 275 (2007).

<sup>13</sup> *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-08-18, 68 NRC 533 (2008).

<sup>14</sup> *Florida Power & Light Co.* (Point Beach Nuclear Plant, Unit 1), LBP-08-19, 68 NRC 545 (2008).

3. In accordance with the provisions of 10 C.F.R. § 2.311, any appeal to the Commission from this Memorandum and Order must be taken within ten (10) days after it is served.

THE ATOMIC SAFETY AND  
LICENSING BOARD<sup>15</sup>

William J. Froehlich, Chairman  
ADMINISTRATIVE JUDGE

E. Roy Hawkens  
ADMINISTRATIVE JUDGE

Thomas S. Elleman  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
October 14, 2008

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<sup>15</sup> A copy of this Memorandum and Order was sent this date by the Agency's E-Filing System to: (1) Counsel for the NRC Staff; (2) Counsel for FPL; and (3) Thomas Saporito.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**Paul B. Abramson**, Chairman  
**Dr. William E. Kastenberg**  
**Dr. Michael F. Kennedy**

**In the Matter of**

**Docket Nos. 52-022-COL  
52-023-COL  
(ASLBP No. 08-868-04-COL-BD01)**

**PROGRESS ENERGY CAROLINAS, INC.**  
**(Shearon Harris Nuclear Power  
Plant, Units 2 and 3)**

**October 30, 2008**

This 10 C.F.R. Part 52 proceeding concerns the application of Progress Energy Carolinas, Inc. (Progress Energy) for a combined operating license (COL) to construct and operate two new units employing the Westinghouse Electric Corporation AP1000 advanced pressurized water power reactor certified design on its existing Shearon Harris site, located in Wake County, North Carolina. Ruling on a petition filed by the North Carolina Waste Awareness and Reduction Network (NC WARN) seeking to intervene to contest the Progress COL application, the Licensing Board concludes that, having established the requisite standing and proffering one admissible contention, the Petitioner NC WARN is admitted as a party to the proceeding. Additionally, the South Carolina Office of Regulatory Staff (SC ORS) and the North Carolina Utilities Commission (NCUC) requests to participate in the proceeding as interested governmental entities pursuant to 10 C.F.R. § 2.315 are granted.

**RULES OF PRACTICE: STANDING TO INTERVENE  
(CONSTRUCTION OF PETITION)**

In assessing a petition to determine whether the requirements for standing are met, which we must do even though there are no objections to Petitioner's standing in this case, the Commission has indicated that we are to "construe the petition in favor of the petitioner." *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 115 (1995).

**RULES OF PRACTICE: STANDING TO INTERVENE (INTERESTED  
GOVERNMENTAL ENTITY)**

Section 2.315(c) of 10 C.F.R. directs that an interested governmental entity that has not been admitted as a party under section 2.309 be provided "a reasonable opportunity to participate in a hearing."

**RULES OF PRACTICE: CONTENTIONS (SPECIFICITY  
AND BASIS)**

Contention admissibility is governed by 10 C.F.R. § 2.309(f)(1), which specifies a set of strict requirements which must be satisfied for a contention to be admissible. *See* 10 C.F.R. § 2.309(f)(1)(i), (ii), (v), and (vi). The petitioner must also demonstrate that the issue raised in the contention is both "within the scope of the proceeding" and "material to the findings the NRC must make to support the action that is involved in the proceeding." *Id.* § 2.309(f)(1)(iii), (iv).

**RULES OF PRACTICE: CONTENTIONS (CHALLENGE TO  
OMISSIONS IN COLA)**

In CLI-08-15, the Commission directed Petitioner and, indirectly, this Board that if Petitioner identified specific omissions in the COLA, those omissions should be addressed in a contention to this Board which, in turn, "should refer such a contention to the Staff for consideration in the design certification rulemaking, and hold that contention in abeyance, if it is otherwise admissible." Memorandum and Order, CLI-08-15, 68 NRC 1, 4 (citing to the Final Policy Statement on the Conduct of New Reactor Licensing Proceedings, 73 Fed. Reg. 20,972 (Apr. 17, 2008)).

**RULES OF PRACTICE: CONTENTIONS (SPECIFICITY  
AND BASIS)**

The mere reference to general materials on a website is insufficient to provide

support for a contention. “Petitioners are expected ‘to clearly identify the matters on which they intend to rely with reference to a specific point.’” *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), LBP-04-15, 60 NRC 81, 89 & n.26 (2004). “[A] petitioner may not simply incorporate massive documents by reference as the basis for a statement of his contentions.” *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-89-3, 29 NRC 234, 240-41 (1989).

**NEPA: ENVIRONMENTAL ANALYSIS (POTENTIAL TERRORIST ATTACK)**

The Commission has made clear its view that NEPA does not require the analysis of potential terrorist attacks on a proposed nuclear facility. In this case, which concerns a facility outside the jurisdiction of the Ninth Circuit, that view is binding upon this Board.

**NEPA: ENVIRONMENTAL ANALYSIS (POTENTIAL TERRORIST ATTACK)**

NEPA does not require revisitation by the NRC of matters related to high-density spent fuel pool (SFP) coolant loss (or other SFP events). The NRC has determined that the “security and mitigation measures the NRC has imposed upon its licensees since September 11, 2001, and national anti-terrorist measures to prevent, for example, aircraft hijackings, coupled with the robust nature of SFP’s, make the probability of a successful terrorist attack, though numerically indeterminable, very low,” i.e., it is precisely the type of remote and speculative event that an agency need not address. *See Denial of Petitions for Rulemaking*, 73 Fed. Reg. 46,204, 46,207 (Aug. 8, 2008).

**NEPA: ENVIRONMENTAL REPORT (COST-BENEFIT ANALYSIS)**

Commission precedent establishes that NEPA requires an applicant to present a cost-benefit analysis (and therefore provide cost estimates) for nuclear power plants and facilities only where the applicant’s alternatives analysis indicates that there is an environmentally preferable alternative. *See Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-458, 7 NRC 155 (1978).

**NEPA: ENVIRONMENTAL REPORT (COST INFORMATION)**

NRC regulations do not require the Applicant to include cost data in the ER. *See* 10 C.F.R. § 51.45. Although the regulations encourage the Applicant to



provide cost information in the ER, we find that this is not mandatory. The Commission did not intend, and our regulations do not require, that costs be considered in the ER. Therefore, the question of whether or not the cost estimates used in the ER are inaccurate does not rise to the level of a failure to comply with NRC regulations. Where Applicant did not find any environmentally preferable alternative in its ER analysis, it was under no obligation to provide cost estimates or a comparison of costs, as NEPA only requires a cost-benefit analysis where there exists an environmentally preferable alternative.

#### **NEPA: LONG-TERM WASTE STORAGE**

The Commission contemplates that its Waste Confidence Decision covers new reactors; for example, in the revised Waste Confidence Rule of 1990, the Commission stated that the rule should apply to “the spent fuel discharged from any new generation of reactor designs.” *See* Review and Final Revision of Waste Confidence Decision, 55 Fed. Reg. 38,474, 38,504 (Sept. 18, 1990).

#### **RULES OF PRACTICE: CONTENTIONS (CHALLENGE OF COMMISSION RULE)**

A contention that seeks to litigate a matter that is, or clearly is about to become, the subject of a rulemaking, is inadmissible. *See* 10 C.F.R. § 2.335.

### **MEMORANDUM AND ORDER** **(Ruling on Standing and Contention Admissibility)**

Applicant Progress Energy (Progress) has applied to the Nuclear Regulatory Commission (NRC) for a combined operating license (COL) under 10 C.F.R. Part 52 that would authorize Progress to construct and operate two new units employing the Westinghouse Electric Corporation AP1000 advanced pressurized water power reactor certified design on its existing Shearon Harris site, located in Wake County, North Carolina. By hearing petition dated August 4, 2008, North Carolina Waste Awareness and Reduction Network (NC WARN, or Petitioner) filed a petition to intervene challenging various aspects of Progress Energy’s combined operating license application (COLA), including its Environmental Report (ER) and NRC regulations. Additionally, the South Carolina Office of Regulatory Staff (SC ORS) and the North Carolina Utilities Commission (NCUC) filed requests to participate in the proceeding as interested governmental entities pursuant to 10 C.F.R. § 2.315.

For the reasons set forth below, we find that NC WARN has established stand-

ing to intervene in this proceeding and has presented one admissible contention. This contention, designated TC-1, is being referred to the NRC Staff (Staff) for further review in accordance with the Commission directive in the Final Policy Statement on the Conduct of New Reactor Licensing Proceedings, 73 Fed. Reg. 20,963 (Apr. 17, 2008), and in accordance with the Commission ruling and directive in CLI-08-15, 68 NRC 1 (2008), regarding NC WARN's request for an indefinite delay in this proceeding pending completion of the certified design for the proposed plants. Standing is also granted to SC ORS and NCUC to participate in the proceeding as is permitted under 10 C.F.R. § 2.315.

## I. BACKGROUND

### A. Progress Energy's COL Application

On February 19, 2008, Progress submitted a COLA to construct and operate two Westinghouse AP1000 pressurized water reactors at the existing Shearon Harris site, which contains the existing Unit 1 reactor.<sup>1</sup> The Staff docketed the COLA on April 17, 2008, and on June 4, 2008, a Notice of Hearing and Opportunity to Petition for Leave to Intervene was issued. *See* Acceptance for Docketing of an Application for Combined License for Shearon Harris Units 2 and 3, 73 Fed. Reg. 21,995 (Apr. 23, 2008); Notice of Hearing and Opportunity to Petition for Leave to Intervene and Order Imposing Procedures for Access to Sensitive Unclassified Non-Safeguards Information and Safeguards Information for Contention Preparation on a Combined License for the Shearon Harris Units 2 and 3, 73 Fed. Reg. 31,899 (June 4, 2008). Petitioner NC WARN filed a motion to suspend the hearing notice on June 24, 2008, which was denied by the Commission on July 23, 2008. *See* Motion to Immediately Suspend Hearing Notice and Request for Expedited Consideration by [NC WARN] (June 24, 2008); Memorandum and Order, CLI-08-15, 68 NRC 1 (2008).

### B. NC WARN Hearing Request and Requests to Participate Pursuant to 10 C.F.R. § 2.315

By a submission dated August 4, 2008, NC WARN filed a petition to intervene on the COLA filed for Harris Units 2 and 3. *See* Petition for Intervention and Request for Hearing by [NC WARN] (Aug. 4, 2008) [hereinafter Intervention Petition]. Prior to that date, on July 28, 2008, NCUC had filed a request for an opportunity to participate in any proceeding regarding the Harris COLA. *See*

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<sup>1</sup> The COLA for Shearon Harris Units 2 and 3 is available for viewing at <http://www.nrc.gov/reactors/new-reactors/col/harris.html> (last visited October 29, 2008).

Request of [NCUC] for an Opportunity to Participate in Any Hearing and to Be Added to the Official Service List (July 28, 2008). On August 4, the SC ORS also filed a request for an opportunity to participate pursuant to 10 C.F.R. § 2.315. *See* Request of [SC ORS] for an Opportunity to Participate in Any Hearing and to Be Added to the Official Service List (Aug. 4, 2008).

This Atomic Safety and Licensing Board was established to adjudicate the Harris COL proceeding on August 14, 2008. *See* Establishment of Atomic Safety and Licensing Board, 73 Fed. Reg. 49,497 (Aug. 21, 2008). On August 20, this Board issued a memorandum and order clarifying the scope of the intervention petition, as NC WARN had included in its petition a request for reconsideration of CLI-08-15, which was not properly before this Board. *See* Memorandum and Order (Concerning Administrative Matters) (Aug. 20, 2008). Both Progress and Staff filed answers to the Intervention Petition on August 29, 2008. *See* Progress Energy's Answer Opposing the [Intervention Petition] (Aug. 29, 2008) [hereinafter Progress Answer]; NRC Staff Answer to [Intervention Petition] (Aug. 29, 2008) [hereinafter Staff Answer]. Thereafter on September 5, 2008, NC WARN timely filed its reply to the answers. *See* NC WARN's Reply to Staff and [Progress] Answers to Petition for Intervention and Request for Hearing (Sept. 5, 2008) [hereinafter Reply].

## II. ANALYSIS

### A. NC WARN's Standing

In assessing a petition to determine whether the requirements for standing are met, which we must do even though there are no objections to Petitioner's standing in this case, the Commission has indicated that we are to "construe the petition in favor of the petitioner." *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 115 (1995). Neither Progress nor the Staff objects to NC WARN's representational standing. In this situation, and considering the requirements for the grant of standing, we find that NC WARN has made the requisite showing to sufficiently indicate that the environmental, safety, and health interests of several of its individual members, who have agreed that NC WARN should represent them, satisfy the requirements of representational standing.<sup>2</sup>

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<sup>2</sup>For a detailed discussion of requirements to show standing, *see, e.g., Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), CLI-00-20, 52 NRC 151, 163 (2000) (discussing representational standing); *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 6 (1996) (detailing requirements to establish standing "as of right"); and  
(Continued)

With regard to SC ORS and NCUC's requests to participate as nonparty interested governmental entities, we find that both SC ORS and NCUC may participate in that manner pursuant to the provisions of 10 C.F.R. § 2.315(c), which directs that an interested governmental entity that has not been admitted as a party under section 2.309 be provided "a reasonable opportunity to participate in a hearing."<sup>3</sup>

## **B. Admissibility of NC WARN's Contentions**

### ***1. Contention Admissibility Standards***

Contention admissibility is governed by 10 C.F.R. § 2.309(f)(1), which specifies a set of strict requirements which must be satisfied for a contention to be admissible. For a contention to be admissible under those provisions it must provide (1) a specific statement of the legal or factual issue sought to be raised; (2) a brief explanation of its basis; (3) a concise statement of the alleged facts or expert opinions, including references to specific sources and documents, that support the petitioner's position and upon which the petitioner intends to rely at hearing; and (4) sufficient information demonstrating that a genuine dispute exists in regard to a material issue of law or fact, including references to specific portions of the application that the petitioner disputes, or in the case when the application is alleged to be deficient, the identification of such deficiencies and supporting reasons for this belief. *See* 10 C.F.R. § 2.309(f)(1)(i), (ii), (v), and (vi). The petitioner must also demonstrate that the issue raised in the contention is both "within the scope of the proceeding" and "material to the findings the NRC must make to support the action that is involved in the proceeding." *Id.* § 2.309(f)(1)(iii), (iv).<sup>4</sup>

## **C. NC WARN's Contentions**

### ***1. Contention TC-1 (AP1000 Certification)***

CONTENTION: The COLA is incomplete because many of the major safety components and procedures at proposed Harris reactors are only conditional at this

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*Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325, 329 (1989) (discussing proximity factors as a standing requirement). Furthermore, we agree with the NRC Staff that Petitioners have not met the requirements for organizational standing.

<sup>3</sup> Neither Progress nor the Staff object to allowing SC ORS and NCUC to participate as interested governmental entities.

<sup>4</sup> We need not repeat the discussion of case law so oft cited in Board decisions; for example, a thorough recitation of relevant case law has been presented in *Duke Energy Carolinas, LLC* (William States Lee III Nuclear Station, Units 1 and 2), LBP-08-17, 68 NRC 431, 438-42 (2008).

time. The COLA adopts by reference a design and operational procedures that have not been certified by the NRC or accepted by the applicant. Modifications to the design or operational procedures for the AP1000 Revision 16 would require changes in Progress Energy's application, the final design and operational procedures. Regardless of whether the components are certified or not, the COLA cannot be reviewed without the full disclosure of all designs and operational procedures.

**RULING:** This contention is, for the reasons set out below, admissible (as limited below to certain specifically asserted omissions from the COLA). In accordance with explicit Commission guidance, the specific asserted omissions are referred to the Staff for resolution during the rulemaking on the certification of the AP1000 design, and any hearing on the merits is held in abeyance pending the outcome of the rulemaking.

**DISCUSSION:** Petitioner has identified a dispute with the COLA concerning the completeness of the AP1000 Design Certification Document (DCD), asserting that there exist certain specific aspects of the application that are incomplete. *See* Intervention Petition at 13-18. Petitioner argues that

[o]n its face, the DCD is incomplete; even after the certification of several "Tier 1" components in December 2005, there remain a number of serious safety inadequacies in the AP1000 revision 16 design that have not been satisfactorily addressed. . . . The AP1000 DCD Revision 16 currently lists 172 separate documents concerning various aspects of the AP1000 reactor, totaling more than 6,500 pages. However, only 21 of the components appear to have been certified by the NRC and most of those rely on systems reflected in the remaining, non-certified design and operational procedures.

*See id.* at 13-14.

As to admissibility of this contention, Petitioner, citing the Commission's ruling in CLI-08-15, observed that the Commission held, in denying Petitioner's request for a delay in this proceeding, that "[i]f the Petitioners believe the Application is incomplete in some way, they may file a contention to that effect. Indeed, the very purpose of NRC adjudicatory hearings is to consider claims of deficiencies in a license application; such contentions are commonplace at the outset of NRC adjudications."<sup>5</sup>

In particular, Petitioner, in explaining this contention, makes nine assertions with respect to omissions from the COLA.

Specifically at the proposed Harris reactors, the application does not contain the following:

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<sup>5</sup> Intervention Petition at 16 (quoting Memorandum and Order, CLI-08-15, 68 NRC 1, 3 (slip op. at 2-3) (2008)).

- a. The final design of the reactor containment.
- b. The control room set up and operator decision-making procedures.
- c. Seismic qualifications for various components of the AP1000 reactors.
- d. The establishment of fire protection areas.
- e. Technology requirements for heat removal.
- f. Human factors engineering design throughout the plant.
- g. Plant personnel requirements.
- h. Alarm systems throughout the plant.
- i. Plant-wide requirements for pipes and conduits.

Intervention Petition at 16.

Both Applicant and Staff oppose admission of this contention. In responding to these assertions, however, neither Applicant nor Staff addressed any of the asserted specific omissions, nor did either offer any particularized explanation why such information was required (or not required) to be in the COLA. *See* Progress Answer at 14-19; Staff Answer at 13-17.

In opposing this contention, Applicant makes general arguments to the effect that this contention failed to state an issue of law or fact that can be adjudicated, and that it is an impermissible challenge to NRC regulations. *See* Progress Answer at 15, 16-18. Generally stated, Applicant's position is that this contention must be rejected as a challenge to NRC regulations and for failing to provide a specific statement of fact to be controverted, and therefore, argues Applicant, it is contrary to the Commission's decision in CLI-08-15.

Staff agrees with Applicant that this contention should be rejected because it is a challenge to current NRC regulations and fails to demonstrate a material dispute with the Applicant. *See* Staff Answer at 12. More specifically, Staff notes that Petitioner is precluded from challenging the previously certified AP1000 Revision 15 design (Rev. 15), and views such contentions as challenges to the Commission's regulations, without requesting the waiver required under 10 C.F.R. § 2.335. *Id.* at 13-14. Staff argues that because it is a matter of speculation that the review process for the AP1000 DCD Revision 16 (Rev. 16) will result in changes to this particular COLA, Petitioner's asserted omissions from the overall design in this contention must be dismissed because they do not demonstrate a genuine dispute with the COLA on a material issue of law or fact. *Id.* at 16, 17. However, Staff did not point to any instance where the particular asserted omissions listed by Petitioner were indeed already covered by Rev. 15.

HOLDING: We agree with Staff that it is unknown whether any changes

resulting from the review process of Rev. 16<sup>6</sup> will affect the Applicant's COLA. However, we disagree with Staff as to its characterization of Petitioner's challenges. We find that Petitioner's Contention TC-1 is not a challenge to the AP1000 design review process, but rather a challenge to the Application itself.

This situation has been directly contemplated by the Commission. In CLI-08-15, the Commission directed Petitioner and, indirectly, this Board that if Petitioner identified specific omissions in the COLA, those omissions should be addressed in a contention to this Board which, in turn, "should refer such a contention to the Staff for consideration in the design certification rulemaking, and hold that contention in abeyance, if it is otherwise admissible." Memorandum and Order, CLI-08-15, 68 NRC 1, 4 (citing to the Final Policy Statement on the Conduct of New Reactor Licensing Proceedings, 73 Fed. Reg. 20,963, 20,972 (Apr. 17, 2008)). In the Commission's Final Policy Statement, they explained the process as follows:

We believe that a contention that raises an issue on a design matter addressed in the design certification application should be resolved in the design certification rulemaking proceeding, and not the COL proceeding. Accordingly, in a COL proceeding in which the application references a docketed design certification application, the licensing board should refer such a contention to the staff for consideration in the design certification rulemaking, and hold that contention in abeyance, if it is otherwise admissible.

73 Fed. Reg. at 20,972.

Here, the contention does not challenge a design matter related to the AP1000 DCD to the extent previously certified, for if it did it would clearly be an impermissible challenge to agency regulations. Rather, Petitioner has set forth facts indicating specific omissions from the COLA that fall within the scenario contemplated by the Commission. We find both Applicant and Staff to have failed to provide information regarding whether or not the asserted omitted material was indeed omitted in the COLA, nor did either provide information indicating whether such allegedly omitted information indeed is required to be in a COLA. Thus, we find Petitioner's asserted omissions to be uncontroverted, and therefore *admissible*. Nonetheless, *we limit the contention to the specifically identified omissions delineated above*, each of which is hereinafter referred to the Commission's Staff for resolution in the design certification rulemaking.<sup>7</sup> In

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<sup>6</sup> Or, for that matter, Revision 17 which was submitted on September 22, 2008.

<sup>7</sup> Although certain asserted omissions appear to us to be with respect to information which would not ordinarily be required to be set out in the COLA, in the absence of information or pleadings on that topic, we refer the entire list to the Staff with confidence that Staff will sort out those matters in their consideration in the design certification rulemaking.

accordance with Commission directive, therefore, we admit this contention, as so limited, and hereby hold any hearing on this contention in abeyance pending the results of the Staff's review and consideration of those matters in the design certification rulemaking.

## 2. *Contention TC-2 (Track Record of Fire Violations)*

**CONTENTION:** The event of a significant fire can lead to the loss of the operators' ability to achieve and maintain hot standby/shutdown conditions further resulting in significant accidental release of radiation and posing a severe threat to public health and safety. Given its track record of noncompliance of fire regulations at the existing Harris Unit 1, Progress Energy should not be granted a COL for the two proposed reactors. The existing Harris reactor has been out of compliance since at least 1992 with requirements to maintain the post-fire safe shutdown systems of the reactor that minimize the probability and effects of fires and explosions. Given Progress Energy's history of noncompliance at the existing Harris reactor, NC WARN anticipates similar noncompliance at the proposed Harris reactors.

**RULING:** This contention is, for the reasons set out below, inadmissible.

**DISCUSSION:** In support for this contention, Petitioner makes various separate arguments. First, Petitioner notes that "[t]he existing Harris reactor has been out of compliance since 1992 so there is absolutely no reasonable assurance against cable and conduit fires and consequential impairment of the ability of the plant to safely operate, and in particular, to safely shut down and maintain the reactor in emergency situations." Intervention Petition at 21. Second, Petitioner argues that "[t]his ongoing noncompliance with fire regulations at the existing Harris reactor is both a risk to that reactor and an additional risk to the proposed Harris reactors." *Id.* at 23. Third, Petitioner challenges the one-fire assumption used in the COLA and claims that

In its documents supporting the AP1000 revision 16, Westinghouse postulates that only one fire is assumed to occur within the plant at any given time. This assumption is used in performing the safe shutdown evaluation. Given the risk of "multiple spurious actuation," this false assumption is not a reasonable basis upon which to assess risk for the AP1000 revision reactors. . . .

*Id.* at 23-24. Furthering its arguments with respect to the one-fire assumption, Petitioner asserts that "[n]o assurance can be given by Progress Energy . . . that potential accidents at the existing Harris reactor will have no impact on the proposed Harris reactors." *Id.* at 24. Fourth and finally, Petitioner asserts, without support, that, "as a matter of law, the decision on the COL for the proposed Harris reactors should be denied until the plant is fully in compliance with the



fire regulations at its existing reactor.” *Id.* Although Petitioner makes numerous arguments advocating admission of this contention, its central concern appears to be the perception that the preexisting fire safety condition of Harris Unit 1 should raise sufficient concern about the future potential noncompliance at the proposed Harris Units 2 and 3 to preclude their approval.

Both Applicant and Staff oppose the admission of this contention. Applicant responds first that the historical fire record performance at the existing Harris reactor is outside the scope of this proceeding, and second that Petitioner has failed to contest any portion of the COLA or to provide any support for their assertions. *See Progress Answer* at 20-32. Applicant further responds that it agrees that the COLA makes the one-fire-at-a-time assumption, but asserts that there is no basis (and no support offered) for the position that the one-fire assumption is erroneous. *See id.* at 23, 25. Applicant finally observes that Petitioner is obligated, citing 10 C.F.R. § 2.309(f)(1)(vi), to review the Application and point to specific portions that are either deficient or do not comply with the Commission’s regulations but has failed to do so with respect to this contention. *See id.* at 30.

Staff, in opposing this contention, agrees with Applicant that assertions about the historical performance at Unit 1 are outside the scope of this proceeding. *See Staff Answer* at 18. Staff further argues that the one-fire assumption was reviewed and accepted as part of the AP1000 DCD Rev. 15, which, having been evaluated in that rulemaking and incorporated into 10 C.F.R. Part 52, App. D, is not challengeable here because that would constitute an impermissible challenge to agency regulations. *See id.* at 20. Staff finally observes that the COLA indeed discusses the effects of Unit 1 upon the proposed new units in sections 2.2 and 3.5.1.5 of Part 2 (Final Safety Analysis Report (FSAR)) of the COLA, and the contention makes no reference to, nor does it identify any disagreement with, the COLA. *See id.* at 21.

HOLDING: We find Petitioner’s Contention TC-2 to be inadmissible as it fails, in various respects, to comply with 10 C.F.R. § 2.309(f)(1)(iii) and (v), and no aspect of this contention complies fully with the requirements of section 2.309(f)(1).

To begin with, Petitioner’s assertions regarding the historical fire protection situation at Harris Unit 1 are, given the absence of factual or expert testimony linking those asserted problems at Unit 1 to anticipated future events or other matters at the proposed new units, outside the scope of this proceeding.<sup>8</sup> In addition, the assertions that the Applicant’s noncompliance with the fire regulations at Unit 1 pose a risk to the proposed new units are simply bare assertions, lacking both explanation and support. Therefore those portions of Petitioner’s

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<sup>8</sup> Such matters quite simply “have nothing to do with the case.” *Gilbert & Sullivan, The Mikado.*

Contention TC-2 are inadmissible for failure to satisfy the requirements of 10 C.F.R. § 2.309(f)(1)(iii) and (v).

In addition, we agree with Staff that Petitioner's assertion that the COLA fails to address the risk of multiple units on the site is in error, as the COLA indeed addresses this issue in sections 2.2 and 3.5.1.5 of the FSAR, and therefore no such omission exists. *See* Part 2, COLA. Therefore, that portion of Contention TC-2 is inadmissible for failure to satisfy 10 C.F.R. § 2.309(f)(1)(vi).

Further, we agree with both Staff and Applicant that the challenge to the single-fire assumption is an impermissible challenge to the NRC's regulations, *see* 10 C.F.R. Part 52, App. D, and therefore the portion of Contention TC-2 challenging the use of the one-fire assumption is inadmissible because it is outside the scope of this proceeding and so fails to comply with section 2.309(f)(1)(iii).

Finally, Petitioner's assertion that noncompliance with fire regulations requires that the COLA be denied as a matter of law is unsupported, has no foundation in the law, and is therefore inadmissible for failure to satisfy 10 C.F.R. § 2.309(f)(1)(v).

### 3. *Contention TC-3 (Aircraft Attacks)*

**CONTENTION:** Progress Energy's ER fails to satisfy NEPA because it does not address the environmental impacts of a successful attack by the deliberate and malicious crash of a fuel-laden and/or explosive-laden aircraft and resulting severe accidents of the aircraft's impact and penetration on the facility. It is unreasonable for the NRC to dismiss the possibility of an aviation attack on the existing and proposed Harris reactors in light of the studies by the NRC that this is a real possibility that could have devastating results.

**RULING:** This contention is, for the reasons set out below, inadmissible.

**DISCUSSION:** In support of this contention, Petitioner asserts that "[m]ultiple studies show that the Commission's basis for refusing to consider the environmental impacts of deliberate and malicious acts in a COL is no longer viable, and therefore may be challenged in this proceeding." Intervention Petition at 25. In this regard, Petitioner argues that a number of studies indicate that aircraft crashes into a nuclear plant could have serious consequences and impacts on the plant, which it argues constitutes a design-basis threat. *Id.* Petitioner further claims that such an event has not been analyzed in the COLA and asserts that such an analysis is required to be part of the Applicant's SAM[D]A analysis in its ER. *Id.* at 29-30. Finally, Petitioner asserts that the Agency is required to consider

aircraft attacks by terrorists under the Ninth Circuit decision in *San Luis Obispo Mothers for Peace*.<sup>9</sup>

Both Applicant and Staff oppose admission of this contention. Applicant asserts that Contention TC-3 is inadmissible because it fails to satisfy the standards of 10 C.F.R. § 2.309 for contention admissibility. First, Applicant asserts that Contention TC-3 involves a matter that is the subject of a current rulemaking, *see* 72 Fed. Reg. 56,287 (Oct. 3, 2007), as the impact analysis would require a beyond design basis threat assessment of the “effects on the designed facility of the impact of a large commercial aircraft.” Progress Answer at 32-35. Consistent with the proposed rule, Westinghouse submitted a response to the aircraft impact threat as part of the AP1000 DCD Rev. 16, which is subject to rulemaking as part of the design certification (“DC”) process. *See id.* at 35. Further, the Applicant claims that the contention proffered by Petitioner is an impermissible challenge to the NRC’s rule, 10 C.F.R. § 73.1, defining the specific radiological sabotage against which a licensee must defend. *See id.* at 38-40. Finally, Applicant opposes admitting this contention as terrorist acts are, by Commission determination (with the exception of facilities situated within the jurisdiction of the Ninth Circuit) outside the scope of NRC’s National Environmental Policy Act (NEPA) review despite the Ninth Circuit’s holding in *San Luis Obispo Mothers for Peace*. *See* Progress Answer at 35-36.

Similarly, Staff responds that Contention TC-3 is inadmissible because: (a) it is an impermissible challenge to, and offers no support to justify reconsideration of, the Commission’s determination that it will not follow the Ninth Circuit decision in *San Luis Obispo Mothers for Peace* outside of the Ninth Circuit; and (b) it concerns the subject of the ongoing rulemaking on the proposed Aircraft Impact Rule.<sup>10</sup> *See* Staff Answer at 24-25.

HOLDING: We find Contention TC-3 inadmissible because it challenges Commission precedent as well as a Commission determination precisely on this point and it impermissibly challenges a matter that is the subject of ongoing rulemaking.<sup>11</sup> The Commission has made clear its view that NEPA does not require the analysis of potential terrorist attacks on a proposed nuclear facility. In this case, which concerns a facility outside the jurisdiction of the Ninth Circuit, that view is binding upon this Board.<sup>12</sup> Therefore, Contention TC-3 is outside the

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<sup>9</sup> *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016 (9th Cir. 2006), *cert. denied sub. nom.*, *Pacific Gas and Electric Co. v. San Luis Obispo Mothers for Peace*, 127 S. Ct. 1124 (2007).

<sup>10</sup> Consideration of Aircraft Impacts for New Nuclear Power Reactor Designs, 72 Fed. Reg. 56,287, 56,288 (Oct. 3, 2007).

<sup>11</sup> *See id.* at 56,287.

<sup>12</sup> For case law clearly setting forth the Commission’s directive that, outside the Ninth Circuit, NEPA does not require the evaluation of the impact of terrorist attacks by aircraft or other means, *see*

(Continued)

scope of this proceeding and fails to comply with the requirements of section 2.309(f)(1)(iii).

#### **4. Contention TC-4 (Aviation Attacks and Fires)**

**CONTENTION:** The ER for the COL for the proposed Harris reactors fails to satisfy NEPA because it does not address a significant fire involving noncompliant fire protection features for both primary and redundant safe shutdown electrical circuits caused by a deliberate malicious action using a fuel-laden and/or explosive-laden aircraft on the facility.

**RULING:** This contention is, for the reasons set out below, inadmissible.

**DISCUSSION:** As the foundation for this contention, Petitioner asserts that:

The proposed Harris reactors are required to comply with all existing NRC regulations regarding the physical protection of the power, instrumentation and control circuitry from the control room to safe shutdown systems for the reactor so that no single fire can result in loss of cable functionality for post-fire safe shutdown.

Intervention Petition at 31. Petitioner goes on to allege that “the potential consequences of a successful aviation attack on the proposed Harris reactors have not been evaluated for fire and explosion resulting from a deliberate aircraft strike,” asserting that critical systems are susceptible to such events. *See id.* at 31, 33. Petitioner further asserts that these events must be analyzed as part of the SAMA [which the Board notes, in this case, would be SAMDA] analysis in the ER, but because the events were not analyzed, the ER is fatally deficient. Petitioner builds upon and incorporates claims and assertions from prior Contentions TC-2 and TC-3. *See supra* pp. 564-65, 566-67.

Both Applicant and Staff oppose admission of this contention. Applicant asserts that Contention TC-4 is inadmissible because it is an impermissible attack on agency regulations, as the issue is the subject of two different rulemakings and the contention is therefore outside the scope of this proceeding. First, Applicant notes that the aircraft impact consequences cited by Petitioner will be voluntarily addressed in the AP1000 DCD Rev. 16 rulemaking and therefore cannot be litigated in this proceeding. *See* Progress Answer at 46. Second, Applicant argues that this contention is an impermissible challenge to a matter subject to an ongoing rulemaking because the Commission has pending before it a current rulemaking

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*System Energy Resources, Inc.* (Early Site Permit for Grand Gulf ESP Site), CLI-07-10, 65 NRC 144, 146-47 (2007); *Nuclear Management Co., LLC* (Palisades Nuclear Plant), CLI-07-9, 65 NRC 139, 141-42 (2007); *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-07-8, 65 NRC 124, 128-34 (2007).

on power reactor security that includes proposed requirements for a licensee to establish response and mitigation procedures relating to potential aircraft threats, large fires, and explosions. *See id.* (citing 71 Fed. Reg. 62,664 (Oct. 26, 2006); supplemented by 73 Fed. Reg. 19,443 (Apr. 10, 2008)). Finally, Applicant points to its prior response regarding Petitioner's Contention TC-3 that terrorist acts are outside the scope of this proceeding. *Id.* at 46. Thus, Applicant argues that Contention TC-4 is inadmissible because it raises matters outside the scope of this proceeding and challenges Commission regulations regarding, among other things, design basis threats. *See* 10 C.F.R. § 73.1.

Staff, in objecting to the admission of Contention TC-4, observes that it repeats issues regarding fire protection at the existing Unit 1 raised in Contention TC-2, that are outside the scope of this proceeding. *See* Staff Answer at 26-28. Further, Staff notes that this contention once again raises terrorist attack challenges such as were raised in Contention TC-3. Finally, Staff argues that this contention challenges matters resolved in (and made part of) the Rev. 15 DCD approval, which was already resolved by rulemaking and therefore cannot be challenged here. *See id.* at 27-30.

**HOLDING:** We find Contention TC-4 to be inadmissible for the same reasons that TC-2 and TC-3 were inadmissible. Contention TC-4 raises matters relating to terrorist attacks (both with respect to the asserted fire-related consequences and the SAMA [SAMDA] matters) which are outside the scope of this proceeding because aircraft impact consequences are being addressed as part of the rulemaking on the AP1000 DCD Rev. 16 as well as the Commission's current rulemaking on power reactor security. Therefore, this contention fails to comply with the requirements of 10 C.F.R. § 2.309(f)(1)(iii). In addition, Petitioner's challenge to the Agency regulations concerning issues that were resolved in the Rev. 15 design certification rule are inadmissible in this proceeding without a waiver under 10 C.F.R. § 2.335.

##### **5. *Contention TC-5 (High-Density Spent Fuel Pools)***

**CONTENTION:** The ER for the proposed Harris reactors fails to satisfy NEPA because it does not consider the potential impacts of a radiation release caused by high-density storage of highly-radioactive "spent" fuel in its spent fuel pools. The COLA indicates that spent fuel rods would be stored in two newly constructed cooling pools in buildings designed to withstand only weather-related impacts. The proposed high-density storage heightens the risk of catastrophic radiation releases due to accident or terrorism.

**RULING:** This contention is, for the reasons set out below, inadmissible.

**DISCUSSION:** In support of this contention, Petitioner asserts, referring to

a Commission memorandum,<sup>13</sup> that “[a] loss-of-pool-coolant event resulting from accidental or intentional damage or collapse of the pool could have severe consequences and should be carefully examined.” Intervention Petition at 34. Petitioner concludes that the high-density storage of spent fuel could lead to heat buildup and potential fire from the spent fuel cladding. *See id.* at 34. Petitioner references a study by scientists for the National Academy of Sciences to support its position that the design of the storage pools for the proposed Harris reactors increases the risk of fire if a loss of spent fuel pool coolant accident occurs. *See id.* at 35-36. Petitioner then posits, “under NEPA it is highly appropriate to consider whether the Commission continues to have a reasonable basis for expressing confidence that stored spent fuel is safe from terrorist attacks.” *Id.* at 36.

Both Staff and Applicant oppose admission of this contention. Applicant opposes this contention on the grounds that the Petitioner has failed to satisfy the requirements of 10 C.F.R. § 2.309(f)(1). Applicant first takes issue with the fact that Petitioner provided only three very general references to documents in support of this contention. *See* Progress Answer at 53. Applicant notes, citing to LBP-04-15<sup>14</sup> and CLI 89-03,<sup>15</sup> that Petitioner’s citation to the Thompson report and to the NAS study do not constitute proper or adequate support for a contention, as mere citation to massive documents or incorporation of such documents by reference is impermissible. *See id.* at 53-54. Applicant argues that NRC case law emphasizes the principle that Petitioner must identify with specificity its support, which Applicant argues means, quite simply, that Petitioner must identify specific pages and sections in such documents. *See id.*

In addition, Applicant notes that the COLA specifically addresses the probability of a loss-of-pool-coolant event and that Petitioner has failed to challenge any part of that analysis, thereby failing to satisfy the requirements of 10 C.F.R. § 2.309(f)(vi). *See id.* at 56-57. Applicant cites the Commission’s denial of a petition for rulemaking, submitted by the Massachusetts Attorney General and the California Attorney General, that specifically requested the Commission to mandate examination of the impacts of the use of high density spent fuel storage

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<sup>13</sup> Petitioner refers to Commission Memorandum and Order (CLI-01-11), asserting that the Commission addressed two technical contentions brought by Orange County, North Carolina, concerning spent fuel pools at the existing Harris reactor in a relicensing amendment. Petitioners note that CLI-01-11 was issued prior to the issuance of a National Academy of Sciences report they reference (NAS, “Safety and Security of Commercial Spent Nuclear Fuel,” April 6, 2005, asserted to be available at [www.nap.edu/catalog.php?record\\_id=11263#toc](http://www.nap.edu/catalog.php?record_id=11263#toc)).

<sup>14</sup> “Petitioners are expected ‘to clearly identify the matters on which they intend to rely with reference to a specific point.’” *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), LBP-04-15, 60 NRC 81, 89 & n.26 (2004).

<sup>15</sup> “[A] petitioner may not simply incorporate massive documents by reference as the basis for or as a statement of his contentions.” *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-89-3, 29 NRC 234, 240-41 (1989).

pools in the EIS. *See id.* at 59. Further, Applicant points out that the design of the auxiliary building, the spent fuel pools, spent fuel storage racks, spent fuel pool makeup water systems, spent fuel pool cooling water systems, and design basis accidents are all addressed in the AP1000 DC Rule and will be addressed in the AP1000 DCD Rev. 16 rulemaking and are therefore, under 10 C.F.R. § 52.63(a)(1), not subject to challenge in this COLA proceeding. *See id.* at 51, 52. Finally, as to Petitioner’s arguments that NEPA requires these impacts be analyzed, Applicant cites numerous Commission decisions stating that NEPA does not require the Agency to consider the impact of events that are remote and speculative. *See id.* at 59.

Staff responds that Contention TC-5 should be denied for similar reasons as those delineated by Applicant, arguing first that it constitutes an attack on matters that were all resolved in the previously certified AP1000 Rev. 15 DCD<sup>16</sup> and is therefore an impermissible challenge to Agency regulations. *See* Staff Answer at 31. Further, Staff asserts that to the extent Petitioner is attempting to challenge the Harris COLA ER, it does not specify those portions of the ER with which it disagrees, thereby failing to satisfy 10 C.F.R. § 2.309(f)(1)(vi), and if it is alleging an omission from the ER of information that is required by law, it has not provided specific support for the requirement for the alleged omission. *See id.* at 31-32.

HOLDING: We agree with Staff and Applicant, for the reasons they have set out in their respective Answers, that Contention *TC-5 is inadmissible* as it fails to provide, with the requisite specificity, supporting references or sufficient information to demonstrate a material issue and therefore fails to satisfy the requirements of 10 C.F.R. § 2.309(f)(1)(v). Furthermore, to the extent Contention TC-5 challenges matters addressed in the AP1000 DC Rule, Contention TC-5 is inadmissible because it is an impermissible challenge to the rule, failing to comply with the requirements of section 2.335 and contravening the provisions of section 52.63(a)(1). And, to the extent it challenges matters being addressed in the ongoing AP1000 DCD Rev. 16 rulemaking, Contention TC-5 is impermissible because it challenges matters that are the subject of an ongoing rulemaking in violation of 10 C.F.R. § 2.309(f)(1)(iii).

We agree with Staff and Applicant that NEPA does not require revisitation by the NRC of matters related to high-density spent fuel pool (SFP) coolant loss (or other SFP events). The NRC has determined that the “security and mitigation measures the NRC has imposed upon its licensees since September 11, 2001, and national anti-terrorist measures to prevent, for example, aircraft hijackings, coupled with the robust nature of SFP’s, make the probability of a successful

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<sup>16</sup>The Staff asserts that use of “high-density” storage racks in the spent fuel pool was approved by the Commission in 2005 as part of the AP1000 Rev. 15 DCR. *See* DCD Tier 2, 9.1.2, Rev. 15. Similarly, the rack design, which includes neutron-absorbing material, was also approved by the Commission in the AP1000 Rev. 15 DCR. *See* AP1000 Rev. 15 DCD, 9.1.2.1.

terrorist attack, though numerically indeterminable, very low,” i.e., it is precisely the type of remote and speculative event that an agency need not address. *See* Denial of Petitions for Rulemaking, 73 Fed. Reg. 46,204, 46,207 (Aug. 8, 2008).

Finally, to the extent we might have interpreted Contention TC-5 to be an environmental contention challenging the ER as having failed to consider terrorism-related and accident-related events which cause radiation releases from the spent fuel pool, we find (as we did with Contentions TC-3 and -4) that terrorism-related events are outside the scope of this proceeding (failing to satisfy 10 C.F.R. § 2.309(f)(1)(iii)), and that the challenge to analysis of accident-related spent fuel pool events is impermissible because it challenges both matters resolved in the rulemaking for the AP1000 DCD Rev. 15 and matters being considered in the rulemaking for the AP1000 Rev. 16.

#### **6. Contention TC-6 (Reliability of Uranium Fuel)**

**CONTENTION:** The assumption that uranium fuel is a reliable source of fuel for the projected operating life of the proposed Harris reactors is not supported in the COLA submitted by Progress Energy. More specifically, petitioners assert, “The COL is lacking because it does not address the reliability of uranium over the projected lives of the proposed Harris reactors.”

**RULING:** This contention is, for the reasons set out below, inadmissible.

**DISCUSSION:** As support for this proposition, Petitioner refers to two studies by the World Nuclear Association,<sup>17</sup> indicating growing use of existing uranium and lack of future supplies for uranium production. Petitioner further posits that this shortage of uranium production will impact the cost of electrical production. While Petitioner makes no effort to associate the argument that there is a potential error in cost of fuel with the requirements for a COLA, it makes observations regarding the economics of the proposed units and its impact upon Petitioner’s members as ratepayers.<sup>18</sup> *See* Intervention Petition at 37.

Both Applicant and Staff oppose admission of this contention. Applicant responds that the only data Petitioner relies upon to support this contention are two World Nuclear Association (WNA) web pages, which Applicant asserts, directly contradict the foundation Petitioner asserts they offer for Contention

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<sup>17</sup> *See* World Nuclear Association background on Uranium Supply, available at [www.world-nuclear.org/info/inf75.html?terms=uranium+supply](http://www.world-nuclear.org/info/inf75.html?terms=uranium+supply), [www.world-nuclear.org/info/inf23.html](http://www.world-nuclear.org/info/inf23.html).

<sup>18</sup> This train of logic, had it been carried to its logical extension, might involve the cost-benefit analysis (had one been necessary) for examination of alternatives in the eventual Staff EIS and, therefore, for relevant information in the ER. The substance of such an argument, had it been made, would in essence be that the cost of the proposed new plants cannot reasonably be estimated because the cost of fuel cannot be accurately forecast.



TC-6. *See* Progress Answer at 63. Applicant asserts, therefore, that the specific and sole support offered by Petitioner actually fails to support Contention TC-6's argument that there will be insufficient uranium supplies for the new Harris reactors to operate reliably.<sup>19</sup> *See id.*

Furthermore, Applicant asserts that, contrary to Petitioner's claims, Applicant has addressed these issues and provided adequate support in ER § 10.2.2.3. *Id.* at 64. Applicant points out that, contrary to the requirements of 10 C.F.R. § 2.309(f)(1)(vi), Petitioner fails to reference ER § 10.2.2.3, or cite to any other section of the Application, nor does Petitioner assert any specific error therein. *See id.*

Staff, in opposing this contention, answers that Contention TC-6 is inadmissible because it fails to raise a genuine issue with the Application in that: (a) the Harris COLA indeed specifically addresses the reliability of uranium supplies over the projected lives of the proposed reactors,<sup>20</sup> and Petitioner fails to describe any perceived shortcomings in Applicant's discussion therein; and (b) the source upon which the Petitioner relies cannot be read to stand for the proposition for which it is cited. Thus, asserts Staff, Contention TC-6 should not be admitted because it does not comply with the requirements of 10 C.F.R. § 2.309(f)(1)(v) or (vi). *See* Staff Answer at 32-33.

**HOLDING:** We begin by agreeing with Staff's observation that is not clear what Petitioner intended when it characterized Applicant's discussion of uranium fuel supply as failing to "fully and credibly" discuss the uranium fuel supply in the COLA. *See* Staff Answer at 33 (citing Intervention Petition at 37). We thus treat Contention TC-6 as either arguing that the COLA failed completely to address these matters (i.e., Contention TC-6 is one of omission), or that the discussion of those matters is inaccurate (i.e., a contention asserting flaws). In either event, *Contention TC-6 is inadmissible for the reasons set out below.*

*First*, if it is a contention of omission, it fails because the purportedly missing analysis is indeed present; i.e., Petitioner erroneously alleges that the COLA fails to include analysis of the effects of the uranium fuel cycle on the proposed Harris units. However, both Applicant and Staff point out that ER § 10.2.2.3 provides a discussion of "Uranium Fuel and Energy Consumption." *See* Progress Answer

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<sup>19</sup> Applicant calls to our attention that a nearly identical contention relying upon the same WNA web pages cited in this Petition by NC WARN, was examined by the board in the William States Lee COL proceeding. That Board concluded that the web pages did not support the petitioner's claim that worldwide uranium supplies would be inadequate in the long term. *Lee*, LBP-08-17, 68 NRC at 454-55.

<sup>20</sup> The Staff notes that ER § 10.2.2.3 provides, in relevant part, that "[i]rreversible and irretrievable commitments of resources during operation would consist primarily of the uranium used for fuel. A study of available uranium by the World Nuclear Association projects the availability of a 50-year supply of low-cost uranium." Staff Answer at 33.

at 64; Staff Answer at 33. Viewed this way, Contention TC-6 fails to satisfy section 2.309(f)(1)(vi) and is therefore inadmissible.

*Second*, if it is read to be a contention asserting errors with Applicant's uranium fuel cycle analysis, the contention again fails because the information it offers is insufficient to support the proposition for which it is offered, and it thereby fails to satisfy section 2.309(f)(1)(v) and (vi). In this regard, we note that we find the mere reference to general materials on a website to be, as other boards have found, insufficient to provide support for a contention.<sup>21</sup> Even if this were, contrary to our finding, not a sufficient basis for denial of this contention, having, in an abundance of caution examined the referenced material, we find, as the William States Lee COL Board, *Lee*, LBP-08-17, 68 NRC at 453, and as Applicant observed, that the material referred on the referenced subject website indeed stands for precisely the opposite proposition than the one for which Petitioner offers it. We also find ourselves in agreement with the rulings of both the *Bellefonte* and *North Anna* Boards in finding that the Petitioner has failed to provide "any document that, read as a whole, supports its theory that uranium supplies will be insufficient to support the operation of [the units] during its licensed period."<sup>22</sup>

#### **7. Contention EC-1 (Underestimation of Costs)**

**CONTENTION:** In its COLA, Progress Energy grossly underestimates the costs and risks of the proposed Harris reactors and grossly overestimates the costs of their alternatives. The lack of a reasonable cost basis means that there can be no reasonable analysis of comparative sources of energy generation, energy efficiency or other energy management strategies.

**RULING:** This contention is, for the reasons set out below, inadmissible.

**DISCUSSION:** Expounding on its view of the requirements of NEPA, Petitioner claims that the values used for the cost of construction of the proposed new Harris plants, as provided in the ER, are significantly lower than estimates for similar nuclear power plants. *See* Intervention Petition at 38. Petitioner argues that Staff must have accurate cost data in order to prepare its alternatives analysis in its environmental impact statement (EIS), as required by NEPA. *See id.* at 38-42. Indeed, Petitioner credibly argues that the approximately \$2.2 billion estimate set out in the publicly available version of the COLA is significantly below publicly disclosed estimates for similar new plants by nearly a factor of 4. *See id.* at 40

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<sup>21</sup> *See* discussion *supra* at p. 570 and notes 14 & 15.

<sup>22</sup> *Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), LBP-08-15, 68 NRC 294, 335 (2008); *Tennessee Valley Authority* (Bellefonte Nuclear Power Plant, Units 3 and 4), LBP-08-16, 68 NRC 361, 395 (2008).

(Petitioner's table, comparing the cost of one AP1000 at \$2.2 billion to the cost of the first of two new plants at \$8.3 billion, or to the "overnight cost" of that first plant at \$5.6 billion).

Applicant opposes admission of this contention, while Staff does not oppose admitting the contention in part. Applicant provides two reasons. First, Applicant argues that Commission decisions establish that the economic costs of a proposed project need to become part of the NRC's NEPA review *only* if the environmental balancing that must be performed in the ER shows that a reasonable alternative is environmentally preferable to the proposed project. *See* Progress Answer at 67-68. Second, Applicant notes that because the ER found that no alternative was environmentally preferable to Harris, the projected cost for the proposed new reactors need not be used in the alternatives analysis and therefore is not material in this proceeding. *See id.* at 69.

Third, Applicant asserts that it has submitted as proprietary information, more up-to-date, Harris-specific, cost estimates, as to which Progress sought confidential treatment in Part 1 of the COLA.<sup>23</sup> *See id.* at 66. Applicant argues that the confidential information regarding the cost issue at hand was available to the Petitioner, had it desired to access it, and it did not. *Id.*

Finally, Applicant makes arguments regarding certain assertions about inaccurate cost estimates for alternative generation technologies,<sup>24</sup> but those considerations are not relevant to our determination.

Staff, on the other hand, disagrees with the Applicant, and would admit the portion of Contention EC-1 that indicates a dispute with the Applicant regarding the cost of the AP1000 reactors at the Harris site, as compared to the costs of the AP1000 reactors at the Levy site. *See* Staff Answer at 37. Staff agrees with Applicant that the remainder of the contention regarding the size of land use

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<sup>23</sup> In a letter sent to the Board by Applicant's counsel, the Applicant made this Board and the parties aware of new information relating to this proceeding. *See* Letter from John O'Neill, Counsel for Applicant (October 6, 2008). Applicant stated that it had updated its COLA to include new cost information. On October 13, Petitioner responded to the Applicant's notification. *See* NC WARN's Response to Board Notification (October 13, 2008). Neither of these factors has any bearing on our decision in this matter.

<sup>24</sup> Applicant, for example, observes that Contention EC-1 also claims that "the costs, impacts and requirements for renewable energy alternatives are particularly inaccurate in the ER, with inflated land requirements for wind and solar and unreasonable conclusions that waste impacts of wind and solar are greater than that of a nuclear power plant." *Id.* at 70. Applicant asserts that these allegations fail to support the contention because Petitioner nowhere points to any flaw in this analysis nor explains how in its view (1) the ER's costs, impacts and requirements regarding renewable energy alternatives are "particularly inaccurate"; (2) the ER's land requirements for wind and solar are "inflated"; and/or (3) the ER has reached "unreasonable conclusions" regarding waste impacts of wind and solar. *Id.* at 70-75. In this regard, Applicant notes that Petitioner provides absolutely no facts or expert opinions supporting these claims, and, citing to LBP-98-7, argues they are exactly the type of "bald assertions" that the NRC has found are insufficient to support a contention. *Id.* at 70.

impacts and the “substantive issues about the costs and risks” is inadmissible in that it fails to comply with the requirements of 10 C.F.R. § 2.309(f)(1). *Id.* Staff asserts the balance of Contention EC-1 is inadmissible because Petitioner failed to provide information to demonstrate a genuine dispute with the Applicant on a material issue with specific references to the application, as required by 10 C.F.R. § 2.309(f)(1)(iv) and (vi), and fails to produce any facts or expert opinion to support its position, in contravention of 10 C.F.R. § 2.309(f)(1)(v). *Id.* at 38.

HOLDING: There are two facets of the issues raised by this contention.

*First*, there is the question of whether and when the Staff, in order to fulfill its own NEPA requirements, requires an Applicant to provide cost estimates in its ER. We find that Commission precedent establishes that NEPA requires an Applicant to present a cost-benefit analysis (and therefore provide cost estimates) for nuclear power plants and facilities *only* where the Applicant’s alternatives analysis indicates that there is an environmentally preferable alternative. As the Appeals Board stated in *Midland*,

[NEPA] requires us to consider whether there are environmentally preferable alternatives to the proposal before us. *If there are*, we must take the steps we can to see that they are implemented if that can be accomplished at a reasonable cost; *i.e.*, one not out of proportion to the environmental advantages to be gained. *But if there are no preferable environmental alternatives, such cost-benefit balancing does not take place.*

*Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-458, 7 NRC 155, 162 (1978) (emphasis added).

*Second*, NRC regulations do not require the Applicant to include cost data in the ER. The relevant NRC regulations, set out in 10 C.F.R. § 51.45, provide that the Applicant’s ER “must” include an analysis that considers and balances the environmental effects of the proposed action — which is clearly a mandate. *See* 10 C.F.R. § 51.45(c). However, when discussing the cost-related factors, that regulation uses the term “should,” in providing “the analysis in the environmental report *should also include* consideration of the economic, technical, and other benefits and costs of the proposed action and its alternatives.” *Id.* (emphasis added). Given this difference, we find that the Commission did not intend, and our regulations do not require, that costs be considered in the ER.<sup>25</sup> Therefore, the question of whether or not the cost estimates used in the ER are inaccurate does not rise to the level of a failure to comply with NRC regulations. In this matter, where Applicant did not find any environmentally preferable alternative in its ER

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<sup>25</sup> Although the regulations encourage the Applicant to provide cost information in the ER, we find that this is not mandatory, especially where the Applicant’s alternatives analysis has not been properly challenged.

analysis, it was under no obligation to provide cost estimates or a comparison of costs, as NEPA only requires a cost-benefit analysis where there exists an environmentally preferable alternative.<sup>26</sup> Therefore, we reject this contention because it relies upon the faulty premise that NEPA, or our Agency's implementation of NEPA, requires the Applicant to provide cost estimates in its ER.

Furthermore, we reject Staff's argument that the contention should be admitted because, in its view, the cost estimates are material to the proceeding and Staff requires those estimates in order to complete its EIS. Staff cites to no legal requirement for that premise, and the mere fact that Staff desires that information does not cause this contention to become admissible.<sup>27</sup> To the extent that Staff needs such information in order to prepare its EIS, Staff has the means to obtain it outside of this adjudicatory proceeding; for example, Staff has authority to address its data needs through a Request for Additional Information (RAI).

#### **8. Contention EC-2 (Carbon Footprint)**

**CONTENTION:** Progress Energy fails to present evidence or analysis of the "carbon footprint," i.e., the atmospheric carbon generated by mining and fuel processing, the construction and operation, the long-term waste storage, associated with the proposed Harris reactors in its ER.

**RULING:** This contention is, for the reasons set out below, inadmissible.

**DISCUSSION:** Explaining its contention, Petitioner points to studies in making its observation that:

The COLA needs to include an analysis of the emission of greenhouse gases in the entire cycle, i.e., mining uranium ores, transporting those ores and processing into fuel, production of raw materials and components, transporting these materials and components, the processes to construct, operate and close the proposed Harris

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<sup>26</sup>We note that the *Bellefonte* COL Board has issued a ruling on a similar contention, in which it admitted a contention on the accuracy of the cost estimates and comparisons in the Tennessee Valley Authority's ER. *See Bellefonte*, LBP-08-16, 68 NRC at 420-22 (admitting part of contention relating to accuracy of cost data and its potential to affect the cost component of the alternatives analysis). The present case must be distinguished from *Bellefonte* because in *Bellefonte*, TVA actually identified environmentally preferable alternatives to the nuclear plant, thus requiring the applicant to undertake a cost-benefit analysis in the ER. The ER provided for the *Bellefonte* COLA found that the environmental impacts of the combined renewable/fossil-fuel baseload generation sources would be smaller than the environmental impacts of the proposed nuclear plants, thus triggering the applicant's obligation under NEPA to undergo a cost-benefit analysis. *See Tennessee Valley Authority (Bellefonte Units 3 & 4 COL Application)*, Part 3, Environmental Report § 9.2.3.3.

<sup>27</sup>Clearly, Petitioner failed, as did Staff in asserting part of this contention to be admissible, to follow John Galt's fundamental rule: check your premises. Ayn Rand, *Atlas Shrugged* (1957).

nuclear reactors, and transporting and disposing of radioactive wastes. Analysis of the greenhouse gas emissions associated with each and every step in the uranium fuel chain are crucial to determining the carbon footprint.

Intervention Petition at 44. Petitioner cites to two reports that address the impact of the uranium fuel cycle on greenhouse gas emissions and points to the reports as support for its assertion that the COLA needs to address the impacts of the uranium fuel cycle. *Id.*

Both Staff and Applicant oppose admission of this contention. Applicant responds to Petitioner's assertions principally to the effect that the contention fails to identify any specific dispute with the Application in violation of 10 C.F.R. § 2.309(f)(1)(vi), and fails to identify with any specificity what it intends to rely upon to support its assertions<sup>28</sup>; instead, it merely asserts that the ER should contain a carbon footprint analysis. *See* Progress Answer at 77. As such, asserts Applicant, Contention EC-2 is inadmissible because Petitioner has failed to meet its burden to support its contention pursuant to 10 C.F.R. § 2.309(f)(1)(v).

Applicant further asserts that Petitioner fails to point to any provision in NEPA, 10 C.F.R. Part 51, or the Environmental Standard Review Plan that calls for an evaluation of the carbon footprint of a proposed licensing action. *Id.* at 78. Furthermore, Applicant asserts that the detailed carbon footprint analysis sought by Petitioner is not required by NEPA, NRC regulations, or NRC guidance, and Petitioner has provided no basis for contending that such details are required by applicable law. *See id.* at 78-79.

Staff, in opposing the contention, most saliently calls to our attention the fact that Chapter 9 of the ER in fact compares the environmental consequences of nuclear power to alternative sources of electricity, and those comparisons include estimates of CO<sub>2</sub> emissions associated with the entire reactor life cycle and uranium fuel cycle.<sup>29</sup> *See* Staff Answer at 40. This demonstrates, Staff points out, that the Harris COLA ER contains a specific consideration of the carbon footprint for both the reactor life cycle and the uranium fuel cycle related to the

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<sup>28</sup> Applicant observes that in support of Contention EC-2, Petitioner offers two citations: (1) a presentation by Dr. James Hansen for the assertion that greenhouse gases contribute to climate change. Applicant then asserts that this "is not a report and includes no technical expert analysis that is related, even generally, to nuclear power. In fact, the Hansen document is a presentation discussing the existence of global warming," *see* Progress Answer at 77, and (2) Applicant notes that Petitioner also cites, without reference to a page, chapter, or explanation as to how it supports its contention, a report by Jan Willem Storm van Leeuwen. *Id.* The van Leeuwen report cited by Petitioner is in excess of 300 pages and includes analysis on an extensive list of issues related to nuclear power.

<sup>29</sup> Those CO<sub>2</sub> estimates are attributed to a government publication of the United Kingdom (UK): Parliamentary Office of Science and Technology, "Carbon Footprint of Electricity Generation," No. 268, October 2006, which is referenced in the COLA.

proposed reactors. *Id.* Accordingly, Staff asserts that Petitioner has not articulated a genuine disagreement with the application. *Id.* at 40-41.

HOLDING: We find, for the reasons set out below, that Contention EC-2 is inadmissible.

As Staff notes in its Answer, the COLA did in fact include information on the carbon footprint of the entire fuel cycle. *See* Staff Answer at 40. Therefore, Petitioner errs when it asserts that the COLA must consider these matters and implies that it did not. Furthermore, even had we viewed this contention as one attacking the analysis of the carbon footprint actually contained in the COLA, it fails to point to any specific error and fails to point to any specific portion of the COLA.<sup>30</sup> Therefore Contention EC-2 is inadmissible because it fails to satisfy 10 C.F.R. § 2.309(f)(1)(vi).

Notwithstanding our finding, because the Boards in the *Bellefonte* and *William States Lee* COL proceedings have referred a similar matter to the Commission for consideration in cases wherein the Applicant had not utilized the information on carbon footprint considered by Progress in this instance,<sup>31</sup> we address one fundamental aspect of this subject not relevant to our finding. Had there indeed been any error asserted in the instant case with particularity, there would have been a significant hurdle to overcome for Petitioner to demonstrate that such an error created a *material* issue which could result in the Staff failing to adequately analyze the alternatives in preparation of its EIS and therefore, an impediment to satisfaction of the requirements of section 2.309(f)(1)(iv). That hurdle is the fact that the COLA and the document relied upon therein present carbon footprint numbers for the nuclear fuel cycle which are of the order of less than 1% of the carbon footprint of the only viable power generation alternatives (which are fossil-fueled), and of comparable size to the carbon footprint of wind-powered generation. Thus, unless in a particular instance there is in fact a *viable* alternative which has an extremely low carbon footprint, the footprint of the nuclear fuel cycle is immaterial to the decision the Agency must make, and therefore such a contention fails to create a genuine issue of *material* fact. Given the fact that our colleagues on the *Bellefonte* and *William States Lee* Boards referred their respective rejections of similar contentions to the Commission because Table S-3 of 10 C.F.R. § 51.51 does not include consideration of the carbon footprint of the nuclear fuel cycle, we suggest to the Commission that they consider amending Table S-3 to consider the fuel cycle carbon footprint (and, if confirmed by Commission technical staff that the carbon footprint of the nuclear fuel cycle is as low as found by the UK study referenced by the Harris COLA), amending Table

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<sup>30</sup> We note that no such argument was explicitly presented or supported by affidavit or documentation.

<sup>31</sup> *Bellefonte*, LBP-08-16, 68 NRC at 418-20; *Lee*, LBP-08-17, 68 NRC at 443-45.

S-3 to indicate that the carbon footprint of the nuclear fuel cycle is an immaterial factor for the purposes of alternatives analysis.

**9. Contention EC-3 (Water Requirements)**

**CONTENTION:** The COLA does not identify the plans for meeting the water requirements for the proposed Harris reactors with sufficient detail to determine if there will be adequate water during adverse weather conditions, such as droughts, and the environmental impacts for water withdrawals during both normal and adverse conditions.

**RULING:** This contention is, for the reasons set out below, inadmissible.

**DISCUSSION:** In support of this contention, Petitioner asserts, “in the letter accepting the application, there are two significant areas in which the NRC staff declared the application to be incomplete — the environmental impacts caused by changing water levels at the Harris Lake and the intake on the Cape Fear River.” Intervention Petition at 46. Also, Petitioner asserts that “[t]he availability of cooling water is a significant constraint to the safe shut down of the proposed reactors.” *Id.* at 45-46. Petitioner then argues that these deficits show that the COLA fails to meet the requirement for completeness set out in 10 C.F.R. § 2.101(a)(3). Noting (without supporting references) that the annual temperatures in the Southeast region are increasing and projected to continue to do so, Petitioner further asserts that the COLA is also deficient in the following:

- a. Analysis of the additive and synergistic impacts on the local and downstream ecosystem from the reactor thermal discharge on water in Harris Lake, which is already elevated in temperature.
- b. Analysis of the impact of warmed water on condenser cooling.
- c. The evaluation of increasingly warmer water on reactor cooling.
- d. Evaluation of the impact of warmer ambient water temperatures on total withdrawal, consumption and evaporation.
- e. Analysis of the impacts of the proposed water withdrawal from the Cape Fear River for the proposed Harris reactors on the other facilities and municipalities downstream that use the river for either or both water supply and wastewater discharge.
- f. Analysis of the impact of pollution in water at warmer temperatures on the ecology of Harris Lake and downstream.
- g. A full analysis of the impact of reactor heat increasing the temperature in water on the other pollutants in the water, including implications for the food chain.



- h. Analysis of the impact of reactors going off-line on overall power and reliability, including the impact on Progress Energy's customers.
- i. Analysis of the impact of reactors going off-line on regional grid stability.
- j. An evaluation of the potential for extended drought locally, and in the region, that would exacerbate all of the issues identified above.

*Id.* at 46-47. From that foundation, Petitioner asserts, in essence, that Progress will have insufficient cooling water available to meet its peak summer demand and will have to curtail its summer peak operation. *Id.*

In opposing the contention, Applicant responds, first, that Petitioner fails entirely to cite to, provide any basis to dispute, or identify any error in any particular part of the Application; and second, that contrary to Petitioner's allegation in Contention EC-3, the ER provides a comprehensive assessment of the water supply from the Harris Reservoir with makeup water from the Cape Fear River. *See* Progress Answer at 95, 98. The ER concludes that the available water supply from the Cape Fear River is adequate to meet the plant makeup water needs for the proposed Harris reactors. Applicant responds to each of Petitioner's specific asserted deficiencies in its Answer. *See id.* at 101-12. Finally, Applicant argues NC WARN's claim that there is "no clear plan" on how safety-related water will be provided ignores section 2.4.11 of the FSAR, where, Applicant observes, the FSAR portion of the COLA clearly states that the proposed Harris units will not rely on the Harris Reservoir, the Cape Fear River, or any external water sources, for safety-related cooling water. *Id.* at 113.

Staff similarly responds that the Petitioner fails to identify any portion of the application with which it has a dispute<sup>32</sup> (in contravention of 10 C.F.R. § 2.309(f)(1)(vi)), and Contention EC-3 is not supported by any facts or expert opinion (in contravention of section 2.309(f)(1)(v)) and therefore should not be admitted. *See* Staff Answer at 44.<sup>33</sup> Moreover, notes the Staff, there is a discussion in the Harris COLA ER about the regional water supply model the Applicant intends to use. *Id.* at 44-45 (citing Harris COLA ER § 5.3.1.2). Finally, Staff points out that the Petitioner apparently believes that there will be a significant increase in water temperature either due to the proposed new units, or due to increasing temperatures in the Southeast. However, Petitioner fails to support either of these assertions with any facts or expert opinion. *Id.* at 46.

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<sup>32</sup> Staff explains that Petitioner "allege[s], for example, that the impact of pollution in water on the area ecology needs to be analyzed. However, [Petitioner does] not cite to, or take any issue with PEC's analysis of the estimated thermal plume from the proposed reactors on the ecology of the lake." Staff Answer at 45 (internal citations omitted); *see also* Harris COLA ER, Chapter 5, at 5-57 to 5-59.

<sup>33</sup> Relevant to Petitioner's point, Staff observes that "[a]t no point [does Petitioner] explain how [its] concerns about warming water relate to the ability of the reactor to obtain water."

For the purposes of our analysis, we group the ten specific assertions and include the issue regarding the assessment of the availability of water for safe shutdown of the reactor, resulting in three general components to this contention:

- (a) those which in essence assert that the COLA is deficient in discussing the adequacy of the water supply to enable reliable full-power operation during worst conditions including the potential effect on customers and grid stability if plants go off-line (which includes items b, c, h, i, and j, above)
- (b) those which assert that the COLA is deficient in analysis of the downstream environmental effects, including: (i) thermal impacts on Harris Lake from reactor discharge (item a); (ii) impact on downstream users (item e); (iii) impact of warmer water in Harris Lake on pollution and water levels therein and downstream (items d and f); and (iv) reactor heat increasing the water temperature (item g); and
- (c) the availability of cooling water as a constraint to safe shutdown.

**HOLDING:**

a. As to the portion of Contention EC-3 which challenges the analysis of the impact upon reliable full-power operation, we find:

- 1. Petitioner fails to identify any particular analysis that was performed inaccurately or, for that matter, in insufficient detail, and thereby fails to satisfy 10 C.F.R. § 2.309(f)(1)(v) and (vi).
- 2. If we are to view this as an asserted omission, Petitioner has failed to explain why such an omission is relevant to the decision the NRC must make, and thereby fails to satisfy section 2.309(f)(1)(iii) and (iv).
- 3. Regarding a challenge to grid stability, the DCD included such an analysis insofar as plant safety is concerned, and Petitioner fails to assert any error therein or to explain why any other analysis is necessary, thereby failing to satisfy section 2.309(f)(1)(iii), (iv), and (vi).
- 4. Regarding the adequacy of water supplies, ER § 2.3.1.2.1.6.2 of the COLA provides such an analysis, and Petitioner fails to identify any error or omission in that analysis, thereby failing to satisfy the requirements of section 2.309(f)(1)(iii), (iv), and (vi).

b. As to the Environmental impacts, we find:

- 1. The thermal impacts on Harris Lake are discussed in ER § 5.3.2.1 and Petitioner fails to identify any error or omission from that analysis

and thereby fails to satisfy the requirements of section 2.309(f)(1)(iii), (iv), and (vi).

2. Impact of water withdrawal was discussed in ER §§ 5.2.2.2.1, 2.3.2.1, and 2.3.2.2 and Petitioner fails to identify any error or omission from that analysis and thereby fails to satisfy the requirements of section 2.309(f)(1)(iii), (iv), and (vi).
3. Regarding impact of warmer water on pollution, there is no support offered for the proposition that the water would indeed be materially warmer as a result of operation of the proposed new plants (thereby failing to satisfy the requirements of section 2.309(f)(1)(iii) and (v)), and ER § 3.2.1 addresses the impact of the plant operations on water temperature and quality and Petitioner failed to identify any error in, or omission from, that analysis, and thereby failed to satisfy the requirements of section 2.309(f)(1)(iii), (iv), and (vi).
4. Regarding the potential for reactor heat increasing the water temperature, the only source of heated water to Harris Lake is the relatively small flow (blowdown) from the two main cooling towers and the service water system cooling tower to control dissolved solids in the closed-cycle systems. The impact of this heated water on the Harris Lake is described in ER § 5.3.2.1, and Petitioner fails to identify any error or omission from that analysis, thereby failing to satisfy the requirements of section 2.309(f)(1)(iii) and (iv).

c. Regarding the safety issue Petitioner raises as to the need for cooling water to achieve safe shutdown and long-term cooling, we find that this is not an omission because those matters, as indicated by the Applicant, are discussed in the AP1000 DCD Rev. 16 Tier 2 § 6.2.2 and FSAR § 2.4.11, which make quite clear that the proposed new plants will not rely upon Harris Lake (or any other external water supply) for those purposes. *See* Progress Answer at 113. Therefore, because Petitioner has failed to identify any deficiency or omission from that analysis, it fails to satisfy the requirements of section 2.309(f)(1)(iv) and (vi).

#### ***10. Contention EC-4 (Deficiencies in Emergency Planning)***

CONTENTION: The area around the Harris site has changed considerably since the first reactor was constructed from dramatically increased populations and changing land uses. The ER does not provide an adequate analysis of the current populations and land use, and does not address the forecasted growth in the area. As a result, emergency planning that adequately protects the health and safety of the residents, students and workers around the proposed Harris reactors cannot be adequately accomplished.

RULING: This contention is, for the reasons set out below, inadmissible.

DISCUSSION: In support of this contention, Petitioner asserts, “[g]iven the projected increases in population, and the resulting impacts of those people in the 10-mile emergency planning zone (EPZ), along with the changing land uses in the EPZ, the health and safety of those people cannot be protected during an accident.” Intervention Petition at 49. Setting out, with reference to a report submitted by Petitioner in its earlier challenge to renewal of the license for Harris Unit 1,<sup>34</sup> but without a supporting affidavit in this instance, asserted populations and growth rates, Petitioner alleges without any reference (or challenge) to any portion of the COLA, a need for a “realistic” look at these factors. *See id.* Petitioner further asserts, without challenge to any specific portion of the COLA, and without any support, the need for a baseline health study in order to find out the medical needs of “children, women of childbearing age, senior citizens and nursing home residents who may have special difficulties in the event of an evacuation and may be more susceptible to radiation emissions and other hazards that could occur in connection with evacuation and relocation.” *Id.*

Finally, Petitioner asserts a need for inclusion in the COLA of studies of infrastructure and increased traffic, but again fails to cite to any portion of the COLA (or ER) where Applicant has, has not, or should have included such information. *See id.*

In opposing this contention, Applicant responds that these matters are fully explored and analyzed in the COLA and Petitioner fails to cite to, let alone contradict, the Emergency Plan submitted with the Application. *See* Progress Answer at 116-17. Furthermore, notes Applicant, Petitioner provides no documentary evidence or expert opinion in support of any implied flaws in the evacuation plan. *Id.* at 117.

Since, asserts Applicant, Commission regulations require evacuation planning only in regard to the 10-mile plume-exposure pathway EPZ (citing to 10 C.F.R. § 50.47(b)(10)), by asserting that evacuation planning is required beyond the plume-exposure pathway EPZ, the Petitioner is improperly attempting to collaterally attack the Commission’s regulations. *Id.* at 116-17. Finally, Applicant observes that the specific omissions (i.e., land use and population growth) alleged by NC WARN are in fact addressed in the ER in sections 2.2.3 and 2.5.1.3.2, respectively. *Id.* at 118. Therefore, as to asserted omissions, Contention EC-4 fails to satisfy the requirements of section 2.309(f)(1)(vi). *Id.* at 121-22.

Staff likewise responds that 10 C.F.R. § 2.309(f)(1)(vi) requires a petitioner to provide sufficient information to show that a genuine dispute exists with the

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<sup>34</sup> *See* Request for a Hearing and Petition for Leave to Intervene, Renewal of Facility Operating License No. NPF-63, Carolina Power & Light Company, Shearon Harris Nuclear Power Plant, Unit 1 (Docket No. 50-400) (Attachments 4 (Affidavit), 4A (Curriculum Vitae) and 4B (“Population Living Near the Harris Nuclear Plant, North Carolina”)), ADAMS Accession No. ML071430566.

Applicant on a material issue of law or fact and the Petitioner fails, in this case, to provide such information. *See* Staff Answer at 47. Staff also asserts that Petitioner has failed to comply with section 2.309(f)(1)(vi), which requires such information to include references to the specific portion of the application that the petitioner disputes and the supporting reasons for each dispute, and particularly for those contentions where a petitioner alleges that an entire plan is inadequate, it must specify how each portion of the plan is alleged to be inadequate. *Id.* at 48. Staff similarly points out that Petitioner has failed to include any reference whatsoever to the emergency planning documents in the Harris COLA. *Id.* Staff then notes that Petitioner errs in asserting omissions, for example with regard to detailed future population estimates, which are set out in the Harris COLA ER § 2.5.1 and FSAR § 2.1. *Id.* at 47-48.

Furthermore, Staff points out that the emergency plans submitted by state and local governments in support of the Harris COLA provide for the identification of, and include provisions for the evacuation of, special needs population groups. *Id.* In addition, as part of the Harris COLA, Progress submitted a detailed Evacuation Time Estimate (ETE) Report, which included an extensive discussion of the evacuation of special populations. *See id.* at 48 (citing ETE Report, Chapter 8). Staff also notes that Petitioner's asserted omission of traffic studies is in error, pointing out that the ETE Report included an extensive discussion of the estimated number of vehicles involved in an evacuation, along with considerations of the area population and road network. *See id.* at 49.

Finally, Staff objects to Petitioner's use of the affidavit of Dr. Wing from its Petition for Hearing in the Shearon Harris license renewal proceeding. Staff asserts the affidavit is of absolutely no value, since that material provided Dr. Wing's opinion only as to Unit 1's emergency plan, and did not consider the current COL application or the emergency plans submitted with it. *Id.* at 48.

**HOLDING:** We find Contention EC-4 inadmissible for the following reasons.

First, we find that Petitioner's assertion that the ER does not address forecasted population growth and related population elements is in error — those elements are indeed addressed in ER §§ 2.2.3 and 2.5.1, as pointed out by both Applicant and Staff. Petitioner raised no challenge to the material presented in the ER, and therefore this part of the contention fails to satisfy the requirements of section 2.309(f)(1)(vi).

Second, we find Petitioner's assertion that the ER inadequately analyzes current population, land use, traffic patterns, and other asserted omissions is also in error. These assertions fail to identify any specific error or omission in the Application, and indeed fail to reference any particular portion of the Application, and are therefore inadmissible for failure to satisfy the requirements of section 2.309(f)(1)(vi). In addition, we find the information referring to prior testimony of Dr. Wing is not relevant to the present proceeding, and Petitioner has failed to "demonstrate that the issue raised in [this portion of] the contention is within

the scope of the proceeding.” See 10 C.F.R. § 2.309(f)(1)(iii). Petitioner made no attempt to address how Dr. Wing’s opinions on the emergency planning issues on Harris Unit 1 are relevant to the current COLA emergency plan, failing to comply with the requirements of 10 C.F.R. § 2.309(f)(1)(iv).

#### ***11. Contention EC-5 (Waste Disposal)***

**CONTENTION:** The COLA fails to evaluate whether and in what time frame the irradiated “spent” fuel generated by the proposed Harris nuclear reactors can be safely disposed. The ER does not contain any discussion of the environmental implications of the lack of options for permanent disposal of the irradiated fuel to be generated by the Harris site.

**RULING:** This contention is, for the reasons set out below, inadmissible.

**DISCUSSION:** Petitioner asserts, “[t]he ER is deficient because it fails to discuss the environmental implications of the lack of options for permanent disposal of the spent fuel that will be generated by the proposed reactors if built and operated.” Intervention Petition at 59. Petitioner then argues that the NRC’s Waste Confidence Rule is inapplicable to new plants and that the Yucca Mountain high-level waste repository will not be capable of accepting the waste to be generated at the proposed new plants. *Id.* at 53-58.

Finally, Petitioner argues that there is a terrorist threat and thereby potential associated environmental consequence created by storing this to-be-generated waste (spent fuel) at the proposed new site, implying a requirement to examine those consequences in the ER. *Id.* at 58-59.

Applicant responds that this contention is inadmissible because it is an impermissible challenge to the NRC’s Waste Confidence Rule, 10 C.F.R. § 51.23, which, Applicant asserts, makes a generic finding that a geologic repository will be available beyond the operating life of any reactor to dispose of its spent nuclear fuel and bars consideration of spent fuel disposal in this proceeding. Applicant asserts that Petitioner plainly errs in claiming that the Waste Confidence Decision does not apply to new reactors, pointing out that the express language of 10 C.F.R. § 51.23 provides that:

The Commission has made a generic determination that, if necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least 30 years beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor at its spent fuel storage basin or at either onsite or offsite independent fuel storage installations. Further, the Commission believes that there is reasonable assurance that at least one mined geologic repository will be available within the first quarter of the twenty-first century and sufficient repository capacity will be available within 30 years beyond

the licensed life for operation of any reactor to dispose of the commercial high-level waste and spent fuel originating in such reactor and generated up to that time.

Applicant Answer at 123-24 (quoting 10 C.F.R. § 51.23(a)).

Staff responds, referring to the ruling by the Board in the *North Anna Early Site Permit* proceeding, that “[t]he matters the Petitioners seek to raise have been generically addressed by the Commission through the Waste Confidence Rule 10 C.F.R. § 51.23(a). Furthermore, when the Commission amended this rule in 1990, it clearly contemplated, and intended to include, waste produced by a new generation of reactors.” Staff Answer at 51.

Staff also notes that Petitioner’s request for reconsideration of the Waste Confidence Rule is not within the scope of this proceeding, and is an impermissible attack on the Commission’s regulations. *Id.* at 52. Staff further points out that the Commission has provided litigants in an adjudicatory proceeding subject to 10 C.F.R. Part 2 the opportunity to request that a Commission rule or regulation “be waived or an exception made for the particular proceeding.” *Id.* at 52 (citing 10 C.F.R. § 2.335(b)).

HOLDING: We find Contention EC-5 is inadmissible as an impermissible challenge to NRC regulations (in contravention of 10 C.F.R. § 2.335(a)). At least seven other licensing boards have considered identical matters and have squarely rejected them.<sup>35</sup> We agree with the other Boards that the Commission contemplates that its Waste Confidence Decision covers new reactors; for example, in the revised Waste Confidence Rule of 1990, the Commission stated that the rule should apply to “the spent fuel discharged from any new generation of reactor designs.” *See* Review and Final Revision of Waste Confidence Decision, 55 Fed. Reg. 38,474, 38,504 (Sept. 18, 1990). Finally, the Commission has recently issued a revised waste confidence rule for comment, precluding this contention because it is an attack on a proposed rule.<sup>36</sup>

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<sup>35</sup> *See, e.g., Lee*, LBP-08-17, 68 NRC at 442-43; *Bellefonte COL*, LBP-08-16, 68 NRC at 416; *Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), LBP-08-15, 68 NRC 294, 336-37 (2008); *Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-07-3, 65 NRC 237, 267-68 (2007); *Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), LBP-04-17, 60 NRC 229, 246-47 (2004); *Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), LBP-04-18, 60 NRC 253, 268-69 (2004); *System Energy Resources, Inc.* (Early Site Permit for Grand Gulf ESP Site), LBP-04-19, 60 NRC 277, 296-97 (2004).

<sup>36</sup> Waste Confidence Decision Update, 73 Fed. Reg. 59,551 (Oct. 9, 2008). A contention that seeks to litigate a matter that is, or clearly is about to become, the subject of a rulemaking, is inadmissible. *See* 10 C.F.R. § 2.335.

### III. CONCLUSION

For the reasons set out above, we find that Petitioner NC WARN has demonstrated standing to intervene in this proceeding and has submitted one admissible contention (which we explicitly limit for admission as described above).

Since, as we observed in note 7, above, some of the particular asserted omissions may well be in respect of information which does not need to be in the COLA, Staff and Applicant are instructed that they may file, within 30 days of the date of this Order, motions for summary disposition of any of such asserted omissions. Any such Motion shall be accompanied by a legal memorandum explaining the basis for that conclusion and such affidavits of experts as shall be necessary to support the Motion. In the event that Staff or Applicant believes that all of such asserted omissions relate to subject matter which *does* need to be in the COLA, Staff or Applicant, as relevant, shall advise the other parties of that conclusion no later than the due date for such motions for summary disposition.

Since the limited Contention TC-1 has been admitted, there is a “proceeding” in this matter, despite the fact that we are holding in abeyance any hearing on the merits of the particular asserted omissions pending their resolution in the rulemaking. Thus, as new information becomes available regarding the COLA, Petitioner may move to file new contentions in accordance with the requirements and provisions of 10 C.F.R. § 2.309(f)(2) for new and amended contentions, as well as with the provisions of section 2.309(f)(1). Notwithstanding the foregoing, because the subject matter of the asserted omissions has been referred to Staff for resolution during the rulemaking, any proposed amendment to those asserted omissions should be directed toward the rulemaking process.

In accordance with the provisions of 10 C.F.R. § 2.311, any appeal to the Commission of the outcome of this Memorandum and Order shall be taken within ten (10) days of the date it is served.



It is so ORDERED.

THE ATOMIC SAFETY AND  
LICENSING BOARD

Paul B. Abramson, Chairman  
ADMINISTRATIVE JUDGE

Dr. William E. Kastenber  
ADMINISTRATIVE JUDGE

Dr. Michael F. Kennedy  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
October 30, 2008

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**Ann Marshall Young, Chair<sup>1</sup>**  
**Dr. Paul B. Abramson**  
**Dr. Richard F. Cole**

**In the Matter of**

**Docket No. 50-293-LR**  
**(ASLBP No. 06-848-02-LR)**

**ENTERGY NUCLEAR GENERATION**  
**COMPANY and ENTERGY NUCLEAR**  
**OPERATIONS, INC.**  
**(Pilgrim Nuclear Power Station)**

**October 30, 2008**

This 10 C.F.R. Part 54 proceeding concerns the application of Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc. (Entergy) for renewal of the operating license for its Pilgrim Nuclear Power Station (the “Pilgrim plant”), located in Plymouth, Massachusetts. Ruling on the merits of Contention 1 as filed by Intervenor Pilgrim Watch concerning Entergy’s aging management program, or “AMP,” for certain underground pipes, the Licensing Board concludes that, based on the entire evidentiary record and the parties’ arguments in this proceeding, Pilgrim Watch’s Contention 1 is resolved in favor of Entergy, and that this proceeding is terminated.

**LICENSING BOARDS: RESPONSIBILITIES (INFORMAL HEARING PROCEDURES)**

In conducting Subpart L hearings under 10 C.F.R. Part 2, Board members pose a question to the parties’ witnesses in those areas that, in the Board’s judg-

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<sup>1</sup> Judge Young will be filing a separate opinion regarding the substance of this order in due course.

ment, require additional clarification and development. 10 C.F.R. § 2.1207(b)(6). Boards in part accomplish this through proposed written questions that the parties provide prior to, and during the course of, the hearing. 10 C.F.R. § 2.1207(a)(3); 10 C.F.R. § 2.1207(b)(6).

#### **LICENSE RENEWAL: SCOPE**

In developing 10 C.F.R. Part 54, the Commission focused the NRC license renewal safety review “upon those potential detrimental effects of aging that are not routinely addressed by ongoing regulatory oversight programs.” In so doing, the Commission expressed the view that these are the matters it considered “the most significant overall safety concern posed by extended reactor operation.” *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 7 (2001).

#### **LICENSE RENEWAL: SCOPE**

The regulatory authority relating to the renewal of nuclear power plant operating licenses is found in 10 C.F.R. Parts 51 and 54, the latter of which concerns the “Requirements for Renewal of Operating Licenses for Nuclear Power Plants,” and enumerates issues to be addressed in license renewal proceedings. Accordingly, the scope of license renewal proceedings is quite limited under Commission rules and case law.

#### **LICENSE RENEWAL: BURDEN OF PROOF**

Applicants must “demonstrate that all ‘important systems, structures, and components’ will continue to perform their intended function in the period of extended operation”; and “identify any additional actions, i.e., maintenance, replacement of parts, etc., that will need to be taken to manage adequately the detrimental effects of aging.” *Turkey Point*, CLI-01-17, 54 NRC at 8 (quoting 60 Fed. Reg. at 22,462). The Commission has recognized that these “[a]dverse aging effects generally are gradual and thus can be detected by programs that ensure sufficient inspections and testing.” *Id.* (citing 60 Fed. Reg. at 22,475). Accordingly, license renewal proceedings are limited to a “review of the plant structures and components that will require an aging management review for the period of extended operation and the plant’s systems, structures, and components that are subject to an evaluation of time-limited aging analyses.” *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-01-20, 54 NRC 211, 212 (2001) (citing 10 C.F.R. §§ 54.21(a) & (c), 54.4; 60 Fed. Reg. 22,461).

**LICENSE RENEWAL: SCOPE**

The Commission may issue the renewed license, under the provisions of 10 C.F.R. § 54.29 if it finds that, with respect to the structures and components identified under section 54.21(a)(1), there is reasonable assurance of ongoing conformity to the current licensing basis or “CLB.” Those systems, structures, and components (SSCs) are delineated in 10 C.F.R. § 54.4 and include not only those SSCs that perform safety-related functions as defined in section 54.4(a)(1), but also those non-safety-related SSCs (defined in section 54.4(a)(2)) whose failure could prevent accomplishment of the section 54.4(a)(1) tasks and those SSCs relied on in safety analyses or plant evaluations to perform a function that demonstrates compliance with the Commission’s regulations for fire protection, environmental qualification, pressurized thermal shock, anticipated transients without scram, and station blackout, as defined in section 54.4(a)(3).

**LICENSE RENEWAL: SCOPE**

Section 54.4(b) of 10 C.F.R. advises that even if a particular “system” falls within the scope of Part 54, not all structures and components comprising that system will necessarily be subject to Part 54 aging management requirements — only those that perform section 54.4(a) functions will be subject to the requirements in question. Therefore, the issue before the Board was whether the existing aging management plans, or “AMPs,” for the nuclear power plant provide appropriate assurance that the buried pipes and tanks will not develop leaks so great as to cause those pipes and tanks to be unable to perform their intended safety functions.

**LICENSE RENEWAL: SCOPE**

NRC regulations require that a license renewal application “[f]or those [systems, structures, and components (SSCs) within the scope], demonstrate that the effects of aging will be adequately managed so that the intended function(s) [i.e., the direct and indirect safety-related functions enumerated in 10 C.F.R. § 54.4] will be managed consistent with the current licensing basis for the period of extended operation.” 10 C.F.R. § 54.21(a)(3). Challenges to the current licensing basis itself are, however, not within the scope of a license renewal proceeding. *See, e.g.*, 10 C.F.R. § 54.30(b). Thus, the subject matter of a license renewal proceeding is of very narrow scope.

**LICENSE RENEWAL: SCOPE**

Matters relating to an applicant’s ongoing operational and maintenance pro-

grams are not within the scope of a license renewal proceeding. Accordingly, monitoring, and the installation of monitoring wells, is a matter for ongoing operation and maintenance, and not within the scope of matters properly considered in a license renewal.

## INITIAL DECISION

### I. INTRODUCTION

In this Initial Decision, the Licensing Board rules on the remaining issues outstanding before it in this 10 C.F.R. Part 2, Subpart L proceeding. At issue is the Application of Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc. (collectively, “Entergy” or “Applicant”) for renewal of the operating license for its Pilgrim Nuclear Power Station (the “Pilgrim plant”), located in Plymouth, Massachusetts, as it is challenged by Intervenor Pilgrim Watch’s contention concerning the Applicant’s aging management program, or “AMP,” for certain underground pipes. The proposed renewal would authorize the facility to operate 20 years beyond its current operating license expiration date of June 8, 2012. Intervenor Pilgrim Watch contends that the Applicant’s aging management program for certain buried pipes is inadequate because these programs do not provide for monitoring wells. After an oral hearing and filing of the parties’ proposed findings of fact and conclusions of law, we find that the Applicant has proven by a preponderance of the evidence that its aging management program at issue here provides reasonable assurance that aging effects to certain underground pipes at the Pilgrim plant will be adequately managed so that the components in question will perform their intended functions throughout the proposed license renewal period.

### II. BACKGROUND

#### A. Procedural History of Proceeding

Entergy filed its Application to renew its operating license for the Pilgrim plant on January 25, 2006.<sup>2</sup> In response to a March 27, 2006, *Federal Register* notice of opportunity for a hearing on the proposed license renewal,<sup>3</sup> two petitioners

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<sup>2</sup>Entergy Nuclear Operations, Inc., License Renewal Application — Pilgrim Nuclear Power Station (January 25, 2006) (Agencywide Documents Access and Management System (“ADAMS”) Accession No. ML060300028).

<sup>3</sup>Entergy Nuclear Operations, Inc., Pilgrim Nuclear Power Station; Notice of Acceptance for Docketing of the Application and Notice of Opportunity for Hearing Regarding Renewal of Facility Operating License No. DPR35 for an Additional 20-Year Period, 71 Fed. Reg. 15,222 (Mar. 27, 2006).

timely filed hearing requests, the organization Pilgrim Watch on May 25, 2006, submitting five contentions,<sup>4</sup> and the Massachusetts Attorney General on May 26, 2006, submitting one contention.<sup>5</sup>

In LBP-06-23,<sup>6</sup> this Board rejected the Massachusetts Attorney General's petition to intervene,<sup>7</sup> but granted that of Pilgrim Watch, admitting two of its proposed contentions. The first of these contentions, Contention 1, challenged the adequacy of Entergy's AMP with regard to its aging management of buried pipes and tanks that contain radioactively contaminated water because it does not provide for monitoring wells that would detect leakage.<sup>8</sup> The second Pilgrim Watch contention, which we admitted in limited form, challenged certain emergency evacuation-related input data in the Applicant's "Severe Accident Mitigation Alternatives (SAMA) Analysis," a part of its Environmental Report.<sup>9</sup> A majority of the Board later granted Entergy's motion for summary disposition

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<sup>4</sup> Request for Hearing and Petition to Intervene by Pilgrim Watch (May 25, 2006).

<sup>5</sup> Massachusetts Attorney General's Request for a Hearing and Petition for Leave to Intervene with Respect to Entergy Nuclear Operations Inc.'s Application for Renewal of the Pilgrim Nuclear Power Plant Operating License and Petition for Backfit Order Requiring New Design Features to Protect Against Spent Fuel Pool Accidents (May 26, 2006). The Town of Plymouth also requested to participate in the proceedings and, in accordance with 10 C.F.R. § 2.315(c), the Board granted the Town's request. See Request of the Town of Plymouth to Participate as of Right Under 2.315(c) (June 16, 2006); Order and Notice (Regarding Oral Argument and Limited Appearance Statement Sessions) (unpublished) (June 21, 2006). The Town of Plymouth has not, however, chosen to participate substantively in the litigation over the sole contention currently admitted in this proceeding, although the Town's representative did attend the evidentiary hearing.

<sup>6</sup> 64 NRC 257 (2006).

<sup>7</sup> See LBP-06-23, 64 NRC at 288-300. The Massachusetts Attorney General's appeal of this decision was also rejected. See *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-3, 65 NRC 13 (2007).

<sup>8</sup> LBP-06-23, 64 NRC at 315. Pilgrim Watch's original Contention 1, which had primarily to do with its members' concern with underground leakage of radioactive contamination into the ground water, was:

The Aging Management program proposed in the Pilgrim application for license renewal is inadequate because (1) it does not provide for adequate inspection of all systems and components that may contain radioactively contaminated water and (2) there is no adequate monitoring to determine if and when leakage from these areas occurs. Some of these systems include underground pipes and tanks which the current aging management and inspection programs do not effectively inspect and monitor.

*Id.* at 300. We limited our admission of the contention to the part that is within the scope of license renewal. See *id.* at 315; see also LBP-07-12, 66 NRC 113 (2007). Although the contention, as proposed and as admitted, refers to buried pipes *and tanks*, in fact there are no buried tanks that fall within the scope of the contention.

<sup>9</sup> LBP-06-23, 64 NRC at 341.

of this contention,<sup>10</sup> leaving only Contention 1 for litigation. We denied summary disposition of Contention 1, finding a

genuine dispute on the central and material issue of whether those Pilgrim [AMPs] that relate to relevant buried pipes and tanks are adequate on their own, without need of any leak detection devices (Intervenors propose monitoring wells), to assure that the pipes and tanks in question will perform their intended functions and thereby protect public health and safety.<sup>11</sup>

We clarified the issue remaining before to be to whether the existing AMPs for the Pilgrim plant have elements that provide appropriate assurance as required under relevant NRC regulations that the buried pipes and tanks will not develop leaks so great as to cause those pipes and tanks to be unable to perform their intended safety functions.<sup>12</sup> We noted that a “clear goal of an AMP” is “prevention of an aging-induced leak large enough to compromise the ability of buried piping or tanks to fulfill their intended safety function.”<sup>13</sup>

Prior to the evidentiary hearing, the parties filed initial and rebuttal presentations and testimony.<sup>14</sup> We ruled on various prehearing matters<sup>15</sup> and posed a

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<sup>10</sup> See LBP-07-13, 66 NRC 131 (2007). Pilgrim Watch sought interlocutory Commission review of this contention dismissal, see Pilgrim Watch Brief on Appeal of LBP-07-13 Memorandum and Order (Ruling of [*sic*] Motion to Discuss [*sic*] Petitioner’s Contention 3 Regarding Severe Accident Mitigation Alternatives) (Nov. 13, 2007), but the Commission denied this request, stating that because “Pilgrim Watch has demonstrated no grounds for interlocutory review, its appeal must await the Board’s final decision.” CLI-08-2, 67 NRC 31, 32 (2008).

<sup>11</sup> LBP-07-12, 66 NRC at 128 (“SD Order”).

<sup>12</sup> *Id.* at 129.

<sup>13</sup> *Id.* Although a majority of the Board later advised the parties that “[o]ngoing monitoring is not within the scope of this proceeding,” and that “[t]he single admitted contention relates to whether or not Applicant’s AMPs are sufficient to enable it to determine whether or not certain buried pipes and tanks are leaking at such great rates that they cannot satisfy their respective intended safety functions,” Order (Revising Schedule for Evidentiary Hearing and Responding to Pilgrim Watch’s December 14 and 15 Motions) (Dec. 19, 2007) (unpublished) at 1, see also Separate Statement of Judge Ann Marshall Young (Regarding [Scheduling Order]) (Dec. 21, 2007), the issue of monitoring wells was ultimately permitted to be litigated based on the Applicant’s “opening the door” to the issue by comparing the effectiveness of its AMPs to monitoring wells. Order (Ruling on Pending Matters and Addressing Preparation of Exhibits for Hearing) (Mar. 24, 2008) at 2-3 (unpublished).

<sup>14</sup> Entergy’s Initial Statement of Position on Pilgrim Watch Contention 1 (Jan. 9, 2008); Exh. 1 (Entergy direct testimony); Exh. 2 (Entergy rebuttal testimony); NRC Staff Initial Statement of Position on Contention 1 (Jan. 29, 2008); Exh. 39-40 (Staff direct testimony); Exh. 41 (Staff rebuttal testimony); Pilgrim Watch Presents Statements of Position, Direct Testimony and Exhibits Under 10 CFR 2.1207 [Modified Per Request ASLB Order of February 21, 2008, section c, page 2] (Mar. 3, 2008) (adding citations and exhibits not included in Pilgrim Watch’s original January 29, 2008 filing); Exh. 14-15 (Pilgrim Watch direct testimony); Exh. 13 (Pilgrim Watch rebuttal testimony).

<sup>15</sup> See, e.g., Order (Denying Pilgrim Watch’s Motion for Clarification) (Jan. 11, 2008) (unpublished);

(Continued)

series of prehearing questions to the parties,<sup>16</sup> to which Entergy and the Staff filed responses.<sup>17</sup> On April 9, 2008, the day before the hearing, we held a limited appearance session in Plymouth, Massachusetts.<sup>18</sup>

The evidentiary hearing on Contention 1 was held on April 10, 2008, in accordance with a March 5, 2008 *Federal Register* Notice.<sup>19</sup> At that hearing, all prefiled testimony and exhibits not excluded in ruling on motions *in limine* were entered into evidence.<sup>20</sup> Additional exhibits were also entered into the record as the evidentiary hearing proceeded.<sup>21</sup>

At the close of the evidentiary hearing, the Board, in response to the First Circuit Court of Appeals' stay of the closing of the hearing,<sup>22</sup> held the record open,<sup>23</sup> but subsequently issued an order setting deadlines for the filing of proposed findings of fact and conclusions of law on Contention 1, and responses thereto.<sup>24</sup> Thereafter, we issued an order denying two Pilgrim Watch motions<sup>25</sup> that sought to strike cer-

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Order (Denying Pilgrim Watch's Motion for Reconsideration) (Jan. 11, 2008) (unpublished); Order (Ruling on Pending Matters and Addressing Preparation of Exhibits for Hearing) (Mar. 24, 2008) (unpublished).

<sup>16</sup> Order (Board Questions for the NRC Staff and Applicant) (Jan. 31, 2008) (unpublished); Order and Notice (Regarding Hearing, Limited Appearance Session, and Additional Questions for Parties) (Feb. 21, 2008) (unpublished) ("February 21 Order").

<sup>17</sup> Exhs. 12, 65; Exh. 41 at 14 (Staff responses to questions contained in February 21 Order); Exh. 2, A44-A47 (Entergy responses to questions contained in February 21 Order).

<sup>18</sup> See Transcript of Hearing (Tr.) at 557-874; Notice (Notice of Hearing and Opportunity to Make Limited Appearance Statements), 73 Fed. Reg. 11,957 (Mar. 5, 2008).

<sup>19</sup> See 73 Fed. Reg. at 11,957.

<sup>20</sup> Tr. at 566-89.

<sup>21</sup> Tr. at 645, 744-45, 764, 838.

<sup>22</sup> *Massachusetts v. United States*, 522 F.3d 115, 130 (1st Cir. 2008). The case before the Court involved a challenge to the NRC's failure to consider certain alleged dangers related to storage of spent fuel under the National Environmental Policy Act, either in this adjudication proceeding, or in a rulemaking proceeding that would be complete before termination of this proceeding. See *id.* at 117-18. On May 6, 2008, the Commonwealth filed a Notice of Intent to participate as an Interested State in this proceeding, but stated therein that it was "not requesting a stay at this time because it anticipates that such a request may be rendered unnecessary by the Commission's ruling on the rulemaking petition prior to issuing its decision on the relicensing." Commonwealth of Massachusetts' Notice of Intent to Participate as an Interested State (May 6, 2008) at 2. Indeed, on August 8, 2008, the Commission ruled on the rulemaking petition, denying it. 73 Fed. Reg. 46,204 (Aug. 8, 2008).

<sup>23</sup> Tr. at 870.

<sup>24</sup> Order (Setting Deadlines for Provisional Proposed Findings and Conclusions on Contention 1, and for Pleadings Related to Pilgrim Watch's Recent Motion Regarding [Cumulative Usage Factors]) (May 12, 2008) (unpublished).

<sup>25</sup> Pilgrim Watch Motion to Strike Incorrect and Misleading Testimony from the Record (May 15, 2008); Pilgrim Watch Motion to Include as Part of the Record Exhibits Attached to Pilgrim Watch Motion to Strike Incorrect and Misleading Testimony from the Record of May 15, 2008 (May 27, 2008).



tain Entergy and Staff testimony and to add additional evidence to the Contention 1 evidentiary record. The Board formally closed the record as to Contention 1 on June 4, 2008.<sup>26</sup> On June 9, 2008, all parties filed their proposed findings of fact and conclusions of law to which the parties responded on June 23, 2008.<sup>27</sup> We subsequently denied certain Pilgrim Watch motions moving to admit a new contention regarding “cumulative usage factors”<sup>28</sup> by Memorandum and Order dated July 1, 2008.<sup>29</sup>

## **B. Legal and Regulatory Framework**

As we noted in LBP-06-23,<sup>30</sup> the regulatory authority relating to the renewal

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<sup>26</sup> Memorandum and Order (Ruling on Pilgrim Watch Motions Regarding Testimony and Proposed Additional Evidence Relating to Pilgrim Watch Contention 1) (June 4, 2008) (unpublished); *see also* CLI-08-9, 67 NRC 353 (2008).

<sup>27</sup> Entergy’s Proposed Findings of Fact and Conclusions of Law on Pilgrim Watch Contention 1 (June 9, 2008); NRC Staff Proposed Findings of Fact and Conclusions of Law and Order in the Form of an Initial Decision (June 9, 2008); Pilgrim Watch Post-Hearing Findings of Fact Conclusions of Law (June 9, 2008); Entergy’s Reply to Pilgrim Watch’s Proposed Post-Hearing Findings of Fact and Conclusions of Law on Contention 1 (June 23, 2008); NRC Staff’s Response to Entergy’s Proposed Findings of Fact and Conclusions of Law (June 23, 2008); Pilgrim Watch Rebuttal to Entergy’s Proposed Findings of Fact and Conclusions of Law on Pilgrim Watch Contention 1 (June 23, 2008); Pilgrim Watch Rebuttal to NRC Staff Proposed Findings of Fact Conclusions of Law, and Order in the form of an Initial Decision (June 23, 2008).

<sup>28</sup> *See* Pilgrim Watch Motion Requesting the Record Be Held Open so That the Board May Address a New and Significant Issue [Method to Calculate Cumulative Usage Factors (CUF)] *Sua Sponte* and Provide Pilgrim Watch an Opportunity for Hearing (April 9, 2008); NRC Staff Response in Opposition to Pilgrim Watch Motion Requesting Record Be Held Open (April 21, 2008); Entergy’s Response in Opposition to Pilgrim Watch Motion Requesting the Record Be Held Open for *Sua Sponte* Consideration of Cumulative Usage Factors (April 21, 2008); Pilgrim Watch Replies to Entergy’s and NRC’s Responses Opposing Pilgrim Watch’s Motion Requesting that the Record Be Held Open for *Sua Sponte* Consideration of Cumulative Usage Factors (April 30, 2008); Entergy’s Motion to Strike Pilgrim Watch’s Reply to Entergy’s and NRC’s Responses Opposing Pilgrim Watch’s Motion Requesting That the Record Be Held Open for *Sua Sponte* Consideration of Cumulative Usage Factors (May 1, 2008); NRC Staff Motion to Strike Pilgrim Watch Reply to NRC Staff Response to Pilgrim Watch’s Motion to Hold the Record Open (May 2, 2008); Pilgrim Watch Motion Regarding the Cumulative Usage Factor (CUF) (May 5, 2008); NRC Staff Motion to Strike Pilgrim Watch Motion Regarding the Cumulative Usage Factor (May 8, 2008); NRC Staff Response in Opposition to Pilgrim Watch Motion to Add New Contention Regarding the Cumulative Usage Factor (May 19, 2008); Entergy’s Answer to Pilgrim Watch’s Motion Regarding the Cumulative Usage Factor (May 19, 2008); Pilgrim Watch Reply to Entergy’s & NRC’s Responses to Pilgrim Watch Motion to Add New Contention Regarding the Cumulative Usage Factor (CUF) (May 27, 2008).

<sup>29</sup> Memorandum and Order (Ruling on Pilgrim Watch Motions Regarding Cumulative Usage Factors) (July 1, 2008).

<sup>30</sup> 64 NRC at 257.

of nuclear power plant operating licenses is found at 10 C.F.R. Parts 51<sup>31</sup> and 54, the latter of which concerns the “Requirements for Renewal of Operating Licenses for Nuclear Power Plants,” and enumerates issues to be addressed in license renewal proceedings.<sup>32</sup> As the NRC Staff has pointed out, the scope of license renewal proceedings is quite limited under Commission rules and case law.<sup>33</sup>

The Commission in the 2001 *Turkey Point* license renewal proceeding stated that, in developing 10 C.F.R. Part 54 in the 1980s, it sought “to develop a process that would be both efficient, avoiding duplicative assessments where possible, and effective, allowing the NRC Staff to focus its resources on the most significant safety concerns at issue during the renewal term.”<sup>34</sup> Noting that the “issues and concerns involved in an extended 20 years of operation are not identical to the issues reviewed when a reactor facility is first built and licensed,” the Commission found that requiring a full reassessment of safety issues that were “thoroughly reviewed when the facility was first licensed” and continue to be “routinely monitored and assessed by ongoing agency oversight and agency-mandated licensee programs” would be “both unnecessary and wasteful.”<sup>35</sup> Further, the Commission indicated it did not “believe it necessary or appropriate

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<sup>31</sup> 10 C.F.R. Part 51, concerning “Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions,” addresses the environmental aspects of license renewal. Upon the summary disposition of Pilgrim Watch Contention 3, there were, however, no environmental issues remaining in this proceeding, and we therefore do not address them further herein.

<sup>32</sup> Four sections of Part 54 in particular contain provisions relevant to the scope of safety-related issues in license renewal proceedings. First, 10 C.F.R. § 54.4 specifies the plant systems, structures, and components that are within the scope of the proceeding. Sections 54.3 (containing definitions), 54.21 (addressing technical information to be included in an application and further identifying relevant structures and components), and 54.29 (stating the “Standards for Issuance of a Renewed License”) provide additional definitions of what is encompassed within a license renewal review, limiting the scope to aging-management issues, as well as some “time-limited aging analyses” that are associated with the functions of relevant plant systems, structures, and components, and are not at issue herein. See Final Rule: “Nuclear Power Plant License Renewal; Revisions,” 60 Fed. Reg. 22,461, 22,463 (May 8, 1995).

<sup>33</sup> See NRC Staff Proposed Findings of Fact at 11 (citing *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 11-13 (2001); see also *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2, Catawba Nuclear Station, Units 1 and 2), CLI-02-26, 56 NRC 358, 363-64 (2002); *Baltimore Gas & Electric Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-14, 48 NRC 39, 41 (1998), *motion to vacate denied*, CLI-98-15, 48 NRC 45 (1998); *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-98-17, 48 NRC 123, 125 (1998); *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-00-23, 52 NRC 327, 329 (2000); *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), LBP-04-15, 60 NRC 81, 90, *aff’d*, CLI-04-36, 60 NRC 631 (2004).

<sup>34</sup> *Turkey Point*, CLI-01-17, 54 NRC at 7.

<sup>35</sup> *Id.*

to throw open the full gamut of provisions in a plant's current licensing basis to re-analysis during the license renewal review."<sup>36</sup>

The Commission chose, rather, to focus the NRC license renewal safety review "upon those potential detrimental effects of aging that are not routinely addressed by ongoing regulatory oversight programs," which it considered "the most significant overall safety concern posed by extended reactor operation."<sup>37</sup>

Applicants for license renewal must "demonstrate how their programs will be effective in managing the effects of aging during the proposed period of extended operation," at a "detailed . . . 'component and structure level,' rather than at a more generalized 'system level.'"<sup>38</sup> An issue can be related to plant aging and still not warrant review at the time of a license renewal application, if it is "adequately dealt with by regulatory processes" on an ongoing basis.<sup>39</sup> For example, if a structure or component is already required to be replaced "at mandated, specified time periods," it would fall outside the scope of license renewal review.<sup>40</sup>

Applicants must also "demonstrate that all 'important systems, structures, and components' will continue to perform their intended function in the period of extended operation"; and "identify any additional actions, i.e., maintenance, replacement of parts, etc., that will need to be taken to manage adequately the detrimental effects of aging."<sup>41</sup> The Commission has recognized that these "[a]dverse aging effects generally are gradual and thus can be detected by programs that ensure sufficient inspections and testing."<sup>42</sup> Accordingly, license renewal proceedings are limited to a "review of the plant structures and components that will require an aging management review for the period of extended operation and the plant's systems, structures, and components that are subject to an evaluation of time-limited aging analyses."<sup>43</sup>

The Commission may issue the renewed license, under the provisions of 10 C.F.R. § 54.29 if it finds that, with respect to the structures and components identified under section 54.21(a)(1), there is reasonable assurance of ongoing

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<sup>36</sup> *Id.* at 9.

<sup>37</sup> *Id.* at 7.

<sup>38</sup> *Id.* at 8 (quoting 60 Fed. Reg. at 22,462).

<sup>39</sup> *Id.* at 10 n.2.

<sup>40</sup> *Id.*

<sup>41</sup> *Id.* at 8 (citing 60 Fed. Reg. at 22,463).

<sup>42</sup> *Id.* (citing 60 Fed. Reg. at 22,475).

<sup>43</sup> *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-01-20, 54 NRC 211, 212 (2001) (citing 10 C.F.R. §§ 54.21(a) & (c), 54.4; 60 Fed. Reg. 22,461).

conformity to the current licensing basis or “CLB.”<sup>44</sup> Those systems, structures, and components (SSCs)<sup>45</sup> are delineated in 10 C.F.R. § 54.4 and include not only those SSCs that perform safety-related functions as defined in section 54.4(a)(1), but also those non-safety-related SSCs (defined in section 54.4(a)(2)) whose failure could prevent accomplishment of the section 54.4(a)(1) tasks and those SSCs relied on in safety analyses or plant evaluations to perform a function that demonstrates compliance with the Commission’s regulations for fire protection, environmental qualification, pressurized thermal shock, anticipated transients without scram, and station blackout, as defined in section 54.4(a)(3).

Section 54.4(b) advises, as the NRC Staff notes,<sup>46</sup> that even if a particular “system” falls within the scope of Part 54, not all structures and components comprising that system will necessarily be subject to Part 54 aging management requirements — only those that perform section 54.4(a) functions will be subject to the requirements in question.

### C. Witnesses

A total of nine witnesses provided evidence in this proceeding through their prefiled written testimony and exhibits, as well as appearing in person to respond to questions during the April 10, 2008, evidentiary hearing on Pilgrim Watch Contention 1. All prefiled testimony, including the professional qualifications of each witness, and other exhibits were admitted into evidence at the beginning of the hearing.<sup>47</sup>

Four witnesses appeared on behalf of Entergy: (1) Alan B. Cox, Technical Manager, License Renewal with Entergy Nuclear; (2) Brian R. Sullivan, En-

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<sup>44</sup> “Current licensing basis” (CLB) is defined in 10 C.F.R. § 54.3 as:

[T]he set of NRC requirements applicable to a specific plant and a licensee’s written commitments for ensuring compliance with and operation within applicable NRC requirements and the plant-specific design basis (including all modifications and additions to such commitments over the life of the license) that are docketed and in effect. . . . It also includes the plant-specific design-basis information defined in 10 CFR 50.2 as documented in the most recent final safety analysis report (FSAR) as required by 10 CFR 50.71, and the licensee’s commitments remaining in effect that were made in docketed licensing correspondence. . . .

The term is further described by the Commission in *Turkey Point* as “a term of art comprehending the various Commission requirements applicable to a specific plant that are in effect at the time of the license renewal application. . . . and to represent an “evolving set of requirements and commitments for a specific plant that are modified as necessary over the life of a plant to ensure continuation of an adequate level of safety.” 60 Fed. Reg. at 22,473. It is effectively addressed and maintained by ongoing agency oversight, review, and enforcement. *Turkey Point*, CLI-01-17, 54 NRC at 9.

<sup>45</sup> 10 C.F.R. § 54.21(a)(1) defines the relevant systems, structures, and components (SSCs) as those delineated in section 54.4.

<sup>46</sup> Staff Proposed Findings of Fact at 12-13.

<sup>47</sup> See Tr. at 572, 581, 589.

gineering Director for Pilgrim Nuclear Power Station; (3) Steven P. Woods, Manager, Engineering Programs and Components for Pilgrim Nuclear Power Station; and (4) William H. Spataro, Senior Staff Engineer-Corporate Metallurgist with Entergy Nuclear (retired as of December 31, 2007).

Pilgrim Watch had two witnesses present to respond to Board questions: (1) Arnold Gundersen, Fairwinds Associates, Inc.; and (2) Dr. David P. Ahlfeld, Professor, Department of Civil and Environmental Engineering at the University of Massachusetts, Amherst.

The following witnesses appeared on behalf of the NRC Staff: (1) Dr. James A. Davis, a Senior Materials Engineer in the NRR Division of License Renewal; (2) Terence L. Chan, Branch Chief in the Piping and Nondestructive Examination Branch within NRR's Division of Component Integrity; and (3) Andrea T. Keim, Materials Engineer in NRR's Division of Component Integrity.

We have found all of the witnesses to be qualified to present testimony on the areas they addressed. The Board has accorded each witness's testimony the weight appropriate to his or her level of knowledge, training, and experience related to the subject matter of this contention.

### III. FINDINGS OF FACT AND CONCLUSIONS OF LAW

The relevant matters of concern in this proceeding are set out in 10 C.F.R. § 54.29(a)(1), and relate to managing the effects of the aging of critical SSCs. The Commission has characterized this as managing "aging-related degradation."<sup>48</sup> NRC regulations require that a license renewal application "[f]or those [SSCs] within the scope . . . , demonstrate that the effects of aging will be adequately managed so that the intended function(s) [i.e., the direct and indirect safety-related functions enumerated in 10 C.F.R. § 54.4] will be maintained consistent with the CLB for the period of extended operation."<sup>49</sup> Challenges to the CLB itself are, however, not within the scope of a license renewal proceeding.<sup>50</sup> Thus, the subject matter of this proceeding is of very narrow scope.

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<sup>48</sup> See *Turkey Point*, CLI-01-17, 54 NRC at 7-8; see also *Nuclear Power Plant License Renewal; Revisions*, 60 Fed. Reg. 22,461, 22,463 (May 8, 1995).

<sup>49</sup> 10 C.F.R. § 54.21(a)(3).

<sup>50</sup> See, e.g., 10 C.F.R. § 54.30(b). See also *Nuclear Power Plant License Renewal; Revisions*, 60 Fed. Reg. 22,461, 22,474-75 (May 8, 1995) ("the portion of the CLB that can be impacted by the detrimental effects of aging is limited to the design-basis aspects of the CLB. All other aspects of the CLB, e.g., quality assurance, physical protection (security), and radiation protection requirements, are not subject to physical aging processes that may cause noncompliance with those aspects of the CLB"); see also *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-06-22,

(Continued)

## A. Pilgrim Watch's Argument

In its original form, Pilgrim Watch's Contention 1 stated:

The Aging Management Program proposed in the Pilgrim application for license renewal is inadequate because (1) it does not provide for adequate inspection of all systems and components that may contain radioactively contaminated water and (2) there is no adequate monitoring to determine if and when leakage from these areas occurs. Some of these systems include underground pipes and tanks which the current aging management and inspection programs do not effectively inspect and monitor.<sup>51</sup>

As the fundamental basis for this contention, Pilgrim Watch asserted that:

[R]ecent events around the country have demonstrated that leaks of underground pipes and tanks can result in the release of massive amounts of radioactive materials into the ground water. Exposure to this radiation can be a threat to human health, and is a violation of NRC regulations. Because older plants are more likely to experience corrosion and leakage problems, and low energy radionuclides can speed up the rate of corrosion, Pilgrim should be required, as part of its Aging Management Program, to adequately inspect and monitor any systems and components that carry radioactive water. The Aging Management Plan should be revised to include this inspection and monitoring before a license renewal is granted.<sup>52</sup>

Pilgrim Watch went on to observe that small leaks, "if undetected, can eventually result in much larger releases of radioactive liquid into the ground," and noted that smaller leaks are also more difficult to detect with measures such as noting drops in water levels in tanks.<sup>53</sup> Pilgrim Watch asserted that because of these concerns monitoring wells should be placed between the plant and the ocean, and it specifically challenged the Applicant's Buried Pipes and Tanks Inspection Program.

As the Board discussed in depth in LBP-07-12, Pilgrim Watch's focus in this contention, and in general from the outset, has been their view that there is a need for monitoring wells to detect, at an early stage, leakage from buried pipes and tanks which carry (or may carry) radioactive water so that contamination

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64 NRC 229, 235 (2006) (citing *Turkey Point*, CLI-01-17, 54 NRC at 8 (issues relating to a plant's CLB are ordinarily beyond the scope of a license renewal review because "those issues already [are] monitored, reviewed, and commonly resolved as needed by ongoing regulatory oversight").

<sup>51</sup> Request for Hearing and Petition to Intervene by Pilgrim Watch at 4 (May 25, 2006) [hereinafter PW Original Petition].

<sup>52</sup> *Id.* at 6.

<sup>53</sup> *Id.* at 13.

of groundwater and the nearby sea can be prevented.<sup>54</sup> However, monitoring is a matter for ongoing operation and maintenance, and not within the scope of matters properly considered in a license renewal. Therefore, after review and consideration of the substantive content of Pilgrim Watch's Contention 1, Pilgrim Watch's supporting arguments, and the limitations on matters properly contestable in a license renewal proceeding, the Board reformulated Contention 1 so that, as admitted, it read as follows:

The Aging Management program proposed in the Pilgrim Application for license renewal is inadequate with regard to aging management of buried pipes and tanks that contain radioactively contaminated water, because it does not provide for monitoring wells that would detect leakage.<sup>55</sup>

## **B. The Scope of This Contention**

The principal contest at the time of admission of this contention was whether or not monitoring was within the scope of a license renewal proceeding (the Board indicated then, and on numerous subsequent occasions, it is not), and the admitted contention was refocused upon the alleged need for leak detection mechanisms.<sup>56</sup> Admitted Contention 1 had two narrowing factors: *first*, it relates only to buried pipes and tanks that carry or may carry radioactive water, and *second*, it purported that the AMP cannot be adequate without the addition of monitoring wells between the plant and the ocean.<sup>57</sup> Unfortunately, however, none of the parties addressed, at that point, what leak detection measures are required or sufficient in an AMP. Thus, at the contention admissibility stage, the question of what leak detection measures are required in an AMP was not sufficiently defined.

As this proceeding developed, however, in June 2007 Entergy raised without discussion the question of the impact upon the outcome of this proceeding of its interpretation of our regulations to the effect that *the ONLY buried pipes and tanks which are required to be addressed in a license renewal are those whose functionality is necessary during design basis accidents*<sup>58</sup> (i.e., a set of very severe accidents which could challenge the integrity of the reactor coolant pressure boundary, the capability to safely shut down and maintain the reactor, or accidents which might have material offsite radiation releases). Entergy's

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<sup>54</sup> LBP-07-12, 66 NRC at 129.

<sup>55</sup> LBP-06-23, 64 NRC at 315.

<sup>56</sup> *Id.*

<sup>57</sup> LBP-07-12, 66 NRC at 128-29.

<sup>58</sup> Entergy's Motion for Summary Disposition of Pilgrim Watch Contention 1, Statement of Material Facts ¶¶ 4, 5 (June 8, 2007).

view was that “leakage of radioactive liquids from buried pipes and tanks is not a design basis event that could cause accident consequences” similar to those referred to in sections 50.34(a)(1), 50.67(b)(2), or 100.11.<sup>59</sup> Consequently, “preventing such leakage is not a safety-related function or other critical plant function that has to be maintained under the license renewal rules.”<sup>60</sup>

Cast in this light, what ultimately has been at issue in this proceeding is whether or not the proposed AMPs are adequate, without the addition of monitoring wells, to detect leaks in two particular buried pipe systems, before those leaks become so large that the ability of those pipes to satisfy their particular intended safety function (*vis-à-vis* design basis events) is challenged. This further refinement of the issue raised by Pilgrim Watch Contention 1 was stated clearly by the Board in its December 19, 2007 Order,<sup>61</sup> and then again in its January 11, 2008 Order.<sup>62</sup>

Perceiving a continuing lack of clarity among the parties regarding the scope of the proceeding as to this particular contention, the Board further clarified in LBP-07-12 the issue to be:

Do the AMPs for buried pipes and tanks [which might contain radioactively contaminated water], by themselves, ensure that safety-function-challenging leaks will not occur, or must some sort of leak detection devices such as the monitoring wells proposed by Intervenors be installed to meet that obligation?<sup>63</sup>

Recognizing that (a) aging management programs are directed singularly at the management of age-related degradation, and (b) the Applicant has a host of ongoing operational and maintenance programs which may enable it to detect leaks in these particular pipes; in providing the parties guidance related to their prefiled testimony,<sup>64</sup> so that Pilgrim Watch, the Board, and any other interested person can understand how these leaks are addressed, we made a more general inquiry by asking the parties to address:

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<sup>59</sup> *See id.*; *see also* Entergy’s Motion for Summary Disposition at 15-16.

<sup>60</sup> *See* Entergy’s Motion for Summary Disposition at 16; *see also* 10 C.F.R. §§ 54.4 and 54.21.

<sup>61</sup> *See* Licensing Board Order (Revising Schedule for Evidentiary Hearing and Responding to Pilgrim Watch’s December 14 and 15 Motions) (Dec. 19, 2007) at 1 (unpublished) [hereinafter Dec. 19, 2007 Order].

<sup>62</sup> *See* Licensing Board Order (Denying Pilgrim Watch’s Motion for Reconsideration) (Jan. 11, 2008) at 5, 6, 8 (unpublished) [hereinafter Jan. 11, 2008 Order].

<sup>63</sup> LBP-07-12, 66 NRC at 129.

<sup>64</sup> *See* Dec. 19, 2007 Order at 2-3, requiring filing as part of the prefiled direct testimony, the following: “In addition to any other material Entergy files therein, it shall, pipe-by-pipe and tank-by-tank: (a) clearly identify each buried pipe and tank which may potentially contain radioactive fluids; (b) identify the intended safety function of such pipe or tank; (c) specify the procedures by which Entergy will determine, during the license extension period, whether there are leaks present which might endanger the ability of that pipe or tank to meet its intended safety function. . . .”



[W]hether or not the Applicant has programs and procedures in place which enable it to determine whether buried pipes and tanks containing radioactive fluids are able to satisfy their intended safety functions despite leaks — i.e. to determine that there are not leaks at such great rates so as to cause those pipes or tanks to fail to satisfy those safety functions.<sup>65</sup>

Since matters relating to the Applicant's ongoing operational and maintenance programs are not within the scope of this (or any other) license renewal proceeding, this inquiry produced, as might have been expected, information that relates to measurements and procedures which are not relevant to this hearing. Nonetheless, that information aided the Board in understanding what otherwise may have appeared to be gaps in the Applicant's AMPs.

### C. Factual Determinations

Pilgrim Watch's Contention 1 addresses only those buried pipes and tanks within the scope of license renewal "that contain radioactive liquid . . . BOTH by design and not by design."<sup>66</sup> Entergy has identified six systems containing buried pipes and tanks at the Pilgrim plant that, at the system level, fall within the scope of license renewal under 10 C.F.R. § 54.4: (1) the condensate storage system, or CSS; (2) the salt service water system, or SSWS; (3) the fire protection water system; (4) the fuel oil system; (5) the standby gas treatment system; and (6) the station blackout diesel generator system.<sup>67</sup> None of the parties claim that the fire protection water system, the fuel oil system, or the station blackout diesel system contain radioactively contaminated water or fall within Contention 1. Pilgrim Watch initially argued that buried piping in the standby gas treatment system falls within Contention 1,<sup>68</sup> but dropped this claim at the hearing.<sup>69</sup> This leaves only

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<sup>65</sup> Jan. 11, 2008 Order at 6.

<sup>66</sup> LBP-06-23, 64 NRC at 315; *see also* Pilgrim Watch Answer Opposing Entergy's Motion for Summary Disposition of Pilgrim Watch Contention 1 at 9 (June 27, 2007); NRC Staff Initial Statement of Position on Contention 1 at 11 (Jan. 29, 2008) [hereinafter NRC Initial Statement of Position].

<sup>67</sup> Exh. 1, A23.

<sup>68</sup> Pilgrim Watch Presents Statements of Position, Direct Testimony and Exhibits Under 10 CFR 2.1207 [Modified Per Request ASLB Order of February 21, 2008, section c, page 2] (Mar. 3, 2008) at 14-15; Exh. 13, A5; Tr. at 600.

<sup>69</sup> Tr. at 832-33, 835. We note that, in its Response Findings, Pilgrim Watch "does not dispute" this but nonetheless argues that the standby gas system "belongs in the license renewal process because we find the Board's decision to rule out radioactive contamination incorrect. Pilgrim Watch Rebuttal to NRC Staff Proposed Findings of Fact Conclusions of Law, and Order in the Form of an Initial Decision at 10-11. For reasons apparent in LBP-06-23 and in this decision, we do not revisit our ruling on this matter.

the condensate storage system and the salt service water system to be addressed herein.<sup>70</sup>

### ***1. Regarding the CSS Buried Pipes***

When it moved for summary disposition in June 2007, more than a year after the initial contentions were filed, Entergy raised what now has become evident as an important issue regarding whether or not Pilgrim Watch Contention 1 is applicable to the CSS. Although not developed as an argument in that motion, Entergy asserted that the material facts that were not in dispute were the facts that preventing leakage of radioactive liquid from buried pipes and tanks “is not an intended safety function or other license renewal intended function,” and that such leakage “is not a design basis event that could cause accident consequences comparable to those referred to in §§ 50.34(a)(1), 50.67(b)(2) or 100.11.”<sup>71</sup>

The substantive effect of this assertion is to raise the argument that the CSS is not “relied upon to remain functional during and following design basis events . . . ,” which is a prerequisite for the requirements set out in 10 C.F.R. § 54.4(a)(1) and (2) (but not (a)(3), which is a separate requirement) for consideration of any system, structure, or component (in this case the CSS) in a license renewal proceeding. However, neither the NRC Staff nor Pilgrim Watch focused upon the fundamental precept of this assertion in the list of undisputed material facts, nor did Entergy explicitly make this argument at any time. Therefore, this matter did not come before the Board in a way that brought it into proper focus until the hearing on the merits. At that time, as the record now clearly reflects and as is discussed in more detail below, it became clear that no part of the CSS is so relied upon, directly or indirectly, to remain functional during a design basis accident, and therefore any challenge to its functionality is outside the scope of this proceeding, except to the extent it is relied on to perform a function that demonstrates compliance with one of the five specific regulatory provisions referred to in section 54.4(a)(3). In this latter regard, Entergy’s expert witness testified that “the CSS provides a source of water to the HPCI and RCIC systems which are credited in the 10 C.F.R. 50 Appendix R analysis for safe shutdown for fire protection.”<sup>72</sup> Thus, it appears to us that these pipes indeed fall within the scope of this proceeding under the provisions of 10 C.F.R. § 54.4(a)(3).

According to uncontroverted testimony from both Entergy and the Staff, the buried piping portions of the CSS are not relied upon in Pilgrim’s safety analyses

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<sup>70</sup> We address in our Conclusions of Law whether the CSS buried pipes are within the scope of license renewal so as to require aging management of them as a matter of law.

<sup>71</sup> Entergy’s Motion for Summary Disposition, Statement of Material Facts ¶¶ 4, 5.

<sup>72</sup> Exh. 1, A27; *see also* Exh. 2, A36.

to perform any safety functions listed in 10 C.F.R. § 54.4(a).<sup>73</sup> Pilgrim Watch argued, however, that, because the CSS system is the “backup” supply for such water, the Board should find that the CSS system is relied upon within the meaning of the regulations. We decline to adopt that interpretation. In our view, “relied upon,” in this context, means only the principal components which are depended upon in the analyses, and must not reasonably be extended to include any backup system. To so expand the reach of this regulation would be to open a Pandora’s box, enabling expansion of the regulation not only to secondary, but tertiary and further remote supporting systems.

Thus we find that the CSS buried pipes are outside the scope of this proceeding with respect to their “safety” functionality. But that finding does not eliminate the need for consideration of potential leaks from those buried pipes because of their role in fire protection.

Without focus upon any one of the potential functions of the CSS buried pipes, we find that the matter of leak detection at the requisite level is adequately addressed by existing ongoing operational and maintenance programs for the CSS system which enable Entergy to detect leaks before they become large enough to challenge their functionality as relied upon for the purposes set out in 10 C.F.R. § 54.4.<sup>74</sup> The most immediate detection of a leak in the buried CSS pipes would be through the water level indicator in each of the two condensate storage tanks which is monitored every 4 hours, and, at a lesser frequency, but under full flow conditions, the quarterly testing of water flow rates from the HPCI and RCIC pumps.<sup>75</sup>

The water level in each of the two condensate storage tanks is maintained above 30 feet,<sup>76</sup> and corrective action is required if the water level drops below that level.<sup>77</sup> To understand the import of this level, Entergy advised that only about 11 feet of water level (corresponding to 75,000 gallons) is reserved for the

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<sup>73</sup> Tr. at 780; Exh. 2, A44; Exh. 40, A7. According to Entergy, it deemed the CSS to fall within the scope of license renewal because the system’s nonburied connections to the HPCI and RCIC systems “could be relied upon to provide seismic support” to those safety-related systems. Further, Entergy expert witness Alan Cox testified that while the CSS is the preferred source for the HPCI and RCIC systems because it contains a higher quality of water to assure long-term cleanliness of the system, the CSS is not seismically or safety-qualified and therefore it is not the “assured source” to be relied upon in the event of an accident. Tr. at 781-82. Rather, the TORUS, which is seismically qualified, is the assured source. Tr. at 781. Indeed, according to Mr. Cox, there is no scenario in which the buried portions of the CSS piping would be needed for seismic support purposes, and Pilgrim Watch witness Arnold Gundersen appeared to agree with that assessment. Tr. at 794-95.

<sup>74</sup> These leak detection mechanisms are not, nor are they required to be, part of the AMP.

<sup>75</sup> Exh. 1, A106.

<sup>76</sup> Entergy Answer to Board Questions at 2; Exh. 12.

<sup>77</sup> Exh. 1, A111; Entergy Answer to Board Questions at 2; Tr. at 786-88.

HPCI and RCIC use.<sup>78</sup> Consequently, there would have to be about a 20-foot drop in tank level before the capability of the HPCI and RCIC to perform their system functions using water solely from the condensate storage tanks would be impaired.<sup>79</sup> Entergy asserted, and Pilgrim Watch did not controvert, that such a large drop would be detected by the established monitoring frequency before the leakage became great enough to present the challenge at issue.<sup>80</sup>

Furthermore, Entergy averred, and Pilgrim Watch did not controvert, that its quarterly testing of the HPCI and RCIC pumps can detect any leakage of the subject buried pipes well before it reaches a level that could challenge the required flow rates of 4,250 gallons per minute (gpm) and 400 gpm for the HPCI and RCIC systems, respectively.<sup>81</sup> In addition to the quarterly tests, the flow rates for the HPCI and RCIC systems are confirmed during system testing once every operating cycle following each refueling outage.<sup>82</sup> And, in any event, if the required flow rates are not demonstrated, Entergy would take corrective actions.<sup>83</sup>

Therefore, as to the general challenge of the Contention regarding whether the proposed AMPs are adequate, without the addition of monitoring wells, to detect leaks in these two particular buried pipe systems before those leaks become so large that the ability of those pipes to satisfy their particular intended safety function, we find that the AMPs do not need to incorporate any additional leak detection mechanisms because of the ongoing operational and maintenance programs which measure the condensate storage tank level every 4 hours and measure the HPCI and RCIC flow rates every quarter. Thus we find, with regard to the CSS buried pipes, that monitoring wells are not necessary as averred by Pilgrim Watch.

## **2. Regarding the SSW System Buried Pipes**

Entergy has argued that only the CSS system at the Pilgrim plant has both buried pipes or tanks designed to contain radioactive liquid, and falls within the scope of license renewal under 10 C.F.R. § 54.4.<sup>84</sup> Pilgrim Watch, on the other hand, has argued that the salt service water (SSW) system, which, as Entergy puts it, functions as the ultimate heat sink for the reactor building closed cooling water and turbine building closed cooling water systems during plant operations and

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<sup>78</sup> Exh. 1, A112.

<sup>79</sup> *Id.* A113.

<sup>80</sup> *Id.* A114.

<sup>81</sup> *Id.* A118, A120.

<sup>82</sup> *Id.* A118.

<sup>83</sup> *Id.* A119.

<sup>84</sup> Entergys Motion for Summary Disposition of Pilgrim Watch Contention 1, Statement of Material Facts ¶¶ 7-9, 13, 14.

“cools systems that contain radioactive liquid, may also contain radioactive water if the heat exchanger through which that cooling takes place leaks.<sup>85</sup> Although Entergy characterized this possibility as “highly unlikely,” we find that the SSW system “may” contain radioactive water (albeit a low probability event) and, since that system is the ultimate heat sink, it is “relied upon” for heat removal following a design basis event and therefore within the scope of this proceeding.<sup>86</sup>

The SSW system buried piping has two principal legs: (1) the leg which brings salt water into the heat exchanger from the sea and therefore cannot contain radioactive water, and thus is outside the scope of this particular challenge; and (2) the return leg which carries the salt water back to the sea. Because the “return leg” might contain radioactive water if the heat exchanger by which it cools the reactor is leaking, that particular portion of the SSW system piping is within the scope of the challenge and, because it is relied upon for heat removal as described above, is within the scope of this license renewal proceeding. In following up on this matter, in its January 31, 2008 Order, the Board directed the Parties to address the following:

Explain how any leak in the SSW buried pipes that might carry radioactive water from the plant to the canal that dumps into the bay could challenge the ability of the SSW system to satisfy its intended function(s)? For example, is there any correlation between any potential leak in those pipes and any potential plugs in them that might prevent them from discharging water from the SSW, thereby impeding the ability to remove heat from the RBCCW? Provide a detailed statement of the basis of and sources for your answer.’’<sup>87</sup>

The singular purpose of the SSW system return piping, from the perspective of its intended function, is to permit the SSW system leaving the heat exchanger to continue to flow. Cast in its inverse, which makes the issue more clear, the only way the intended functionality of the SSW return piping could be impaired would be if it became so blocked that water could not pass. Neither the prefiled direct or rebuttal testimony, nor testimony provided at the hearing, suggests any credible scenario by which this might happen. Moreover, when questioned by the Board at the hearing on the merits, no expert suggested any scenario in which such blockage could occur that was not very speculative and required the confluence of a number of very low probability events. Furthermore, the substance of Pilgrim Watch Contention 1 relates to leaks from the piping at issue, and no credible scenario has been proposed by which a leak in the SSW system return piping could reasonably be expected to lead to such a restriction in the outlet flow. And

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<sup>85</sup> See Exh. 1, A31-A32.

<sup>86</sup> See *id.* A32.

<sup>87</sup> Licensing Board Order (Board Questions for the NRC Staff and Applicant) at 2 (Jan. 31, 2008).

the lack of such a credible scenario is made even clearer by noting the fact that what we characterize as the “return leg” actually consists of two parallel piping systems each capable of carrying the entire required outlet flow.<sup>88</sup> Therefore, we find that leaks in the return piping cannot reasonably be expected to cause that piping to fail to satisfy its intended function (as described in 10 C.F.R. § 54.4 et al.), and therefore that the Applicant’s AMP is not deficient for failure to incorporate leak detection mechanisms with regard to such leaks.

#### **IV. CONCLUSION AND ORDER**

Based on the foregoing discussion, the entire evidentiary record, and the parties’ arguments in this proceeding, it is, this 30th day of October 2008, ORDERED that Pilgrim Watch’s Contention 1 is resolved in favor of the Applicant, Entergy, and that this proceeding is terminated. This Initial Decision shall become the final action of the Commission forty (40) days from the date of its issuance, or on December 9, 2008, unless, within fifteen (15) days of its service, a petition for review is filed in accordance with 10 C.F.R. § 2.341(b), or the Commission takes review on its own motion.

THE ATOMIC SAFETY AND  
LICENSING BOARD

Dr. Paul B. Abramson  
ADMINISTRATIVE JUDGE

Dr. Richard F. Cole  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
October 30, 2008<sup>89</sup>

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<sup>88</sup> Tr. at 616-17.

<sup>89</sup> Copies of this Initial Decision and Order were sent this date by e-mail to all participants or counsel for participants.

**Concurring Opinion of  
Administrative Judge Ann Marshall Young  
to Initial Decision Issued October 30, 2008**

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## I. INTRODUCTION

I agree with the result reached in the Majority Decision. In my view, however, the decision would benefit from, and indeed requires, more support in the way of detailed findings of fact, as well as more in-depth analysis of the application of relevant law, including the “reasonable assurance” standard of 10 C.F.R. § 54.29, to those facts. I recount herein the facts that I find to be relevant on the issues presented in Contention 1, and discuss the legal conclusions that I find follow logically from those facts.

I would note that Contention 1 as admitted states:

The Aging Management program proposed in the Pilgrim Application for license renewal is inadequate with regard to aging management of buried pipes and tanks that contain radioactively contaminated water, because it does not provide for monitoring wells that would detect leakage.<sup>1</sup>

As illustrated in the Majority Decision, there were subsequent occasions in which the Licensing Board, or a majority thereof, further clarified or otherwise spoke to the scope of the contention. At bottom, however, the contention deals with the adequacy of Pilgrim’s aging management programs for buried pipes in providing “reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the [Pilgrim] plant’s [current licensing basis],” as required at 10 C.F.R. § 54.29(a), and whether monitoring wells are required in order to provide such “reasonable assurance,” in light of alleged inadequacies.

As the Majority Decision notes, two systems are at issue: the condensate storage system (CSS) and the salt service water system (SSWS or SSW system).<sup>2</sup> The facts regarding the CSS are relatively more straightforward regarding the usefulness of monitoring wells, given the water level checks discussed in the Majority Decision and below. The SSWS, however, presents more nuanced questions regarding the obviously relevant (and broader) issue of how to assure the integrity of pipes that are buried and thus cannot be observed, inspected, or

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<sup>1</sup> LBP-06-23, 64 NRC 257, 315 (2007).

<sup>2</sup> I note Pilgrim Watch’s arguments that the scope of license renewal is not so limited as the Board Majority has viewed it. *See, e.g.*, Pilgrim Watch Post-Hearing Findings of Fact, Conclusions of Law (June 9, 2008) at 3 [hereinafter Pilgrim Watch Proposed Findings]. While the license renewal rules are not a model of clarity and might well have been written more straightforwardly regarding the scope of license renewal, I nonetheless agree that, reading 10 C.F.R. § 54.4 in conjunction with sections 54.21(a) and 54.29(a), only those structures and components that perform the functions listed in section 54.4(a)(1)-(3) are subject to aging management under section 54.21(a)(1). *See* LBP-08-22, Initial Decision, section II.B. And it is licensee “actions” regarding these matters that are subject to the “reasonable assurance” requirement of section 54.29(a).



tested as easily as aboveground pipes. Intervenor Pilgrim Watch's concerns spring largely from this reality. I attempt herein to address these concerns in the course of discussing the facts and law relating to both the CSS and the SSWS, attending to the latter in somewhat greater detail. In the end I am persuaded by the combination of a large number of facts and circumstances regarding both systems, which, taken together, provide the requisite "reasonable assurance," notwithstanding the lack of any probabilistic evidence or numeric level of certainty of the nature Intervenor argues is necessary. This conclusion is based on the following facts and law:

## II. FACTS

Pilgrim's condensate storage system includes two aboveground 275,000-gallon condensate storage tanks, as well as piping, including underground piping, between these tanks and Pilgrim's reactor building auxiliary bay, where the pipes supply water to the reactor core isolation cooling (RCIC) and high pressure coolant injection (HPCI) pumps.<sup>3</sup> These pumps serve to assure adequate cooling of the reactor in the event of anything that interrupts the normal supply of water that cools the reactor, in order to prevent the release of radioactive materials to the environment.<sup>4</sup> The salt service water system serves to cool essential plant equipment by bringing in seawater through an underground intake pipe and ultimately discharging that water via underground discharge piping.<sup>5</sup>

I begin my analysis of the facts regarding these two systems with an overview of Pilgrim's aging management program for underground pipes, then organize the remainder of my discussion into consideration of the facts relating, first, to aging management of external degradation of relevant pipes and tanks, and second, to aging management of internal degradation of underground pipes and tanks, including as well review of several additional issues raised by Intervenor Pilgrim Watch.

### A. Pilgrim Aging Management Program Overview

Pilgrim's aging management programs for buried pipes and tanks that contain or potentially contain radioactively contaminated water are (1) the Buried Piping and Tanks Inspection Program, or BPTIP; (2) the Water Chemistry Control-

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<sup>3</sup> See Exh. 1, Testimony of Alan Cox, Brian Sullivan, Steve Woods, and William Spataro on Pilgrim Watch Contention 1 (Jan. 8, 2008), A24, A27.

<sup>4</sup> See *id.* A28.

<sup>5</sup> See *id.* A31.

BWR<sup>6</sup> Program; (3) the Service Water Integrity Program; and (4) the One-Time Inspection Program. The BPTIP is intended to manage the loss of material due to external degradation of buried pipes, while the other AMPs manage loss of material due to internal degradation of buried pipes.<sup>7</sup>

According to the testimony of Entergy and NRC Staff witnesses, these four programs are, with certain exceptions discussed below,<sup>8</sup> consistent with the Generic Aging Lessons Learned (GALL) Report, NUREG-1801.<sup>9</sup> The NRC Staff developed the GALL Report at the direction of the Commission to provide a basis for evaluating the adequacy of aging management programs for license renewal. It is based on a systematic compilation of plant aging information and an evaluation of aging management program attributes, and identifies programs that the Staff considers acceptable to manage the effects of aging on systems, structures, and components within the scope of license renewal.<sup>10</sup> While the GALL Report is entitled to some weight as an NRC guidance document, it does not have the force of a legally binding regulation and, like any guidance document, may be challenged in an adjudicatory proceeding such as this one.<sup>11</sup> With this in mind, I look next at Pilgrim's programs for managing external and internal degradation of underground pipes.

## **B. Aging Management of External Degradation of Pipes**

Pilgrim's BPTIP addresses the effects of aging caused by corrosion of external surfaces of components buried in soil.<sup>12</sup> It has two parts: first, the use of preventive measures to inhibit the degradation of buried pipe surfaces exposed to soil, such as selection of corrosion resistant materials and/or application of

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<sup>6</sup> "BWR" stands for boiling water reactor, the type of reactor that is at the Pilgrim Nuclear Power Station (hereinafter Pilgrim or PNPS).

<sup>7</sup> Exh. 1, A35, A91-A102; Tr. at 775-77.

<sup>8</sup> See *infra* text accompanying notes 64, 177-179.

<sup>9</sup> Exh. 1, A72, A94, A99, A102, A130; Exh. 39, NRC Staff Testimony of Dr. James A. Davis Concerning Pilgrim Watch Contention 1 (Jan. 29, 2008), A10, A13. The GALL Report is referenced as the technical basis document for NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants." Excerpts of it were introduced as Exhibits 7, 31, 42, 43, and 71.

<sup>10</sup> Exh. 1, A73; Exh. 7, NUREG-1801, "Generic Aging Lessons Learned (GALL) Report," Vol. 1, Rev. 1, & Vol. 2, Rev. 1 (Sept. 2005) (excerpts), at 1-3.

<sup>11</sup> See, e.g., *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-22, 54 NRC 255, 264 (2001); *International Uranium (USA) Corp.* (Request for Materials License Amendment), CLI-00-1, 51 NRC 1, 19 (2000); *Curators of the University of Missouri*, CLI-95-1, 41 NRC 71, 149-50 (1995); see also *infra* note 283.

<sup>12</sup> See Exh. 5, Pilgrim License Renewal Application, App. B (Excerpts), at B-17-B-18; Exh. 39, A10; Exh. 1, A76.

protective coatings;<sup>13</sup> and second, the use of inspections to manage the effects of external surface corrosion on the pressure-retention capability of buried pipes and tanks.<sup>14</sup>

### ***1. Use of Corrosion-Resistant Materials***

The buried CSS piping and the SSWS inlet piping are made of stainless steel and titanium, respectively.<sup>15</sup> According to Entergy and NRC Staff experts, stainless steels are generally resistant to corrosion in soils,<sup>16</sup> and while pitting corrosion can occur on some grades of stainless steel under particular conditions (e.g., high temperatures, high concentrations of chloride, and low pH levels generally less than 4.5), the CSS buried pipe is not exposed to such conditions.<sup>17</sup> According to the same experts, the titanium used in the SSWS inlet piping is immune to corrosion in soils, and it and its alloys are resistant to corrosion from all natural waters and steam to temperatures in excess of 600°F, and exhibit negligible corrosion in seawater to temperatures as high as 500°F.<sup>18</sup> Additionally, the original CSS buried piping and SSWS buried inlet piping were covered with a coal-tar enamel coating,<sup>19</sup> as described below.

The SSWS discharge piping has two loops, designated as loops A and B. The pipe in each loop is made of carbon steel, with the exterior surface covered with a multilayer coal-tar enamel or epoxy coating.<sup>20</sup> These coatings are designed to form a moisture- and chemical-resistant barrier that permanently bonds with the outer surface of the pipe and, if intact, creates a waterproof barrier between the soil and the pipe.<sup>21</sup>

### ***2. Application of Protective Coatings***

Pilgrim's procedures for applying coatings in the shop, before burial, include the following eight steps:

- i. The pipe is first cleaned of all dirt, grease, mill scale, or any loose debris using mechanical means such as an impact wheel or wire brush;

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<sup>13</sup> *Id.* A36.

<sup>14</sup> *Id.*

<sup>15</sup> Exh. 39, A11, A13.

<sup>16</sup> Exh. 1, A39; Tr. at 813; Exh. 39, A13.

<sup>17</sup> Exh. 1, A39.

<sup>18</sup> Exh. 1, A41; Exh. 39, A10.

<sup>19</sup> Exh. 1, A46, A54; Tr. at 720-21.

<sup>20</sup> *See* Exh. 1, A42, A46.

<sup>21</sup> *Id.* A47; *see id.* A37-A65, Tr. at 756-57.

- ii. Following cleaning of the pipe, a layer of primer is painted onto the exterior of the cleaned pipe;
- iii. After applying the primer, a coal-tar enamel coating is applied, at a temperature calculated to ensure that the enamel bonds with the primer to prevent peeling from the pipe;
- iv. The enamel is then visually inspected for uniformity;
- v. Before the enamel cools, fiberglass wrapping is uniformly applied over the enamel to cover the entire outside surface of the enamel;
- vi. An additional layer of coal-tar enamel is applied;
- vii. The second layer of enamel is followed by an outerwrap of insulation; and
- viii. A final layer of heavy Kraft paper is wrapped around the entire pipe to complete the process.<sup>22</sup>

The double wrapping specified for Pilgrim’s buried pipe — one layer of coal-tar coating, followed by fiberglass wrapping, another layer of coal tar, a layer of insulation, and a final layer of heavy Kraft paper — exceeds the standard industry practice for single-wrapping buried piping under normal soil conditions. The coal-tar enamel permanent coating and bonded double outer wrap used at the Pilgrim plant is specifically designed for use on submerged lines, river crossings, and similar installations that experience aggressive environments, or where trench conditions are extraordinarily severe — conditions which, according to Entergy experts, do not exist at the Pilgrim plant.<sup>23</sup>

Pilgrim’s procedures for field installation of coatings at the joints where pipe segments are joined require cleaning by wire-brushing to remove any rust, scale, dust, or dirt, and by solvent to remove oil or grease; applying a layer of primer to the exterior of the cleaned pipe, which is then allowed to dry; and applying a 35-mil-thick coal-tar tape (consisting of a 7-mil polyethylene film backing and 28 mils of adhesive) to the primed surface.<sup>24</sup>

Pilgrim procedures require coatings to be inspected at every stage in the installation process, with visual inspection of the coated piping for any misapplication of the coatings followed by an electrical inspection of the pipe coating by a high-voltage “holiday” detector to identify any voids in the coating. In the field, the pipes are visually inspected upon receipt to ensure that no damage occurred during shipment. Pilgrim Construction Specification No. 6498-M-306, which governs the external coating process used by Entergy for the buried SSWS piping, also provides procedures for conducting field repairs on any shop-applied

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<sup>22</sup> Exh. 6, Specification No. 6498-M-306, “Specification for External Surface Treatment of Underground Metallic Pipe for Unit No. 1 Pilgrim Station No. 600 Boston Edison Co.”; Exh. 1, A46, A48; *see also* Exh. 39, A11.

<sup>23</sup> Exh. 1, A57; *see id.* at A82-A89.

<sup>24</sup> *Id.* A49; Exh. 6 at 3; *see Tr.* at 755-56, 760.

coatings that are found during the field inspection to be damaged.<sup>25</sup> After the pipes are fully joined, assembled in place, with the field joints wrapped, and before covering them with soil, the entire pipe is again tested for voids using the high-voltage holiday detector to assure that field joints are properly wrapped and that the shop-applied coatings were not damaged during installation.<sup>26</sup>

Experience at the Pilgrim plant supports the effectiveness of the coatings used on its underground pipes. In 1999, plant personnel examined the external buried piping coatings on two 40-foot sections of SSWS discharge piping that were replaced more than 25 years after the plant had become operational. The exterior surface of the piping had been wrapped with reinforced fiberglass wrapping, coal-tar-saturated felt, and heavy Kraft paper in accordance with Specification 6498-M-306, as described above. The exterior wrappings of the pipes were found to be in good condition and no external corrosion of the pipes was observed. An examination of the piping after its wrapping was removed revealed that the outside surface of the piping was in its original condition.<sup>27</sup>

An aliphatic amine epoxy coating was used on the two 40-foot replacement sections of the SSWS discharge piping. A minimum of two coats was applied to each length of piping in the shop to achieve a dry thickness of at least 30 mils, and all coated areas were holiday tested after the curing was complete. The joints between the two 40-foot sections and the existing pipe were coated in the field.<sup>28</sup> According to Entergy and Staff experts, the epoxy coating used on the two 40-foot replacement pipes has excellent corrosion resistance that is equal to or superior to the double-wrapped coatings used on the original SSWS discharge piping.<sup>29</sup>

### **3. Industry Experience with Protective Coatings**

According to several NRC publications referenced by Entergy, operating experience at nuclear plants also shows that properly applied coatings not damaged during installation will protect buried piping from external corrosion for many years.<sup>30</sup> Entergy expert Spataro provided specific testimony about industry ex-

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<sup>25</sup> See Exh. 6 at 3-4.

<sup>26</sup> Exh. 1, A51; see Exh. 41, Rebuttal Testimony and Responses to Board Questions of Dr. James A. Davis, Terence L. Chan, and Andrea T. Keim Concerning Pilgrim Watch Contention 1 (Mar. 6, 2008), A12; Tr. at 756.

<sup>27</sup> Exh. 1, A74; see Exh. 39, A9; Tr. at 642.

<sup>28</sup> Exh. 1, A53.

<sup>29</sup> *Id.*; see also Exh. 39, A11.

<sup>30</sup> These include J. I. Braverman et al., Brookhaven National Laboratory, "Risk-Informed Assessment of Degraded Buried Piping Systems in Nuclear Power Plants," NUREG/CR-6876 (2005), which summarizes the operating experience of buried pipes at twelve nuclear power plants; H. Ashar &

*(Continued)*

perience with the coal-tar and epoxy coatings used to protect Pilgrim's buried piping from corrosion,<sup>31</sup> which has demonstrated that, if (1) there is a coal-tar or epoxy coating on the outer surface, (2) the coating was properly applied, and (3) the coating was not damaged during installation, the protective coating will protect piping from exterior degradation.<sup>32</sup> Mr. Spataro indicated that the coatings Pilgrim uses form a barrier that is resistant to moisture and chemicals, and protect against external degradation as long as they remain in place.<sup>33</sup>

According to Mr. Spataro's experience, coal-tar and epoxy coatings in use for 25 years on a buried gas transmission line were found to be in essentially the same condition as when buried, where the coating had been properly applied and not damaged;<sup>34</sup> and coatings in use for 40 years on the hydroelectric dam spill gates for the St. Lawrence Seaway Power Project — coated with the same type of coal tar used on buried pipes at Pilgrim and submerged completely or partially in a flowing river-water environment, subject not only to corrosion but also to erosion from water flow and impact damage from solid objects such as trees and ice floes — were found, after 40 years of service under such conditions, to be in substantially the original condition, still tightly adhered to the steel gates.<sup>35</sup>

#### ***4. Handling Precautions and Protective Environment for Buried Pipe***

Pilgrim's procedures for actual burial of pipes provide additional assurance that protective coatings will remain in place.<sup>36</sup> During installation the pipe is handled with nonabrasive canvas or leather straps, or nylon belts; chains and other abrasive items are prohibited.<sup>37</sup> Additionally, during excavation for construction of the Pilgrim plant, all trees, shrubs, and rocks over 6 inches were removed

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G. Bagchi, Division of Engineering, Office of Nuclear Reactor Regulation, Assessment of Inservice Conditions of Safety-Related Nuclear Plant Structures, NUREG-1522 (June 1995), which reports on operating experience at six older nuclear plants licensed before 1977; and the "Operating Experience" review for buried piping and tanks in the GALL Report. The GALL Report states that "[o]perating experience shows" that a program of protective coatings and opportunistic and periodic inspections to confirm that the coatings are intact is effective in managing the "corrosion of external surfaces of buried steel piping and tanks." Exh. 1, A70-A72; Exh. 42, NUREG-1801, Rev. 1 (Sept. 2005), Excerpt XI.M34, "Buried Piping and Tanks Inspection," at XI M-112.

<sup>31</sup> Exh. 1, A66.

<sup>32</sup> *Id.* A67.

<sup>33</sup> *Id.* A47; *see also id.* A67, A71, A90.

<sup>34</sup> *Id.* A68.

<sup>35</sup> *Id.* A69.

<sup>36</sup> *Id.* A59-A64; Tr. at 755-57.

<sup>37</sup> Exh. 1, A61.

from the soil.<sup>38</sup> These two precautions serve to reduce the corrosivity of the soil surrounding the buried piping at Pilgrim. The resulting soil pH is 6.2 to 6.82 and the chloride content is 210 to 420 parts per million (ppm), which constitutes a nonaggressive soil environment.<sup>39</sup>

In preparation for pipe burial Pilgrim excavates the soil in layers, in order to maintain control of the soil surrounding the pipe. Once a layer of soil is removed, it is stockpiled separately from the other layers. Layers can be as small as 6 inches in depth. The pipe itself is placed on an approximately 6-inch-thick bed of sand or specially engineered fill, which consists mostly of fine aggregate sand and specified amounts of fly ash and cement, and is designed to prevent retention of water by allowing it to percolate through the soil, thus avoiding the buildup of corrosive conditions next to the buried pipe.<sup>40</sup> The pipe is then covered with another layer of sand or specially engineered fill material before being covered by contaminant-free, controlled soil. During backfilling, layers are replaced in the reverse of the order in which they were removed. Generally, soils are replaced and compacted every 6 inches, and after 12 inches of backfill is added, the soil is tested to ensure sufficient compaction.<sup>41</sup>

The Staff agrees with Entergy that it has taken sufficient precautions when burying piping to ensure that the protective coating remains in place.<sup>42</sup>

In addition to surrounding buried pipe with sand or special fill material, two other precautions have been taken at Pilgrim to prevent high levels of moisture in the soils adjacent to buried piping. First, Entergy installed a storm drain system at the time of construction, to prevent the buildup of water. The storm drain system runs throughout the 90-acre Pilgrim plant site and is designed to carry away excess rainwater.<sup>43</sup> Second, all buried pipes are buried above the water table, which ensures that the water percolates down, past the piping, and is taken away with the flow of ground water. The water table at the plant site where the CSS and SSWS piping is buried is approximately 17 feet below the surface.<sup>44</sup> The CSS and SSWS pipes are buried 7 to 10 feet below the surface, well above the water table.<sup>45</sup> In addition, the entire area above the buried piping is covered by asphalt paving.<sup>46</sup>

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<sup>38</sup> *Id.* A83; *see also* Exh. 41, A10. Rocks can cause physical damage to buried structures and plants by releasing compounds during the biodegradation process that may increase soil pH. Exh. 1, A83.

<sup>39</sup> *Id.* A83, A88; *see id.* A82-A89.

<sup>40</sup> *Id.* A63, A83.

<sup>41</sup> *Id.* A62-A63; *see also* Tr. at 756-57.

<sup>42</sup> *See* Exh. 39, A12.

<sup>43</sup> Exh. 1, A84, A85.

<sup>44</sup> Tr. at 757, 839.

<sup>45</sup> Exh. 1, A84, A86.

<sup>46</sup> Tr. at 768.

Because corrosion is significantly enhanced in the presence of an electrolyte, maintaining low moisture content in the soil better ensures a nonaggressive environment for the buried pipe.<sup>47</sup> Thus, considering the pH and high resistivity plus the low chloride concentration and low moisture content, according to Entergy expert Spataro, “at worst the soil is mildly corrosive.”<sup>48</sup>

Pilgrim Watch witness Dr. David Ahlfeld, professor of civil and environmental engineering and expert on groundwater flow and contaminant transport, testified that the water table at the site “is not 17 feet everywhere, I’m sure,” that it varies from place to place, and that Entergy probably doesn’t know the exact situation.<sup>49</sup> Dr. Ahlfeld added that “[i]t’s probably an average of 17 feet,”<sup>50</sup> which is consistent with Entergy’s use of the word “approximately.” But Pilgrim Watch presented no evidence to suggest that the water table, which is an average of 17 feet below grade, would realistically reach as high as 10 feet below grade in any of the areas where any Pilgrim piping is buried.

Pilgrim Watch expert Arnold Gundersen, a nuclear engineer with over 35 years’ experience in the field, suggested that oxygen, moisture, chloride, acidity, and microbes found in the soil all, to one degree or another, corrode piping materials, and that because Pilgrim is located adjacent to Cape Cod Bay, at a low elevation near salty water, the soil surrounding the piping is not “friendly.”<sup>51</sup> However, he provided no specific evidence to contradict the testimony or soil data Entergy provided, indicating a lack of aggressive conditions at the Pilgrim plant. Mr. Gundersen claims that precautions taken by Pilgrim to remove vegetation and place the piping on a bed of sand are futile because “over a period of time vegetation reappears, decays and works its way down to the pipes,” resulting in low pH, and soil above the sand migrates downward mixing with the sand to provide a moist environment.<sup>52</sup> However, because the entire area above the buried piping is covered by asphalt paving,<sup>53</sup> the growth of vegetation will be minimized. Moreover, as indicated above, the soil data provided by Entergy’s witnesses, which Mr. Gundersen does not challenge and which show a pH from 6.2 to 8.2, a moisture content ranging from 5.5% to 8.1%, and a chloride concentration of 210 to 420 ppm, reflect a nonaggressive soil environment.<sup>54</sup>

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<sup>47</sup> Exh. 1, A86, A88; *see also* Tr. at 757-58.

<sup>48</sup> Exh. 1, A89.

<sup>49</sup> Tr. at 857.

<sup>50</sup> *Id.*

<sup>51</sup> Exh. 13, Testimony of Arnold Gundersen Supporting Pilgrim Watch’s Contention 1 (Mar. 6, 2008), A12 (at 23-24).

<sup>52</sup> *Id.* A13 (at 25-26).

<sup>53</sup> Tr. at 768.

<sup>54</sup> Exh. 1, A88.



## 5. *Inspection Program for External Surfaces of Buried Piping*

Pilgrim's BPTIP provides for periodic and opportunistic inspection of the buried piping for the purpose of confirming the continuing integrity of the coatings to protect the exterior surface of the piping from degradation.<sup>55</sup> The periodic and opportunistic inspections provided for by the Pilgrim license renewal BPTIP require that:

- i. Buried components will be inspected when excavated during maintenance.
- ii. Prior to entering the period of extended operation, plant operating experience will be reviewed to verify that an inspection occurred within the past ten years. If not, an inspection will be performed prior to entering the period of extended operation.<sup>56</sup>
- iii. A focused inspection will be performed within the first 10 years of the period of extended operation, unless an opportunistic inspection (or an inspection via a method that allows an assessment of pipe condition without excavation) occurs within this ten-year period.<sup>57</sup>

Thus, Pilgrim's BPTIP requires a minimum of two inspections for buried pipes subject to the BPTIP between 2002 (within 10 years prior to entering the period of extended operation) and 2022 (within the first 10 years of the period of extended operation).<sup>58</sup> Notably, because the current operating license for Pilgrim expires in 2012 and no credit is being taken for prior opportunistic inspections, the in-scope buried piping must be inspected in the next 4 years, and then at least once more in the first 10 years of the period of extended operation.<sup>59</sup> According to Entergy experts William Spataro, an engineer and metallurgist with nearly 40 years' experience in metallurgy, welding, corrosion, and forensic investigation, and Alan Cox, a nuclear engineer with 30 years' experience in the nuclear industry, more frequent inspections would serve no purpose, and would in fact create the potential for damage to the protective coatings on the pipes.<sup>60</sup> Staff expert James Davis, a materials engineer with 39 years' experience and a Ph.D. in metallurgical engineering, agrees that the BPTIP inspection regime of one within 10 years prior to the period of extended operation and at least one inspection during the first

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<sup>55</sup> Exh. 1, A76; *see id.* A75-A77; Tr. at 775.

<sup>56</sup> Entergy witness Alan Cox testified at the evidentiary hearing that Entergy would not be relying upon any previous inspection to satisfy this requirement. Tr. 777. Thus, this pre-extended-operation inspection would occur at some point between the April 10, 2008, evidentiary hearing and the commencement of the proposed period of extended operation in 2012. *Id.*

<sup>57</sup> Exh. 1, A75.

<sup>58</sup> *Id.* A77.

<sup>59</sup> Tr. at 777; Exh. 2, Rebuttal Testimony of Alan Cox, Brian Sullivan, Steve Woods, and William Spataro on Pilgrim Watch Contention 1 (Mar. 6, 2008), A17.

<sup>60</sup> Exh. 1, A76.

10 years of the period of extended operation<sup>61</sup> is sufficient to provide reasonable assurance that the coatings will remain in place and protect against degradation of the outer surfaces of the buried pipe.<sup>62</sup>

The BPTIP is consistent with AMP XI.M34 (entitled “Buried Piping and Tanks Inspection”) in the GALL Report,<sup>63</sup> with one exception that would permit Entergy, in situations where it would otherwise excavate buried piping solely for purposes of inspecting the piping, to instead use techniques, such as phased array ultrasonic testing (UT), that measure wall thickness without requiring excavation.<sup>64</sup> This UT exception, according to Dr. Davis, “uses an array of ultrasonic probes that send ultrasonic waves into the pipe at different angles to determine wall thickness” and the presence of any cracks or discontinuities, and can be done from the inside so as not to subject the piping to the risks of damage from excavation.<sup>65</sup>

Pilgrim Watch expert Gundersen has raised numerous challenges to the adequacy of the inspection regime provided under the BPTIP, claiming that the BPTIP is “vague and nonspecific” and voluntary, and cannot be used to conclude that Entergy will examine any buried piping during the license renewal period.<sup>66</sup> The clear preponderance of the evidence, however, is that license renewal AMPs are in no way voluntary,<sup>67</sup> given that the buried pipe AMP is a commitment made by Entergy in its license renewal application, reflected in a supplement to the Updated Final Safety Analysis Report.<sup>68</sup> Furthermore, implementation of the BPTIP is included in the NRC’s license renewal Safety Evaluation Report on the Pilgrim plant as a commitment.<sup>69</sup>

Expert Gundersen suggests that the entire length of the buried pipe should be inspected.<sup>70</sup> According to the GALL Report, however, and consistent with experience at Pilgrim and in the industry generally, a sampling program to assess and verify the general condition of the coatings is sufficient to provide assurance

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<sup>61</sup> Exh. 39, A9.

<sup>62</sup> See Exh. 39, A17 (“these AMPs provide reasonable assurance that the buried piping containing or potentially containing radioactive liquid at Pilgrim will not develop leaks so great as to prevent them from performing their intended safety function”); see also Exh. 41, A17.

<sup>63</sup> See Exh. 39, A10; Exh. 42; Exh. 45, Pilgrim License Renewal Application Excerpt — B.1.2, “Buried Piping and Tanks Inspection.”

<sup>64</sup> Exh. 39, A10; Exh. 45 at 1.

<sup>65</sup> Exh. 39, A10.

<sup>66</sup> Exh. 14, Declaration of Arnold Gundersen Supporting Pilgrim Watch’s Petition for Contention 1 (Jan. 26, 2008), ¶¶ 9, 12.3.

<sup>67</sup> Exh. 2, A7.

<sup>68</sup> See Exh. 9, Pilgrim License Renewal Application, App. A, § A.2.1.2 (Excerpts).

<sup>69</sup> See Exh. 10, NUREG-1891, “Safety Evaluation Report Related to the License Renewal of Pilgrim Nuclear Power Station” (Sept. 2007, published Nov. 2007), App. A (Excerpts), at A-3 (Commitment 1).

<sup>70</sup> Exh. 14, ¶¶ 12.4.1.2, 12.4.1.3.

that the protective coatings will remain in place without experiencing unexpected degradation.<sup>71</sup> In addition, according to Entergy expert Cox, the excavation that would be required to examine all underground piping poses unnecessary risk of damage to otherwise sound coatings.<sup>72</sup> At the hearing, Mr. Gundersen agreed that an external visual inspection of all the SSWS piping should not actually be undertaken because of the increased risk of damage to the pipes and their coatings.<sup>73</sup>

Mr. Gundersen also asserts that the time interval between inspections proposed for the BPTIP is too long.<sup>74</sup> Pilgrim, however, asserts that the two inspections provided for in the BPTIP between 2002 and 2022, along with further analysis in the event any degradation is identified, supported by its own and general industry experience with buried piping and coatings, provide assurance that the pipes will serve their intended functions during the period of extended operation.<sup>75</sup>

Regarding “opportunistic inspections,” which Mr. Gundersen suggests are not included in the BPTIP,<sup>76</sup> Section B.1.2 of Pilgrim’s Application (which concerns the BPTIP) in fact states that “buried components are inspected when excavated during maintenance.”<sup>77</sup> Also, the GALL Report at AMP XI.M34 provides that “buried piping and tanks are opportunistically inspected whenever they are excavated during maintenance,”<sup>78</sup> and Pilgrim’s BPTIP takes no exception to this provision.<sup>79</sup> Thus Pilgrim’s buried piping is to be inspected whenever there is any excavation for maintenance purposes.<sup>80</sup>

Entergy has also developed a fleetwide procedure, EN-DC-343, Rev. 0, “Buried Piping and Tanks Inspection and Monitoring Program” (“BPTIMP Procedure”) for implementing additional inspections, relating to buried pipes and tanks that if degraded could provide a pathway for radioactive contamination of groundwater, which it contends go beyond what are required in its license renewal AMPs.<sup>81</sup> Entergy points out that these provisions relate to an initiative of the Nuclear Energy Institute to prevent leakage and radioactive contamination of

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<sup>71</sup> Exh. 1, A77; Exh. 2, A17.

<sup>72</sup> Exh. 2, A4.

<sup>73</sup> Tr. at 761.

<sup>74</sup> Exh. 14, ¶ 12.4.5.1.

<sup>75</sup> Exh. 1, A77; Exh. 2, A17.

<sup>76</sup> Exh. 14, ¶ 12.4.5.4.

<sup>77</sup> Exh. 32, Pilgrim License Renewal Application, App. A & B Excerpts), at A.2.1.2, B.1.2.

<sup>78</sup> Exh. 42.

<sup>79</sup> See Exh. 32 at B.1.2; Exh. 2, A18.

<sup>80</sup> Exh. 2, A18.

<sup>81</sup> Exh. 8, Nuclear Management Manual, Procedure No. EN-DC-343, Rev. 0, “Buried Piping and Tanks Inspection and Monitoring Program; Exh. 1, A78-A79; Exh. 2, A5.

groundwater, which Entergy has voluntarily undertaken at all of its nuclear power plants, in addition to (but consolidated with) license renewal requirements.<sup>82</sup>

Expert Gundersen argues that Pilgrim's AMP and BPTIMP Procedure are inadequate because neither requires a baseline review.<sup>83</sup> Entergy and Staff witnesses contend that a baseline inspection for buried piping is not required,<sup>84</sup> but even so, that the installation inspections of the buried piping serve as the baseline inspections, and support an underlying assumption of the BPTIP and BPTIMP inspections that the original external pipe coatings are not degraded from their original condition.<sup>85</sup> Also, as NRC Staff expert Davis testified, there has been the equivalent of a baseline inspection of the buried SSWS piping in accordance with Entergy's construction Specification No. 6498-M-306<sup>86</sup> and post-coating visual inspection of the piping for cracks, dents, and voids in the coating using a high-voltage holiday detector, followed by reinspection in the field prior to burial of the pipes using a high-voltage holiday detector after the pipe sections have been fitted together.<sup>87</sup> Apart from Mr. Gundersen's claims that no baseline inspection has been done, Pilgrim Watch provided no evidence to indicate that Entergy failed to adhere to Entergy Specification No. 6498-M-306 when it coated the buried SSWS piping. Further, Pilgrim Watch failed to point to any regulatory provision that would require a baseline analysis for buried piping, and according to Dr. Davis there is no regulatory requirement that a baseline inspection be conducted.<sup>88</sup>

Mr. Gundersen also charges that the acceptance criteria in the BPTIMP are vague, and that the BPTIP and BPTIMP fail to provide for condition reports to follow up on deficiencies that may be identified by the inspections conducted under the BPTIP or BPTIMP.<sup>89</sup> In response Entergy and Staff experts emphasize that the requirements of 10 C.F.R. Part 50, Appendix B, regarding quality assurance, apply to license renewal AMPs;<sup>90</sup> that Appendix B.0.3 of the Application, which sets forth Pilgrim's Appendix B Corrective Action Program ("CAP"), is applicable to all of the AMPs, including the BPTIP AMP; and that the full panoply of Pilgrim's corrective action program applies to its aging management programs and activities.<sup>91</sup> Thus, condition reports, corrective actions, and root-cause analy-

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<sup>82</sup> See Exh. 2, A5-A6.

<sup>83</sup> Exh. 13 at 31; *see also* Exh. 14, ¶ 12.4.1.

<sup>84</sup> Exh. 41, A12; Exh. 2, A10, A12.

<sup>85</sup> Exh. 2, A11; *see also* Exh. 41, A12.

<sup>86</sup> Exh. 6. *See* text accompanying notes 25, 26, *supra*.

<sup>87</sup> Exh. 41, A12.

<sup>88</sup> *Id.*

<sup>89</sup> Exh. 14, ¶¶ 12.4.7-12.4.10.

<sup>90</sup> Exh. 41, A15; Exh. 2, A24.

<sup>91</sup> Exh. 11, Pilgrim License Renewal Application, App. B, §§ B.0.3-B.0.5; Exh. 2, A24.

ses are all required under the BPTIP and BPTIMP in accordance with Pilgrim's Appendix B Quality Assurance Program.<sup>92</sup> If conditions adverse to quality are detected by inspections, corrective action will be required, which would include increased inspection frequency, if needed, to establish the effectiveness of the corrective action.<sup>93</sup> Staff experts pointed out that NRC resident inspectors will evaluate every condition report created by Entergy in response to any condition adverse to quality.<sup>94</sup> Mr. Gundersen himself recognizes elsewhere in his testimony that Appendix B requires licensees to repair any degradation.<sup>95</sup> Thus, by regulation, a licensee aware of any piping degradation cannot ignore it.

Regarding alleged vagueness,<sup>96</sup> Entergy experts explain that the acceptance criteria for the BPTIP are taken from the GALL Report, and require inspection for "evidence of damaged wrapping or coating defects, such as coating perforation, holidays, or other damage," and the reporting and evaluation of "[a]ny coating and wrapping degradation" in accordance with the Pilgrim's corrective action procedures.<sup>97</sup>

### **C. Aging Management of Internal Degradation of Underground Pipes**

#### ***1. Aging Management of Internal Degradation of CSS Underground Pipes***

Pilgrim uses the Water Chemistry Control-BWR Program and the One-Time Inspection Program for the aging management of internal degradation of the CSS buried pipe.<sup>98</sup> Furthermore, as noted *supra*, the CSS buried pipe is made of stainless steel, which is generally resistant to corrosion.<sup>99</sup>

##### *a. Water Chemistry Control-BWR Program*

The Water Chemistry Control-BWR Program (WCC Program) is designed to optimize the water chemistry in the CSS (among other plant systems) and minimize the potential for loss of material and cracking due to internal corrosion of the system.<sup>100</sup> The WCC Program operates by limiting the levels of contaminants

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<sup>92</sup> Exh. 2, A24, A26-A29.

<sup>93</sup> Exh. 2, A17; Tr. at 649.

<sup>94</sup> Tr. at 649-52.

<sup>95</sup> Exh. 13 at 21.

<sup>96</sup> See Exh. 14, ¶ 12.4.7.

<sup>97</sup> Exh. 2, A25 (quoting GALL Report at XI M-112).

<sup>98</sup> Exh. 1, A91, A101.

<sup>99</sup> Exh. 39, A13.

<sup>100</sup> Exh. 1, A91; Exh. 39, A13.

in the CSS that could cause such loss of material and cracking,<sup>101</sup> in accordance with EPRI BWR water chemistry guidelines,<sup>102</sup> and as specified in the GALL Report.<sup>103</sup> The Staff agrees that the WCC Program is consistent with the GALL Report, § XI.M2, “Water Chemistry.”<sup>104</sup> Under the WCC Program, water quality is continuously monitored and confirmed, and corrective actions are to be taken on a timely basis to address any water quality issues and ensure effective management of corrosion in applicable components.<sup>105</sup>

Pilgrim’s WCC program has been confirmed as effective at managing the effects of aging on the CSS in the plant’s operating experience reviews,<sup>106</sup> as well as by industry operating experience as described in the GALL Report.<sup>107</sup> According to Staff expert Davis, from 1998 through 2004 several condition reports were issued by Pilgrim for adverse trends in parameters monitored by the WCC Program, and Pilgrim personnel took appropriate actions to return the parameters to administrative limits. Moreover, although the parameters had exceeded administrative limits set for the Pilgrim plant, they had not exceeded the EPRI acceptance limits. Pilgrim had set its own administrative limits below the EPRI acceptance limits, so that they could be exceeded for a short time and corrective actions could be taken before the EPRI acceptance limits had been exceeded.<sup>108</sup>

Mr. Gundersen maintains that the WCC Program is a mitigation program that does not provide detection for aging effects and that “[m]ore frequent complete inspections as part of the overall program are the only effective assurance that defects created by aging components will be uncovered.”<sup>109</sup> However, both the GALL Report and the Application expressly identify the WCC Program as an aging management program.<sup>110</sup> Additionally, the One-Time Inspection Program also serves as a check on the effectiveness of the WCC.

*b. One-Time Inspection Program*

The purpose of the One-Time Inspection Program, as applied to the WCC

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<sup>101</sup> Exh. 1, A92.

<sup>102</sup> EPRI is an acronym for the Electric Power Research Institute, which conducts research and issues guidelines on matters of interest to the electric power industry.

<sup>103</sup> Exh. 1, A94.

<sup>104</sup> Exh. 39, A13.

<sup>105</sup> Exh. 1, A93.

<sup>106</sup> See Exh. 5, § B.1.32.2 at B-106-07.

<sup>107</sup> Exh. 7, § XI.M2 at XI M-12, M-13; Exh. 1, A94.

<sup>108</sup> Exh. 39, A14.

<sup>109</sup> Exh. 13, A19.

<sup>110</sup> See Exh. 7, § XI.M2; Exh. 5, § B.1.32.2 at B-106-07.

Program and the CSS, is to “verify the effectiveness of the water chemistry control [AMPs] by confirming that unacceptable cracking, loss of material, and fouling is not occurring.”<sup>111</sup> The One-Time Inspection Program consists of an inspection of a representative sample (based on an assessment of fabrication materials, environment, plausible aging effects, and operating experience) of the interior piping surface, which will be performed prior to the period of extended operation. The inspection locations will be chosen based on identifying those locations most susceptible to aging degradation. Pilgrim’s One-Time Inspection Program comports with the NRC Staff guidance set forth in the GALL Report section for such inspection programs.<sup>112</sup>

*c. Additional Facts Regarding CSS Underground Piping*

Entergy takes two additional actions to ensure the continuing integrity and functioning of the CSS buried piping. First, a water level indicator in each of the two condensate storage tanks is monitored every 4 hours. Second, the water flow rates from the HPCI and RCIC pumps are tested on a quarterly basis, which serves to confirm adequate flow rates through the buried CSS piping.<sup>113</sup>

The water level in each of the two condensate storage tanks is maintained above 30 feet.<sup>114</sup> Corrective action is required if the water level drops below 30 feet.<sup>115</sup> In contrast, only about 11 feet (corresponding to 75,000 gallons) is reserved for the HPCI and RCIC.<sup>116</sup> Consequently, there would have to be about a 20-foot drop in tank level before the capability of the HPCI and RCIC to perform their system functions using water solely from the condensate storage tanks would be impaired.<sup>117</sup> Such a large drop would be detected by the established monitoring frequency of every 4 hours.<sup>118</sup>

Regarding flow rates, the Pilgrim plant safety analysis requires that the HPCI system maintain a water flow rate of 4,250 gallons per minute (GPM) and 400 GPM for the RCIC system.<sup>119</sup> Pursuant to 10 C.F.R. § 50.55a(f)-(g) and Pilgrim’s operating license technical specification surveillance requirements, Entergy undertakes quarterly in-service testing of the HPCI and RCIC systems to confirm the system capability to deliver the minimum required water flows.

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<sup>111</sup> Exh. 5, § B.1.23 at B-76); *see* Exh. 1, A100-A101.

<sup>112</sup> Exh. 1, A102 (citing GALL Report § XI.M32 at XI.M-105).

<sup>113</sup> Exh. 1, A106.

<sup>114</sup> Exh. 12, Entergy’s Answer to Board Questions (Feb. 11, 2008), at 2.

<sup>115</sup> Exh. 1, A111; Exh. 12 at 2; Tr. at 786-88.

<sup>116</sup> Exh. 1, A112.

<sup>117</sup> Exh. 1, A113.

<sup>118</sup> *Id.* A114; *see* Tr. at 788.

<sup>119</sup> Exh. 1, A118.

These quarterly tests ensure that the required water flow rates of 4,250 GPM and 400 GPM, respectively, are met,<sup>120</sup> and can detect a leak in the CSS system piping large enough to prevent the HPCI or RCIC systems from performing their intended function.<sup>121</sup> In addition to the quarterly tests, the flow rates for the HPCI and RCIC systems are confirmed during system testing once every operating cycle following each refueling outage.<sup>122</sup> If the flow rates are not met, Entergy is required to take corrective actions.<sup>123</sup>

Finally, I note that, while the CSS is the preferred source for the HPCI and RCIC systems because it contains a higher quality of water to assure long-term cleanliness of the system, the CSS buried pipes are not seismically or safety-qualified and therefore the CSS is not the “assured source” to be relied upon in the event of an accident.<sup>124</sup> The water source that is relied upon to provide cooling in the event of an accident is the torus, which is seismically qualified.<sup>125</sup>

## **2. *Aging Management of Internal Degradation of SSWS Underground Pipes***

The Salt Service Water System, or SSWS, draws cooling water from Plymouth Bay and transports it to the plant through buried intake piping, and then returns the water to the bay through buried discharge piping.<sup>126</sup> The SSWS is intended to serve as a heat sink for the reactor building closed cooling water (RBCCW) system under both transient and accident conditions by providing a continuous supply of cooling water to the secondary sides of the RBCCW heat exchangers.<sup>127</sup> The SSWS is also credited as part of the assurances for safe shutdown under 10 C.F.R. Part 50, Appendix R fire protection regulations, though the actual function it serves under Appendix R — removing heat from safety equipment — is effectively the same as its other safety function (i.e., serving as a heat sink for the RBCCW system).<sup>128</sup>

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<sup>120</sup> *Id.* A118.

<sup>121</sup> *Id.* A120.

<sup>122</sup> *Id.* A118.

<sup>123</sup> *Id.* A119.

<sup>124</sup> Tr. at 781-82.

<sup>125</sup> *See* Tr. at 781. The torus, a doughnut-shaped vessel at the bottom of the reactor containment, serves not only to provide cooling water to the reactor in the event of an accident, but also, in the event of a loss-of-coolant accident (LOCA), as the receptacle for the mixture of steam and liquid escaping the reactor. In such an accident the steam is injected into the cooler water in the torus, condensing the steam and thereby reducing the pressure.

<sup>126</sup> Exh. 1, A31.

<sup>127</sup> Exh. 58, PNPS-FSAR § 10.7, “Salt Service Water System,” at 10.7-1. The “secondary” side of a heat exchanger is the side that is cooler and receives heat from the “primary” side.

<sup>128</sup> Tr. at 739.



The SSWS is designed with redundancy so that no single active system component failure can prevent the system from performing its intended safety function.<sup>129</sup> Specifically, the SSW system consists of two discharge loops — each designed to be capable on its own of performing the system’s intended safety function.<sup>130</sup>

Entergy witnesses testified that, “although highly unlikely” and contrary to the system’s design, it is possible that the bay water being transported away from the plant in the SSWS discharge piping could become radioactively contaminated.<sup>131</sup> The same cannot reasonably be said of the water in the SSWS inlet piping, however, as that water is taken directly from the bay.<sup>132</sup> Pilgrim Watch expert Gundersen agrees that the discharge piping is the portion of the SSW system that falls within the scope of Contention 1.<sup>133</sup>

*a. SSWS Underground Pipe Liners*

The SSWS discharge piping consists of one 240-foot loop (Loop A) and a second 225-foot loop (Loop B) of 3/8-inch-thick, 22-inch-diameter pipe.<sup>134</sup> The carbon steel base metal of the pipe is supplemented internally by (1) a rubber internal liner that was installed when the pipe was manufactured, and (2) an additional cured-in-place pipe (CIPP) liner that was installed throughout the entire length of Loops A and B in 2003 and 2001, respectively.<sup>135</sup> In addition, prior to the CIPP installation, as noted above, 40-foot sections of Loop A and Loop B were replaced in 1999 with new carbon steel pipe sections, which were coated both internally and externally with an aliphatic amine epoxy.<sup>136</sup>

As originally installed, the internal liner for the SSWS discharge pipe was a rubber sleeve that was put in place as part of pipe fabrication.<sup>137</sup> This liner had an expected life of approximately 20 years.<sup>138</sup> Pilgrim monitored the integrity of the original rubber liner under the Service Water Integrity Program, which was established as part of the in-service inspection requirements for the SSWS

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<sup>129</sup> Exh. 58 at 10.7.2.

<sup>130</sup> Exh. 58 at 10.7.5, 10.7.6.

<sup>131</sup> Exh. 1, A32.

<sup>132</sup> *Id.* A33.

<sup>133</sup> Exh. 13 at 4.

<sup>134</sup> Exh. 1, A42; Tr. at 610-11, 619-20.

<sup>135</sup> Exh. 1, A42-A52; Tr. at 641, 652-53.

<sup>136</sup> Exh. 1, A42, A53; Tr. at 661-62.

<sup>137</sup> Tr. at 652; *see also* Exh. 1, A44.

<sup>138</sup> Exh. 1, A44; Tr. at 655.

developed in response to NRC Generic Letter 89-13, “Service Water System Problems Affecting Safety-Related Components.”<sup>139</sup>

As the original rubber liner approached the end of its expected life, Pilgrim undertook increasingly intensive inspections under the Service Water Integrity Program, prompted initially by a series of refueling outage inspections of the rubber liner, which, beginning in 1995, revealed some degradation of the liner. In 1995 the rubber liner was visually inspected, using a robot crawler fitted with a camera, and minor age-related degradation was found. The rubber liner was reinspected using this same method in 1997, and additional degradation was identified. In 1999 Pilgrim undertook more intensive inspections by sending an inspector into the pipe to do both visual and ultrasonic examinations, with the intent to make any necessary replacements or repairs. In this inspection, it was discovered that a piece of the rubber liner in one of the loops had torn away from the carbon steel, leading to through-wall holes in the pipe.<sup>140</sup> The through-wall holes, which are depicted in a pair of photographs introduced by Pilgrim Watch at the hearing, cover a small portion of the 4”-to-6” by 4”-to-6” pipe sample featured in the photographs.<sup>141</sup> Some thinning near the end of the other pipe was also discovered, which was “slightly below the [minimum wall thickness].”<sup>142</sup> Following this discovery of degradation and small area of through-wall holes in 1999, Entergy replaced 40-foot pipe sections in each loop and made other repairs.<sup>143</sup>

Prior to the 1999 replacement of the two 40-foot sections, the entire rubber liner in the SSWS pipes had been in place since before Pilgrim first commenced operation in 1972,<sup>144</sup> thus exceeding its expected life span.<sup>145</sup> Entergy and NRC Staff experts agree that the corrosion that was discovered in 1999 would not have led to the failure of the SSWS pipe in the event of an earthquake.<sup>146</sup> Mr. Gundersen

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<sup>139</sup> Exh. 1, A44, A98; Exh. 44, NRC Generic Letter 89.13 Re: Service Water System Problems Affecting Safety-Related Equipment (July 8, 2008). Generic Letter 89-13 was issued July 18, 1989. An NRC “generic letter” is a document that addresses a generic issue of some safety or environmental significance, in which licensees may be, e.g., requested to analyze and correct potential problems, or notified of Staff technical or policy positions not previously communicated or broadly understood. See <http://www.nrc.gov/reading-rm/doc-collections/gen-comm/>; <http://www.nrc.gov/reading-rm/doc-collections/gen-comm/gen-letters/> (last visited Oct. 29, 2008).

<sup>140</sup> Exh. 1, A98; Tr. 638.

<sup>141</sup> Exh. 67, Photographs of Corrosion on Pipes at Pilgrim Nuclear Power Station; Tr. at 737-38. The pipe sample shown in the photograph had the rubber liner component removed from it. See Exh. 67; Tr. at 637.

<sup>142</sup> Tr. at 640; see Tr. at 672, 727-31.

<sup>143</sup> Exh. 1, A98; see also Tr. at 638.

<sup>144</sup> Tr. at 754.

<sup>145</sup> Tr. at 655, 755.

<sup>146</sup> Tr. at 670-71.

suggested that such corrosion could cause the pipe to collapse if there were a design basis event, but has not done or seen any analysis that would support this assertion.<sup>147</sup>

Prior to installation of the CIPP liner inside the rubber-lined SSWS Loop B discharge piping in 2001 and Loop A discharge piping in 2003, the entire rubber linings were again visually inspected, to ensure they were still in good enough shape for the installation of the CIPP. The rubber was also scraped to remove any marine matter and roughen the surface so that the rubber would bond properly with the CIPP liner.<sup>148</sup>

The cured-in-place “CIPP” liner is a product designed to be used in old piping as an alternative to replacing or repairing such piping.<sup>149</sup> Nominally 1/2-inch thick, the CIPP liner forms a rigid barrier to protect the carbon steel discharge pipe against internal corrosion. The liner material consists of a nonwoven polyester felt tube, which is saturated with a resin and catalyst system in loop A and an epoxy resin and hardener system in loop B, and which has a polyurethane or polyethylene inner membrane.<sup>150</sup> Based on the service conditions and the design of the CIPP liner, its expected life is approximately 35 years, according to Entergy experts.<sup>151</sup>

According to Entergy expert Spataro, the CIPP liners were installed without excavating the SSWS pipes. The installation was accomplished by pulling the liner, which had been dipped in wet epoxy or resin solution, through the SSWS piping and then filling the CIPP liner with hot water and pressurizing it, so that as it cured, a tight seal was made between the CIPP and the existing SSWS piping’s rubber liner.<sup>152</sup> The liner forms a smooth, hard surface that resists moisture intrusion and abrasion, and is resistant to most chemicals and all waters.<sup>153</sup> According to Mr. Spataro, the CIPP liner, with its cured-in-place epoxy and polyester thermosetting resin, is superior to the rubber liner in its resistance to biofouling and other forms of degradation that might otherwise cause internal corrosion.<sup>154</sup>

CIPP liners such as those used at Pilgrim have been used for many years in many different applications, including power plants, public water supply systems, and wastewater treatment facilities.<sup>155</sup> Mr. Spataro testified that, based

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<sup>147</sup> Tr. at 694-98.

<sup>148</sup> Tr. at 673-76.

<sup>149</sup> Tr. at 741.

<sup>150</sup> Exh. 1, A43.

<sup>151</sup> *Id.* A43, A98; *see also* Tr. at 655.

<sup>152</sup> Tr. at 657-60.

<sup>153</sup> Tr. at 734-35.

<sup>154</sup> Exh. 1, A45.

<sup>155</sup> Tr. at 655, 683-84, 691-92.

on his professional experience with similar materials used under more aggressive conditions than at Pilgrim, he expects Pilgrim's CIPP liners to last at least 35 years.<sup>156</sup> Mr. Spataro stated that the failure mechanism for the CIPP is "flaking" caused by the surface drying resulting from a "volumetric airflow system or exposure to ultraviolet radiation"<sup>157</sup> — an environment that does not exist in the buried SSWS pipe at the Pilgrim plant.<sup>158</sup> A wet environment, such as the environment inside the SSWS discharge pipe, causes "almost no degradation at all," according to Mr. Spataro.<sup>159</sup>

Staff expert Davis agrees that the CIPP liners installed in loops A and B have an expected life of approximately 35 years,<sup>160</sup> and are far superior to the rubber liner.<sup>161</sup> Though "the rubber lining will oxidize with time and will degrade," the "epoxies are much more resistant,"<sup>162</sup> according to Dr. Davis, who says that epoxy liner failures of which he is aware have been "usually for mechanical reasons," and not from corrosion or related degradation.<sup>163</sup>

Mr. Gundersen doubts the reliability of the CIPP liners because they are applied in the field over the rubber sleeves, and questions whether they really have a 35-year life and are still bonded.<sup>164</sup> Mr. Gundersen suggests that some formal documented qualification determination regarding the expected lifespan of CIPP liners in the SSWS piping would be required under NRC regulations,<sup>165</sup> citing 10 C.F.R. Part 50, Appendix B, section II, which concerns quality assurance requirements.<sup>166</sup> Mr. Gundersen also said that, based on his "experience on salt, brackish, and freshwater plants . . . in general saltwater is the worst for any component."<sup>167</sup>

When questioned whether he had any data regarding the impact of these various water environments upon liners like the ones being used in the Pilgrim SSWS piping, however, Mr. Gundersen admitted to having no experience with these types of liners.<sup>168</sup> Entergy expert Spataro, on the other hand, based on his

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<sup>156</sup> Tr. at 681.

<sup>157</sup> Tr. at 682.

<sup>158</sup> *Id.*

<sup>159</sup> Tr. at 683.

<sup>160</sup> Tr. at 669.

<sup>161</sup> Exh. 39, A11.

<sup>162</sup> Tr. at 669.

<sup>163</sup> Tr. at 690.

<sup>164</sup> Tr. at 664-68.

<sup>165</sup> Tr. at 703-05.

<sup>166</sup> Tr. at 749.

<sup>167</sup> Tr. at 705.

<sup>168</sup> Tr. at 666, 668, 706.

experience testified that the specific types of liners being used in the SSWS discharge piping are “resistant to . . . all waters.”<sup>169</sup>

Entergy witnesses did not claim to base their conclusions about the CIPP liner’s expected lifespan upon specific formal documentation, but rather upon experience with comparable liners at other plants, extensive history of use of comparable liners in other industries, information from the liner manufacturer regarding limitations on its usage, and an understanding of the chemical and mechanical properties of the liner and the factors that can cause it to degrade.<sup>170</sup> Mr. Gundersen did not identify any specific regulatory provision(s) that would mandate determination of the liner’s lifespan through the sort of formalized, application-specific process he claimed was absent.<sup>171</sup>

*b. Service Water Integrity Program*

Pilgrim also uses the Service Water Integrity Program for the aging management of internal degradation of its SSWS buried pipe.<sup>172</sup> The Service Water Integrity Program includes surveillance and control techniques to manage the effects of aging on the SSWS and structures and components serviced by the SSWS.<sup>173</sup> Under the program, the components of the SSWS are regularly inspected for internal loss of material and other aging effects that can degrade the system. The inspection program includes provisions for visual inspections, eddy current testing of heat exchanger tubes, ultrasonic testing, radiography, and heat transfer capability testing of the heat exchangers. The periodic inspections include direct visual inspections and video inspections accomplished by inserting a camera-equipped robotic device into the SSWS piping. In addition, chemical treatment using biocides, chlorine, and periodic cleaning and flushing of infrequently used loops are part of this program.<sup>174</sup>

The Service Water Integrity Program will be used to monitor the newly installed CIPP liner.<sup>175</sup> The program is consistent with AMP XI.M20, “Open-

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<sup>169</sup> Exh. 1, A45.

<sup>170</sup> See Tr. at 655, 681-92.

<sup>171</sup> Although Mr. Gundersen, as noted above, did refer to 10 C.F.R. Part 50, Appendix B, § II, as a source of this alleged regulatory requirement, NRC Staff expert Dr. Davis pointed out at the evidentiary hearing that he could not find any such requirement discussed in that regulatory provision, Tr. at 753, nor have I been made aware of any such requirement.

<sup>172</sup> Exh. 1, A95-A96; see also *id.* A44.

<sup>173</sup> *Id.* A95.

<sup>174</sup> *Id.* A96.

<sup>175</sup> *Id.* A98; Exh. 46, Pilgrim License Renewal Application, App. B, § B.1.28, “Service Water Integrity”; Exh. 39, A10.

Cycle Cooling Water System,” in the GALL Report,<sup>176</sup> with two exceptions.<sup>177</sup> One exception permits Entergy not to coat those portions of the SSWS that are made of corrosion-resistant materials — in this case, titanium used in the SSWS intake piping and copper alloys used for certain SSWS components.<sup>178</sup> The second exception would permit inspections to take place every refueling outage (i.e., every 2 years at Pilgrim), rather than both annually *and* during every refueling outage.<sup>179</sup>

According to NRC Staff expert Davis, the Service Water Integrity Program was generated in response to NRC Generic Letter 89-13.<sup>180</sup> Dr. Davis testified that the AMP includes:

surveillance and control of biofouling; a test program to verify heat transfer capabilities; a routine inspection and maintenance program to ensure that corrosion, erosion, protective coating failure, silting, and biofouling cannot degrade the performance of safety-related systems serviced by the open-cycle cooling system; a system walk down inspection to ensure compliance with the licensing basis; and a review of maintenance, operating and training practices and procedures.<sup>181</sup>

The program also contains specific provisions for marine-water systems such as Pilgrim’s Salt Service Water System, which include: (1) visual inspection of the intake structure during each refueling cycle by either scuba divers, dewatering the intake structure, or other comparable method to look for macroscopic biological organisms, sediment, and corrosion and to remove any accumulated fouling; (2) continuous chlorination of, or injection of effective biocides into, the service water system whenever there is a potential for microscopic biofouling; and (3) periodic flushing and flow testing at maximum design flow to check for fouling or clogging.<sup>182</sup>

Regarding flow testing, Entergy expert Brian Sullivan, Pilgrim’s engineering director, who has 24 years’ experience in the nuclear industry, stated that Entergy performs monthly flow-rate testing of the seawater flow through the SSWS.<sup>183</sup> This is done through the RBCCW heat exchanger. The minimum required flow for the test is 4,500 GPM, which ensures that there is adequate water flow through

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<sup>176</sup> NUREG-1801, Vol. 2, Rev. 1 (Sept. 2005) (*see* Exh. 7).

<sup>177</sup> *See* Exh. 46 at 1-2.

<sup>178</sup> *Id.* at 1; Exh. 39, A10.

<sup>179</sup> Exh. 46 at 1-2; Exh. 39, A10.

<sup>180</sup> Exh. 39, A10; *see* Exh. 44.

<sup>181</sup> Exh. 39, A9.

<sup>182</sup> *Id.*

<sup>183</sup> Exh. 1, A122.

the heat exchangers and piping.<sup>184</sup> According to expert Sullivan, the flow rate testing confirms that a leak, should there be any, from the buried piping is not large enough to prevent the system from satisfactorily performing its intended function.<sup>185</sup> Mr. Sullivan further stated that, “[i]f the acceptance criteria for the flow rate test are not met, corrective action will be taken — the problem will be investigated and fixed.”<sup>186</sup>

In addition to the preceding, there are various NRC regulatory requirements that apply to Pilgrim’s SSWS piping, which will, barring alteration via regulatory or operating license amendment, remain applicable during any extended period of operation.<sup>187</sup> For example, as discussed in Generic Letter 89-13,<sup>188</sup> 10 C.F.R. Part 50, Appendix B, § XI (“Test Control”), requires that licensees establish test programs to ensure that all systems, structures, and components will function satisfactorily in accordance with their design requirements and acceptance limits.<sup>189</sup> Such programs must include written test procedures that “incorporate the requirements and acceptance limits contained in applicable design documents,” and, as appropriate, “proof tests prior to installation, preoperational tests, and operational tests during nuclear power plant . . . operation, of structures, systems, and components.”<sup>190</sup> They must also include “provisions for assuring that all prerequisites for the given test have been met, that adequate test instrumentation is available and used, and that the test is performed under suitable environmental conditions.”<sup>191</sup> Test results are to be “documented and evaluated to assure that test requirements have been satisfied.”<sup>192</sup> According to Staff expert Andrea Keim, a materials engineer with 15 years’ experience in that field, including 12 years in the nuclear industry, Entergy has established a test program to meet this requirement.<sup>193</sup>

Moreover, because Pilgrim’s construction permit was issued prior to January 1, 1971, Pilgrim is required to implement an in-service inspection program that complies with 10 C.F.R. § 50.55a(g)(4)-(5) to the extent practicable.<sup>194</sup> Pilgrim’s fourth 10-year in-service inspection program, which applies between July 1, 2005,

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<sup>184</sup> *Id.* A123-A124.

<sup>185</sup> *Id.* A124.

<sup>186</sup> *Id.* A125.

<sup>187</sup> Exh. 40, NRC Staff Testimony of Terence L. Chan and Andrea T. Keim Concerning Pilgrim Watch Contention 1 (Jan. 29, 2008), A16.

<sup>188</sup> Exh. 44.

<sup>189</sup> Exh. 40, A12.

<sup>190</sup> 10 C.F.R. Part 50, App. B, § XI.

<sup>191</sup> *Id.*

<sup>192</sup> *Id.*

<sup>193</sup> Exh. 40, A13.

<sup>194</sup> *Id.* A14a.

and June 30, 2015, was submitted to the NRC by letter dated June 29, 2005.<sup>195</sup> According to Staff expert Terrence Chan, a nuclear and mechanical engineer with nearly 30 years' experience in the nuclear power field, part of Pilgrim's in-service inspection program plan requires that the SSWS be pressure-tested in accordance with the requirements of applicable American Society of Mechanical Engineers (ASME) Code provisions, subject to certain limitations and modifications stated in 10 C.F.R. § 50.55a(b)(2).<sup>196</sup> According to Mr. Chan, Pilgrim's program "provides reasonable assurance of structural integrity and that significant degradation will be identified in a timely manner such that safety related systems will be able to perform their safety function."<sup>197</sup> According to Ms. Keim, NRC inspectors have also recently reviewed various aspects of Pilgrim's SSWS performance, including performance testing results, and did not identify any findings of significance.<sup>198</sup>

Pilgrim Watch challenges Entergy's representations regarding the past history of Pilgrim's Service Water Integrity Program, which would continue to be used during the proposed period of extended operation.<sup>199</sup> Mr. Gundersen claims that "the problem is that the program's effectiveness is ascribed to the fact that there was serious corrosion, which was not identified until after 23 years of operations, and it was identified only as a result of prodding from NRC, Generic Letter 89-13."<sup>200</sup> Mr. Gundersen wonders, "how long [were there] significant corrosion problems and how long [would] the licensee . . . have waited if it were not for the generic letter."<sup>201</sup> He further suggests that the replacement of the two 40-foot sections of SSWS discharge piping in 1999 provides "no indication of the condition of the remainder of these loops," and asserts that the AMP does not define inspection frequencies or other terms with sufficient specificity.<sup>202</sup>

According to NRC Staff expert Keim, however, the March 2006 NRC inspection of the Pilgrim SSWS to verify heat sink performance confirmed Pilgrim's conformance with the guidance found in Generic Letter 89-13 with respect to controls for selected components, and found no significant problems with the system.<sup>203</sup> Also, as described above, the Service Water Integrity Program was effective in detecting degradation of the internal rubber lining in the original SSWS

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<sup>195</sup> *Id.*

<sup>196</sup> *Id.*

<sup>197</sup> *Id.*

<sup>198</sup> *Id.* A14b.

<sup>199</sup> Exh. 13, A19 (at 36-38).

<sup>200</sup> *Id.* A19 (at 37).

<sup>201</sup> *Id.*

<sup>202</sup> *Id.* A19 (at 37-38).

<sup>203</sup> Exh. 40, A14b; *see* Exh. 57, Letter from Clifford Anderson (NRC) to Entergy Re: Pilgrim Nuclear Power Station — NRC Integrated Inspection Report 05000293/2006002 (May 12, 2008), at 4.



carbon steel piping by increasing inspections as the rubber liner approached its expected end of life.<sup>204</sup>

With regard to the CIPP liner, after it has been in service for 10 years — well before the end of its expected 35-year life — Pilgrim will undertake a complete visual examination of the CIPP, analogous to those undertaken for the original rubber lining.<sup>205</sup> Entergy has “gone with a 10-year frequency just to verify and assure that there are no changes in the cured-in-place liner.”<sup>206</sup> The CIPP liner for Loop B would be subject to a complete examination in 2011, before the period of extended operation actually commences. The CIPP liner for Loop A would be subject to a complete examination in 2013, shortly after the period of extended operation commences.<sup>207</sup> According to Entergy expert Sullivan, if the 2011 or any subsequent inspection were to show degradation, a condition report would be written under Pilgrim’s corrective action program, and corrective action would be taken as required, including increased inspection frequency, to ensure that the SSWS continued to meet its safety function and licensing basis.<sup>208</sup> Staff experts Chan and Davis testified that NRC resident inspectors would evaluate every condition report created by Entergy in response to a condition adverse to quality.<sup>209</sup> Finally, the current ISI program for the SSWS requires a complete ultrasonic or visual examination of the CIPP when the CIPP liner reaches 20 years of service life.<sup>210</sup>

Pilgrim Watch and Mr. Gundersen agree that a 10-year interval for internal inspection of the whole pipe is sufficient, but argue that the 10-year period should be divided up so that each refueling outage a one-sixth portion of the pipe is examined.<sup>211</sup> Staff and Entergy argue that this is not necessary and that Entergy’s current plans are adequate to provide reasonable assurance that the SSWS safety function will not be lost due to degradation of the CIPP liner and internal corrosion of the SSWS discharge pipe.<sup>212</sup>

It is clear that the only way that SSWS pipe corrosion might trigger the loss of SSWS safety function would be a total collapse of both discharge pipes so that

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<sup>204</sup> Tr. at 636; Exh. 1, A44, A98.

<sup>205</sup> Tr. at 648, 774, 776.

<sup>206</sup> Tr. at 648.

<sup>207</sup> *Id.*

<sup>208</sup> Tr. at 649; Exh. 2, A17.

<sup>209</sup> Tr. at 649-52.

<sup>210</sup> Exh. 1, A98.

<sup>211</sup> Tr. at 722; Pilgrim Watch Proposed Findings at 65.

<sup>212</sup> See Entergy’s Reply to Pilgrim Watch’s Proposed Post-Hearing Findings of Fact and Conclusions of Law on Contention 1 (June 23, 2008) [hereinafter Entergy Reply Findings] at 20; NRC Staff’s Response to Pilgrim Watch’s Proposed Findings of Fact and Conclusions of Law (June 23, 2008) [hereinafter Staff Response Findings] at 19.

the flow path was completely blocked.<sup>213</sup> According to Entergy experts, this is not a credible failure scenario, and they are not aware of any historical information suggesting that such a failure might occur.<sup>214</sup> For such a failure to occur, the 1/2-inch-thick CIPP liner would have to be degraded such that it no longer protected the carbon steel pipe from the seawater, in a large enough area to lead to collapse. However, as noted above, according to Entergy witness Spataro the CIPP liner is not subject to degradation and failure in seawater,<sup>215</sup> and any wearing or erosion of the CIPP liner would be at such a slow rate that it would take many years for it to erode.<sup>216</sup> Further, according to Entergy and Staff witnesses, even if corrosion of the pipe were to occur, such corrosion would typically be localized and very unlikely to threaten the integrity of the pipe such that it would collapse.<sup>217</sup>

#### **D. Additional Issues Raised by Intervenor**

##### ***1. Cathodic Protection***

Pilgrim Watch and Mr. Gundersen claim, referring to the GALL Report § XI.M28, that in order to reduce corrosion rates and the likelihood of leaks Entergy can and should backfit the SSW system and CSS buried pipes with cathodic protection.<sup>218</sup> According to Entergy and NRC Staff experts, however, the cathodic protection program contained in the GALL Report is simply one of two *alternative* methods that the Report recommends for protecting buried piping against external corrosion.<sup>219</sup> Entergy has chosen to utilize the other of the two alternative GALL AMPs — which relies upon visual inspections rather than cathodic protection — and Pilgrim’s external corrosion management program thus complies with the GALL Report without utilizing cathodic protection.<sup>220</sup> According to Staff expert Davis, the author of the BPTIP AMP in the GALL Report, the risks associated with a cathodic protection system causing an unscheduled plant shutdown led to the alternative to cathodic protection that is described in section XI.M34.<sup>221</sup> According to Dr. Davis, caution must be exercised when backfitting cathodic protection to an existing plant in order to avoid stray current corrosion — a

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<sup>213</sup> *See, e.g.*, Tr. at 610.

<sup>214</sup> Tr. at 610, 612; Exh. 12 at 6.

<sup>215</sup> Tr. at 685-88.

<sup>216</sup> Tr. at 687.

<sup>217</sup> Tr. at 727-31.

<sup>218</sup> Exh. 14, ¶¶ 12.4.11, 18.2; Exh. 13 at 53; Tr. at 761-63; *see also* Exh. 71, GALL Report § XI.M.28. According to the GALL Report, “cathodic protection imposes a current from an anode onto the pipe or tank to stop corrosion from occurring at defects in the coating.” Exh. 71.

<sup>219</sup> Tr. at 768-72.

<sup>220</sup> *Id.*

<sup>221</sup> Tr. at 769-72.

process that, if not properly guarded against, could create a through-wall hole in a nearby pipe “in a matter of weeks.”<sup>222</sup>

## **2. Tritium Discovery at Pilgrim**

Pilgrim Watch asserts that tritium discovered in the groundwater at Pilgrim indicates the presence of leaks in Pilgrim’s buried piping or at least the possibility that such leaks are occurring.<sup>223</sup> Expert Gundersen admits, however, that the precise source of the tritium is currently unknown.<sup>224</sup> It is possible that the tritium could be coming from the SSWS, but because it is only a possibility and not a certainty that the SSWS could become contaminated with radioactivity, it is more likely that the presence of tritium in the groundwater indicates some level of leakage in another system that contains radioactive water by design.

## **3. Relevance of Small Leaks**

Pilgrim Watch has argued that small leaks could indicate a problem that could lead to SSWS discharge piping failure that would prevent that piping from performing its intended safety functions.<sup>225</sup> The NRC Staff argues, however, that, so long as cooling water is able to leave the plant and take safety-system heat with it, this is all that is significant for license renewal purposes.<sup>226</sup> Staff agrees that even minor leakage from the SSWS buried discharge piping would require correction under NRC’s corrective action requirements, which apply to all operating reactors, but argues that this is a current operating issue, not a license renewal issue, and so is not material to the instant license renewal proceedings.<sup>227</sup>

Pilgrim Watch expert Gundersen also suggests that small leaks in the buried SSWS discharge piping have the potential to grow into bigger leaks that could challenge the ability of the piping to perform its heat removal function.<sup>228</sup> Accord-

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<sup>222</sup> Tr. at 771.

<sup>223</sup> See, e.g., Exh. 14, ¶¶ 16-17.

<sup>224</sup> Exh. 14, ¶ 16.

<sup>225</sup> See, e.g., Exh. 13, A6, A16.

<sup>226</sup> See NRC Staff Proposed Findings of Fact and Conclusions of Law and Order in the Form of an Initial Decision (June 9, 2008) [hereinafter Staff Proposed Findings] at 35.

<sup>227</sup> *Id.* (citing 10 C.F.R. Part 50, App. B, § XVI (“Corrective Action”).)

<sup>228</sup> Exh. 14, ¶¶ 16-17. Pilgrim Watch also contends in its Statement of Position that functions of all buried pipes include prevention of radioactive contamination of groundwater and protection against the site becoming a “legacy site” in the future due to such contamination. Pilgrim Watch Presents Statements of Position, Direct Testimony and Exhibits Under 10 CFR 2.1207 [Modified Per Request ASLB Order of February 21, 2008, section c, page 2] (Mar. 3, 2008) [hereinafter Pilgrim Watch

*(Continued)*

ing to Mr. Gundersen's prefiled testimony, "[l]eaks not only increase in flow, but in fact the rate of expansion for leaks actually accelerates once a pinhole has been created in the pipe or tank wall."<sup>229</sup> According to Staff corrosion expert Davis, however, leaks in coated buried pipes generally do not expand substantially beyond the portion of the pipe where the pipe's coating has failed.<sup>230</sup> Also, according to Entergy expert Spataro, in the case of the SSWS buried piping degradation that occurred in the past at Pilgrim and that was reflected in the photographs introduced at the evidentiary hearing, there did not appear to be substantial lateral expansion of the holes.<sup>231</sup>

Pilgrim Watch puts forth another theory of how small leaks could cause license-renewal-relevant problems in the buried SSWS piping. This theory proposes that a hole in buried piping could lead to matter *entering* the pipe and causing the piping to become blocked, thereby preventing the piping from performing its intended safety function.<sup>232</sup> However, Mr. Gundersen provided no explanation as to how this "Venturi" effect would realistically lead to major blockage in the 22-inch-diameter SSWS buried piping.<sup>233</sup> It is also not clear that Mr. Gundersen had the SSWS piping in mind when putting forth his Venturi effect blockage theory, given that his prefiled testimony regarding this effect did not specifically discuss the SSWS piping.<sup>234</sup> Moreover, he conceded at the hearing that he had not conducted any analysis to determine whether, given pressure characteristics and other relevant factors, it was possible for material to enter the Pilgrim piping through a hole.<sup>235</sup> Mr. Gundersen also did not question the ability of SSWS pipe-pressure testing (which, as discussed above, is part of Pilgrim's in-service inspection program) to determine whether blockage was occurring in the SSWS

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Statement] at 90. While clearly these are legitimate functions of buried piping that contains, or may contain, radioactive water, this does not mean that these functions fall within the relatively narrow range of functions that are relevant for purposes of license renewal. As was noted in LBP-06-23, 64 NRC at 310, radioactive contamination of groundwater *per se* is not material to the issues in this renewal proceeding.

<sup>229</sup> Exh. 14, ¶ 16.

<sup>230</sup> Tr. at 729.

<sup>231</sup> Tr. at 726.

<sup>232</sup> Exh. 14, ¶ 17.2; Exh. 13 at 17-18.

<sup>233</sup> See Tr. at 610.

<sup>234</sup> See Exh. 14, ¶ 17.2; Exh. 13 at 17-18.

<sup>235</sup> Tr. at 809. He relied on an event at the Millstone plant as the real-life basis for his postulated scenario, but admitted that Millstone was indeed able to achieve and maintain safe shutdown. Tr. at 825. In addition, Mr. Gundersen testified that he would expect that the contaminants involved in the Millstone event would not be the same as the material that, in his postulated scenario, would potentially enter the CSS buried piping at Pilgrim. Tr. at 811. Finally, when Entergy's experts testified that Pilgrim could still achieve and maintain safe shutdown if faced with his postulated scenario, Mr. Gundersen agreed that their testimony was accurate. Tr. at 825-27.

buried piping due to Venturi-effect-related material or otherwise. Finally, again, because of the redundancy of the SSWS, blockage would need to occur in *both* SSWS discharge loops at the same time — and go undetected in both despite any pressure testing and inspections — in order for the intended safety functions of the SSWS to be compromised.

Mr. Gundersen also suggested that, even if small leaks do not grow into large ones, they could undermine the structural soundness of the SSWS piping and thus lead to failure in a design basis earthquake — i.e., “[t]he hole or holes act as stress risers and increase the likelihood of gross failure under the stress of accident conditions.”<sup>236</sup> According to Mr. Gundersen, the only design basis event of significant concern to him with respect to this “stress riser” theory would be a design basis earthquake.<sup>237</sup> He believes that the through-holes discovered in 1999 raise concern that the SSWS pipes could fail in the event of such an earthquake, but has not conducted any analysis to determine the likelihood of this.<sup>238</sup> He stated that his failure scenario was based upon analyses that people who have worked for him have done in the past, but he did not provide any specifics regarding this research, and indicated that this research would not have looked at holes of the size that are depicted in the photographs.<sup>239</sup>

According to Entergy experts Spataro and Cox, in their experience holes in buried piping have not led to overall structural weakness of the piping (e.g., due to thinning of areas of the piping that have not developed through-wall holes).<sup>240</sup> In addition, Staff expert Chan indicated that, in his experience, Staff analysis of degraded piping has not revealed an inability of the degraded piping to withstand design-basis seismic events.<sup>241</sup> Moreover, Mr. Gundersen acknowledged that the lateral progression of any degradation would be less than degradation through a pipe.<sup>242</sup>

Pilgrim Watch also contended in its Initial Statement of Position that a concept known as “leak before break” applies to the buried piping at Pilgrim.<sup>243</sup> Pilgrim Watch did not, however, provide any actual evidence to explain this “leak before break” concept, or to show that the concept applies to the buried SSWS discharge piping at Pilgrim. To the contrary, NRC Staff expert Davis stated that the “leak

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<sup>236</sup> Exh. 14, ¶¶ 17.3, 17.3.1; *see* Exh. 13, A10 (at 19-20).

<sup>237</sup> Tr. at 718.

<sup>238</sup> Tr. at 694-95.

<sup>239</sup> Tr. at 696.

<sup>240</sup> *See* Tr. at 727-28, 737-38.

<sup>241</sup> *Id.* at 730-31.

<sup>242</sup> Tr. at 732.

<sup>243</sup> Pilgrim Watch Statement at 19.

before break” concept is not applicable to the SSWS, as it applies only to “high energy piping” in pressurized water reactors.<sup>244</sup>

Likewise, regarding Pilgrim Watch’s claims that failure to address flow-accelerated corrosion (FAC) is a deficiency in Entergy’s buried pipes and tanks AMPs,<sup>245</sup> according to NRC Staff expert Davis FAC “has never been observed in service water piping or buried condensate storage piping,” is a concern only in “high-energy piping systems,” and neither the CSS nor the SSWS buried discharge piping qualifies as such.<sup>246</sup> Pilgrim Watch, meanwhile, provides no evidence linking the FAC phenomenon specifically to the buried SSWS discharge piping.

#### **4. Rates of Aging and Corrosion**

Pilgrim Watch has also argued, and presented the testimony of expert Gundersen, to the effect that the buried piping at Pilgrim, as well as that piping’s “wraps and coatings,” would exhibit so-called “bathtub curve” behavior, rather than linear aging behavior, and would fall within the “wear out phase” of the bathtub curve during the proposed period of extended operation.<sup>247</sup> Mr. Gundersen did not attempt to explain specifically why this would be true for any particular buried pipe or pipe coating, but rather suggested that “[t]his adjudication process must flush out the precise age of each part of the pipes, wraps and coatings and provide documents from the manufacturer certifying their life expectancy.”<sup>248</sup>

NRC Staff expert Davis testified that the very purpose of Pilgrim’s BPTIP “is to prevent [the wear out phase] of the bathtub curve from occurring,”<sup>249</sup> and Entergy does not appear to make any claim that aging of its SSWS buried discharge piping would be “linear.” Further, Mr. Gundersen’s bathtub curve analysis is limited to generalizations about unspecified pipes and coatings, rather than specific analysis of the actual pipes and coatings being used at Pilgrim. Moreover, as discussed above, Mr. Gundersen admits having no experience with the CIPP liners that are the current interior coating mechanism for the SSWS buried discharge piping.

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<sup>244</sup> Exh. 41, A6.

<sup>245</sup> Pilgrim Watch Statement at 32-33.

<sup>246</sup> Exh. 41, A5.

<sup>247</sup> Exh. 13 at 22.

<sup>248</sup> *Id.*

<sup>249</sup> Exh. 41, A9.

## 5. *Leakage Events at Other Plants*

Pilgrim Watch claims that several occurrences at other nuclear plants support its claims that the Pilgrim buried pipe and tank AMPs are insufficient.<sup>250</sup> These include a reference to a pipe leak at the Byron Nuclear Power Station as well as discoveries of radioactivity in the groundwater at additional plant sites. Pilgrim Watch did not, however, provide any evidence to show that the fact of a leak at Byron reveals any material information about the risk of leaks in the Pilgrim buried SSWS discharge piping. Indeed, according to testimony from Entergy experts, “(1) the piping at Byron was not buried and (2) the piping was not wrapped.”<sup>251</sup>

## 6. *Monitoring Wells*

Finally, I note Pilgrim Watch expert Ahlfeld’s testimony that leakage of nonradioactive contents of the SSWS buried discharge piping could be detected via monitoring wells.<sup>252</sup> It appears that the potential exists that Entergy could add to its AMPs with respect to the SSWS buried discharge piping by utilizing monitoring wells to check for increased concentration of such things as chloride in the Pilgrim ground water, the presence of which might indicate that the saltwater in the SSWS piping may be leaking. However, as Entergy points out, the SSWS discharge piping runs near the intake embayment and into the discharge canal, both of which contain saltwater.<sup>253</sup> Therefore, it would be difficult to discern whether salt levels in a monitoring well were attributable to a leak rather than the influences of the adjacent water bodies.<sup>254</sup> In addition, the SSWS discharge lines are each over 200 feet long, and attempting to use monitoring wells to detect leakage from this span would be difficult and inefficient. In contrast, the monthly SSWS flow-rate tests check the water flow through the SSWS buried piping, and serve as a check on the water that flows through the discharge pipes.<sup>255</sup>

Nor would a monitoring well be more effective than the condensate storage tank water level monitoring program in detecting a leak in the CSS buried piping. As noted above, this monitoring is performed every 4 hours, which is

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<sup>250</sup> See, e.g., Pilgrim Watch Statement at 22-23; Exh. 14, ¶ 15; Exh. 20, Liquid Radioactive Release Lessons Learned Task Force Final Report Excerpts (Sept. 1, 2006); Exh. 25, NRC Preliminary Notification of Even or Unusual Occurrence, PNO-III-07-21, “Both Units at Byron Shut Down Due to Leak in Pipe” (Oct. 23, 2007) and Union of Concerned Scientists, “Help Wanted: Dutch Boy at Byron” (Oct. 25, 2007); Exh. 36, Event Notification Report, No. 43832, Palisades (Dec. 10, 2007).

<sup>251</sup> Exh. 2, A34.

<sup>252</sup> Tr. at 763, 766.

<sup>253</sup> Entergy Reply at R35.

<sup>254</sup> Exh. 1, A127.

<sup>255</sup> *Id.* A127, A129.

substantially more frequent than would be a sampling program for monitoring wells, as suggested by Pilgrim Watch expert Ahlfeld.<sup>256</sup> The water level check would directly and quickly detect any leak significant enough to impair the intended functions of the CSS,<sup>257</sup> whereas, depending on the location of a leak, it might take considerable time for radioactive water to reach, and be detectable in, a monitoring well.

## II. APPLICATION OF RELEVANT LAW TO FACTS

### A. “Reasonable Assurance” Standard

Before applying relevant license renewal law to the preceding facts, I note that the parties are in disagreement on the proper interpretation of the words, “reasonable assurance,” as used in 10 C.F.R. § 54.29, in this license renewal proceeding. Under section 54.29(a), an applicant must demonstrate that “[a]ctions have been identified and have been or will be taken with respect to” its aging management program(s) and any required “time-limited aging analyses” (not at issue herein) such that “there is *reasonable assurance* that the activities authorized by the renewed license will continue to be conducted in accordance with the [current licensing basis].”<sup>258</sup>

Pilgrim Watch argues that the term, “reasonable assurance,” should be interpreted to require the Applicant to “show, by a preponderance of the evidence, that there is at least a 95% level of certainty that the effects of aging will be managed so that the intended function of the pipes will be maintained consistent with the CLB during the license extension.”<sup>259</sup> Intervenor also argues that there must be a “95% Level of Confidence,” and a “95 percent probability,”<sup>260</sup> citing case law including the 1993 Supreme Court decision, *Daubert v. Merrell Dow Pharmaceuticals*, in support of its argument, and referring to a transcript of a meeting of the Advisory Committee on Reactor Safeguards (ACRS) in which a “95 percent confidence” criterion for “reasonable assurance” is discussed.<sup>261</sup>

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<sup>256</sup> *Id.* A129; *see id.* A116.

<sup>257</sup> *Id.* A116; *see also id.* A121, A129.

<sup>258</sup> 10 C.F.R. § 54.29(a) (emphasis added).

<sup>259</sup> Pilgrim Watch Proposed Findings at 68.

<sup>260</sup> *Id.* at 69.

<sup>261</sup> *Id.* at 69-70 (citing *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579, 592 (1993); Exh. 17, Transcript of Sept 6, 2001, ACRS Meeting). Pilgrim Watch also cites the Texas Supreme Court’s decision in *Merrell Dow Pharmaceuticals, Inc., v. Havner*, 953 S.W.2d 706, 723-24 (Tex. 1997), and the unreported decision of the District of Columbia Superior Court in *United States v. Chase*, 2005 WL 757259 (Jan. 10, 2005 D.C. Super. Ct.). Pilgrim Watch Proposed Findings at 69.



NRC Staff points out, regarding the reasonable assurance standard of section 54.29(a), that “[a]lthough reasonable assurance appears in many areas of the Commission case law and regulations, it is not specifically defined in either the Atomic Energy Act or the Commission’s regulations,”<sup>262</sup> and that Pilgrim Watch has cited no Commission rule or case law to support its view.<sup>263</sup> Staff cites case law authority for the proposition that “reasonable assurance” does not mean zero risk or absolute certainty,<sup>264</sup> and that, with respect to reasonable assurance of adequate protection of public health and safety, it is a determination to be made on a case-by-case basis.<sup>265</sup> Staff argues that reasonable assurance is “based upon technical judgment, not application of a mechanical verbal formula, a set of objective standards, or a specific confidence interval,”<sup>266</sup> noting that the Commission “has explicitly stated that reasonable assurance does not denote a specific statistical parameter,” and urging that the standard is a “flexible” one that “does not require focus on extreme values or precise quantification of parameters to a high degree of confidence.”<sup>267</sup> The “touchstone,” Staff contends, of “reasonable assurance of adequate protection of public health and safety” is “compliance with the Commission’s regulations.”<sup>268</sup> Moreover, according to Staff, an “adequate aging management program” is one that “monitors the performance and condition of [structures and components] subject to aging mechanisms in a manner that allows for the timely identification and correction of degraded conditions.”<sup>269</sup>

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<sup>262</sup> Staff Proposed Findings at 14.

<sup>263</sup> *Id.* at 15 n.50.

<sup>264</sup> *Id.* at 14 (citing *Nader v. Ray*, 363 F. Supp. 946, 954 (D.D.C. 1973); *North Anna Environmental Coalition v. NRC*, 533 F.2d 655, 667 (D.C. Cir. 1975) (rejecting the argument that reasonable assurance requires proof beyond a reasonable doubt and noting that the licensing board equated “reasonable assurance” with “a clear preponderance of the evidence”)).

<sup>265</sup> *Id.* (citing *Union of Concerned Scientists v. NRC*, 880 F.2d 552, 558 (D.C. Cir. 1989) (stating that “adequate protection” may be given content through case-by-case applications of technical judgment and that Congress neither defined nor commanded the Commission to define adequate protection); Revision of Backfitting Process for Power Reactors, 53 Fed. Reg. 20,603, 20,605 (June 6, 1988) (stating that like “adequate protection,” “reasonable assurance” is a determination based upon full consideration of all relevant information)).

<sup>266</sup> *Id.* at 14-15 (citing *Union of Concerned Scientists*, 880 F.2d at 558; *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-07-17, 66 NRC 327, 340 (2007)).

<sup>267</sup> *Id.* at 15 (citing Disposal of High-Level Radioactive Wastes in a Proposed Geologic Repository at Yucca Mountain, Nevada, 66 Fed. Reg. 55,732, 55,739-40 (Nov. 2, 2001)).

<sup>268</sup> *Id.* (citing *Oyster Creek*, LBP-07-17, 66 NRC at 340, *Maine Yankee Atomic Power Co.* (Maine Yankee Atomic Power Station), ALAB-161, 6 AEC 1003, 1009 (1973)). Staff argues that we should, as the Licensing Board did in the *Oyster Creek* case with similar arguments, find Pilgrim Watch’s arguments to the contrary to be “without merit and without any basis in Commission regulations or case law.” *Id.* at 15 n.50 (citing *Oyster Creek*, LBP-07-17, 66 NRC at 340 n.18).

<sup>269</sup> *Id.* at 15 (citing 60 Fed. Reg. 22,461, 22,469 (May 8, 1995)).

Entergy makes some of the same arguments as those of the NRC Staff,<sup>270</sup> and also argues that “reasonable assurance” requires that it prove its case by the “preponderance of the evidence” standard common to NRC proceedings, which has been interpreted as requiring “only that the record underlying a finding makes it slightly more likely than not.”<sup>271</sup>

Based on relevant legal authority, I conclude, as Staff and Entergy argue, that the “reasonable assurance” standard of 10 C.F.R. § 54.29(a) must be determined on a case-by-case basis. Pilgrim Watch’s arguments to the contrary are not supported by any law of which I am aware.<sup>272</sup> On the other hand, while the preponderance of the evidence standard obviously applies in this proceeding,<sup>273</sup> this standard in this or any license renewal proceeding means only that there must be a preponderance of the evidence that there *is* the required “reasonable assurance” — it does not define what level or degree of “assurance” constitutes a “reasonable” level of assurance. And while I do not find Intervenor’s argument on this to be supported by law, it does not follow that “reasonable assurance” necessarily means only a 51% level of certainty or assurance that “the activities authorized by the renewed license will continue to be conducted in accordance with the [current licensing basis].”

Indeed, to use numeric references in a case in which there is no evidence from any party regarding any mathematical probabilities — and in which, as Intervenor has argued, it may be unlikely that such mathematical probabilities could be determined with a high degree of confidence in light of the absence of

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<sup>270</sup> Entergy’s Proposed Findings of Fact and Conclusions of Law on Pilgrim Watch Contention 1 (June 9, 2008) [hereinafter Entergy Proposed Findings] at 10.

<sup>271</sup> *Id.* at 9 (citing *Advanced Medical Systems, Inc.* (One Factory Row, Geneva, Ohio 44041), CLI-94-6, 39 NRC 285, 302 & n.22 (1994); *Oyster Creek*, LBP-07-17, 66 NRC at 340, 371; *Commonwealth Edison Co. (Zion Nuclear Power Station, Units 1 and 2)*, ALAB-616, 12 NRC 419, 421 (1980); *Inquiry into Three Mile Island Unit 2 Leak Rate Data Falsification*, LBP-87-15, 25 NRC 671, 690 (1987)).

<sup>272</sup> I note that the *Daubert* decision — in which the Court dealt with the question of the appropriate standard for the admission of expert testimony, held that the prior standard of “general acceptance” was “not a necessary precondition to the admissibility of scientific evidence under the Federal Rules of Evidence,” and placed on trial judges the “task of ensuring that an expert’s testimony both rests on a reliable foundation and is relevant,” 509 U.S. at 597 — nowhere contains any reference to a “95% probability” or a “95% level of certainty” or “confidence.” Nor do the other cases cited by Pilgrim Watch support its argument, dealing rather with, e.g., how statistical evidence can play into proving causation. See *Havner*, 953 S.W.2d at 715.

<sup>273</sup> See, e.g., *Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), LBP-05-10, 61 NRC 241 (2005); *Connecticut Yankee Atomic Power Co.* (Haddam Neck Plant), LBP-03-18, 58 NRC 262 (2003); *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-763, 19 NRC 571, 577, review declined, CLI-84-14, 20 NRC 285 (1984). Intervenor does not dispute the appropriateness of this standard. See *supra* text accompanying note 259.

experience with reactors 40 to 60 years old<sup>274</sup> — is not particularly helpful in this proceeding. I am not persuaded, however, by Intervenor’s argument to the effect that this uncertainty somehow suggests that “reasonable assurance” cannot be determined in a license renewal case.

I note Intervenor’s reference to certain language of the Commission in the *Turkey Point* case, to the effect that applicants for license renewal must “demonstrate how their programs *will be effective* in managing the effect of aging during the period of extended operations,” and “identify any additional actions . . . that *will need to be taken* to manage adequately the detrimental effects of aging.”<sup>275</sup> I do not, however, interpret this as requiring the “95% level of certainty” argued by Intervenor. I also note, regarding additional case law cited by Intervenor, namely, *North Anna Environmental Coalition v. NRC*,<sup>276</sup> that the U.S. Court of Appeals for the D.C. Circuit in that case rejected an argument that the “reasonable assurance” standard (in a construction permit case) should be interpreted to require proof “beyond a reasonable doubt.” The Court cited the U.S. Supreme Court’s finding, in *Power Reactor Development Co. v. International Union of Electrical, Radio and Machine Workers*,<sup>277</sup> of an argument that “reasonable assurance” should require a “compelling reasons” standard, to be without merit.<sup>278</sup> The D.C. Circuit stated that “[n]either the Atomic Energy Act nor the regulations require totally risk-free siting,”<sup>279</sup> noting that such “absolute positions and arguments . . . have been rejected by the courts.”<sup>280</sup>

As the D.C. Circuit observed a year earlier, “[a]bsolute or perfect assurances are not required by AEA, and neither present technology nor public policy admit of such a standard.”<sup>281</sup> Although a 95% level of certainty or confidence is not the same as absolute perfection, and although there has been technological progress since 1975, the same general observation would still seem to be pertinent in this proceeding. I would observe further that it is not unusual in NRC proceedings for there to be some tension between what different parties would find to be a “reasonable” degree of certainty. This is not to negate any point of view, and

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<sup>274</sup> See Pilgrim Watch Proposed Findings at 10, 40.

<sup>275</sup> See *id.* at 69; *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 8 (2001) (emphasis added).

<sup>276</sup> 533 F.2d 655 (D.C. Cir. 1976); see Pilgrim Watch Proposed Findings at 68.

<sup>277</sup> 367 U.S. 396 (1961).

<sup>278</sup> See 533 F.2d at 667; see also 367 U.S. at 414. The Court in *North Anna* noted that the Licensing Board in that case in fact “equated ‘reasonable assurance’ with ‘a clear preponderance of the evidence’ standard,” and found that the evidence in the case “met even . . . [the] beyond a reasonable doubt [standard],” but did not find that either was required. 533 F.2d at 667-68.

<sup>279</sup> 533 F.2d at 665.

<sup>280</sup> *Id.* (citing 367 U.S. at 414; *Nader v. NRC*, 513 F.2d 1045, 1050 (1975); comparing *Citizens for Safe Power v. NRC*, 524 F.2d 1291, 1301 & n.15 (1975)).

<sup>281</sup> *Citizens for Safe Power*, 524 F.2d at 1297.

care must be taken to assure that all parties' views are heard and considered, which I have tried to do in this proceeding.

As a neutral adjudicator, I view my responsibility herein as determining, by a preponderance of the evidence, whether there is a level of assurance that reasonably and clearly convinces me, taking all relevant facts and circumstances into account, that activities authorized under Pilgrim's renewed license will in fact continue to be conducted in accordance with its current licensing basis. Of course, as the D.C. Circuit has also pointed out, "an agency or commission must articulate with clarity and precision its findings and the reasons for its decisions,"<sup>282</sup> and in my role as a member of the Licensing Board in this proceeding, I endeavor herein to fulfill this duty, in a manner that reasonably addresses the concerns that Pilgrim Watch has raised.<sup>283</sup>

## **B. Conclusions Regarding Condensate Storage System**

Based on the facts discussed above in sections II.B and II.C.1, I conclude that there is reasonable assurance that activities related to the condensate storage system buried pipes will continue to be conducted in accordance with Pilgrim's current licensing basis, without the need for monitoring wells. I, like my colleagues in their Majority Decision, base this conclusion primarily on the water level monitoring that is done in the condensate storage tanks every 4 hours, as discussed in section II.C.1.c, above. Because of the required minimum 30-foot water level in the condensate storage tanks and the reservation of only 11 feet of this water for the HPCI and RCIC, there would have to be a 20-foot drop in tank water level before the capability of the HPCI and RCIC to perform their system functions using water solely from the condensate storage tanks would be impaired. In these circumstances, the water level monitoring of the tanks would obviously provide a much quicker and more accurate indication of any leak than monitoring wells could provide. Moreover, if there were a seismic event, water would be available as a backup from the torus. These facts, taken together with the

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<sup>282</sup> *Nader v. NRC*, 513 F.2d at 1051.

<sup>283</sup> I note at this point Intervenor's questioning of deference to the GALL Report in certain particulars. See Pilgrim Watch Proposed Findings at 42, 57. (I also note its own reliance on the Report on some points. See, e.g., *id.* at 10.) The GALL Report, as a document developed to assist in compliance with the license renewal rules, is entitled to "special weight" in this license renewal proceeding. *Private Fuel Storage*, 54 NRC at 264; see also *supra* note 11. Therefore, reliance by Entergy and the Staff on particular portions of it may be in order, in the absence of a rule, or persuasive evidence, to the contrary. I have noted above in section II of this Opinion a number of instances in which parties rely on the GALL Report. I have also, however, tried herein to indicate as fully as possible the factual, technological, and logical bases for the findings and conclusions I draw from the evidence in this proceeding, separate and apart from whether or not Entergy has acted in compliance with the GALL Report.

facts regarding Pilgrim's Water Chemistry Control program, use of appropriately handled stainless steel pipes with appropriately applied durable coatings, and inspections as described above in section II.B, provide reasonable assurance that activities related to the condensate storage system buried pipes will continue to be conducted in accordance with Pilgrim's current licensing basis, and that the use of monitoring wells would not make this any more likely.

### **C. Conclusions Regarding Salt Service Water System**

I likewise conclude that Entergy has proven by a preponderance of the evidence that the Salt Service Water System underground discharge pipes meet all relevant license renewal safety requirements, such that there is reasonable assurance that related activities will continue to be conducted in accordance with Pilgrim's current licensing basis, without the need of monitoring wells.

Specifically, based on the facts as discussed in section II.B, above, I find the preponderance of the evidence to be (1) that the external double-wrapped coal-tar coating on the SSWS discharge pipes, which was specifically designed for use on submerged lines, river crossings, and similar installations with aggressive environments,<sup>284</sup> is durable and was appropriately applied and tested; (2) that the pipes were appropriately handled and buried in a manner geared to ensure an appropriate soil environment; and (3) that Pilgrim's inspection program for the external surfaces of buried piping strikes an appropriate balance between inspecting pipes effectively and avoiding such frequent inspections that they might create the potential for damage to the protective coating on the pipes. I have in reaching this conclusion taken into account Pilgrim Watch's arguments and evidence, including Dr. Ahlfeld's testimony about the water table in the area, and Mr. Gundersen's testimony about the soil environment and corrosion of pipes. I conclude, however, that Pilgrim Watch's evidence in these regards neither equals nor matches in detail, specificity, or depth, the evidence presented by Entergy and supported by the NRC Staff with regard to aging management of external degradation of underground pipes.

In addition, based on the facts stated in detail in section II.C.2, above, regarding protection against internal degradation of pipes, I find the preponderance of the evidence to be (1) that, based on its design, characteristics, installation, and durability, as credibly described by Entergy witnesses and as supported by experience in a number of industries in aggressive environments, the cured-in-place pipe (CIPP) liners in these pipes are very unlikely to degrade to an

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<sup>284</sup> See *supra* text accompanying note 23.

extent that any holes would develop in the pipes;<sup>285</sup> (2) that the Service Water Integrity Program has been successfully implemented at Pilgrim to manage SSWS degradation due to internal corrosion, so as to assure its ability to fulfill its intended function, and will continue to manage the system effectively during the extended term of the license (including through flow-rate testing, which serves as a check on water flowing through the discharge pipes, and which would likely be a much better indicator of any leak large enough to compromise the safety function of the discharge pipes than would monitoring wells); (3) that, even if any degradation resulted in corrosion that led to holes developing in the pipes, it would be very unlikely that any such holes would spread laterally on the pipe very far from any area of liner degradation, or that there would be enough holes of sufficient size to cause either of these large, 22-inch-diameter pipes to collapse; and (4) that, even in the very unlikely event of holes developing in one pipe to an extent sufficient to cause collapse, it would be extremely unlikely for holes also to develop in the other pipe to an extent sufficient to lead to collapse of both pipes. Protecting against this possibility, even in a design-basis earthquake, is required of Pilgrim as part of its current licensing basis, and the clear preponderance of the evidence is that it will be no less able to accomplish this in the license renewal period than in its current license term.

Moreover, the testing that Pilgrim will be required to undertake, as discussed above,<sup>286</sup> as well as the required in-service inspection, which are in addition to inspections required under the Service Water Integrity Program,<sup>287</sup> will provide additional assurances. I do not find that Pilgrim Watch's challenges to the inspection programs, through Mr. Gundersen, negate or outweigh the evidence presented by Entergy and the Staff regarding these programs, under all the circumstances and facts presented in this proceeding.

Nor do I find Pilgrim Watch's evidence concerning cathodic protection, tritium discovery at Pilgrim, small leaks and their significance, rates of aging and corrosion, or leakage events at other plants to counter this conclusion. As noted above,<sup>288</sup> (1) there are some safety concerns associated with cathodic protection such that the GALL Report, credibly, permits an alternative approach; (2) it is

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<sup>285</sup> I note that after the hearing Pilgrim Watch sought to introduce additional evidence concerning the installation of the CIPP liners that it contended showed problems with that installation, but, as noted in the Board's order denying its motion, *see* Licensing Board Order (Ruling on Pilgrim Watch Motions Regarding Testimony and Proposed Additional Evidence Relating to Pilgrim Watch Contention 1) (June 4, 2008) at 6 (unpublished), in addition to noting certain "'challenges' the contractor dealt with in placing the liner," it also described how the contractor "'addressed these challenges so as to reach 'favorable results' that were tested to 'confirm compliance with physical property specifications.'"

<sup>286</sup> *See supra* text accompanying notes 187-193.

<sup>287</sup> *See supra* text accompanying notes 194-198.

<sup>288</sup> *See supra* sections II.D.1-.5.

more likely that the tritium at the Pilgrim plant is coming from another source than the SSWS discharge pipes, and while further checking into and correction of this is certainly in order,<sup>289</sup> I do not find that it raises sufficient doubt to counter the preceding findings and conclusions regarding the SSWS discharge pipes; (3) nor, for the reasons stated above in sections II.D.3, .4, and .5, do I find Mr. Gundersen's theories about small leaks, rates of aging and corrosion, or leakage events at other plants, counter the preceding findings and conclusions.<sup>290</sup>

Finally, I am mindful of Dr. Ahlfeld's testimony that monitoring wells might detect increased amounts of chloride in groundwater, indicating a possible leak before it becomes large enough to pose a risk of the discharge pipes failing to fulfill their safety purpose. As Entergy points out, however, since the pipes run near bodies of saltwater, it would likely be difficult to discern whether any chloride levels were attributable to a leak rather than the influences of the adjacent water bodies.<sup>291</sup> While it might well be a good idea for Entergy to install more monitoring wells to check for radioactive liquids in the groundwater, as argued by Pilgrim Watch and suggested by the towns of Plymouth and Duxbury,<sup>292</sup> I do not find this to be required under relevant license renewal law and rules, and the preponderance of the evidence is that monitoring wells would not serve a useful purpose from a license renewal standpoint, taking all of the facts and circumstances as described above into account.

Pilgrim Watch would have the Licensing Board interpret the rules and law relating to license renewal more broadly than has been done in this proceeding,

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<sup>289</sup> See *supra* text accompanying note 227.

<sup>290</sup> I note that Pilgrim Watch has also raised questions about Pilgrim's possible use of counterfeit or substandard pipes, referring to a 1990 GAO report, Exh. 28, Report to the Chairman, Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, House of Representatives, "Nuclear Safety and Health — Counterfeit and Substandard Products Are a Governmentwide Concern," GAO/RCED-91-6 (Oct. 1990), suggesting that "Entergy has not established 'whether or not the . . . SSWS[S] . . . piping has counterfeit and/or substandard pipe fittings and flanges.'" Pilgrim Watch Proposed Findings at 18. Entergy and Staff, however, point out that the NRC issued a Generic Letter "requiring licensees to take actions 'to avoid using counterfeit and fraudulently marked products using the methods identified in the generic letter.'" Entergy Reply at 21; Exh. 41, A7 (citing Generic Letter 89-02, "Actions to Improve the Detection of Counterfeit and Fraudulently Marked Products). Entergy also suggests that the issue is one resolved under the plant's current licensing basis and not a license renewal issue. Entergy Reply to Pilgrim Watch at 21.

Pilgrim Watch suggests that Entergy should have placed some documentation of its response to Generic Letter 89-02 into the record, or that the Board should have required its production. Pilgrim Watch Proposed Findings at 31. As Entergy argues, however, it provided its response to the generic letter to Intervenor in discovery. Entergy Reply to Pilgrim Watch at 21. Thus, Intervenor could have produced the document and challenged it and its contents with specificity, but failed to do so. In light of this, I find that the preponderance of the evidence on this issue lies in favor of Entergy.

<sup>291</sup> See *supra* section II.D.6.

<sup>292</sup> See Tr. at 863, 865.

but absent good authority to do so, this would contravene the ethical responsibility a judge has to comply with the law as it exists.<sup>293</sup> Intervenor also urges the Board to delve more deeply into certain facts than the parties have done in presenting their evidence. While this might be permitted as to issues before a licensing board, I do not find that any such additional action on the part of the Board is called for in this proceeding, absent a remand or other similar reason, given all the facts presented to and considered by the Board, as recounted and discussed above.

In sum, I conclude, based on close consideration of the facts, and by a clear preponderance of the evidence from which these facts are gleaned, that Entergy's processes for coating and lining the SSWS buried discharge piping, its precautions in handling and burying the pipe and in providing a nonaggressive soil environment for the pipe, its previous inspections and testing and its planned future inspections and testing of this buried piping, provide reasonable assurance that activities related to this piping will continue to be conducted in accordance with the Pilgrim plant's current licensing basis.

#### **D. Conclusion on Contention 1**

In conclusion, I, like my colleagues, also resolve Pilgrim Watch Contention 1 in favor of Entergy. I recognize that Pilgrim Watch would like to see more frequent and more extensive inspections of all of the buried piping at the Pilgrim plant, as well as monitoring wells. But the question at this point in this proceeding is simply whether relevant Pilgrim aging management programs for the buried pipes, as Entergy has formulated them and implements them, are adequate to provide reasonable assurance that related activities authorized by the renewed license will continue to be conducted in accordance with the current licensing basis.<sup>294</sup> Once a determination is made on this issue, the Board's inquiry ends.<sup>295</sup> I hope that aspects of this proceeding, along with the contents of this Opinion, which arise out of issues that Intervenor brought forward in the proceeding

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<sup>293</sup> See ABA Model Code of Judicial Conduct (Feb. 2007), Rules 1.1, 2.2, and comments thereto.

<sup>294</sup> See 10 C.F.R. §§ 54.21(a)(3), 54.29(a).

<sup>295</sup> See 60 Fed. Reg. at 22,490 ("The Commission does not intend to impose requirements on a licensee that go beyond what is necessary to adequately manage aging effects"). It should also be noted, however, that the NRC's corrective action requirements, including those that address leakage, along with all other requirements relating to operating reactors, require correction of any problems on an ongoing basis. And any person may file a petition for an enforcement action under 10 C.F.R. § 2.206, or (as Intervenor is aware, having filed one) a petition for rulemaking under section 2.802, to address any perceived problems that may present themselves.



with admirable persistence and resourcefulness, will provide some assurances to Pilgrim Watch and the towns of Plymouth and Duxbury regarding these matters.

Rockville, Maryland  
October 31, 2008<sup>296</sup>

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<sup>296</sup> Copies of this Concurring Opinion were sent this date by e-mail to all participants and counsel.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**COMMISSIONERS:**

**Dale E. Klein**, Chairman  
**Gregory B. Jaczko**  
**Peter B. Lyons**  
**Kristine L. Svinicki**

**In the Matter of**

**Docket Nos. 50-247-LR  
50-286-LR**

**ENTERGY NUCLEAR OPERATIONS, INC.  
(Indian Point, Units 2 and 3)**

**November 6, 2008**

**APPEALS, INTERLOCUTORY**

**RULES OF PRACTICE: APPEALABLE ORDERS**

**WAIVER OF RULE**

As a general matter, a board ruling denying a waiver request is interlocutory in nature, and therefore not appealable until the board has issued a final decision resolving the case.

**APPEALS, INTERLOCUTORY**

**RULES OF PRACTICE: INTERLOCUTORY REVIEW  
(EXERCISE OF “PENDENT” JURISDICTION OVER OTHERWISE  
NONAPPEALABLE ISSUES)**

When considering whether to undertake “pendent” appellate review of otherwise nonappealable issues, the Commission has expressed a willingness to take up otherwise unappealable issues that are “inextricably intertwined” with appealable issues.

## MEMORANDUM AND ORDER

This proceeding concerns the application of Entergy Nuclear Operations, Inc. (Entergy) to renew the licenses for Indian Point Nuclear Generating Units 2 and 3. Before us is an appeal, filed jointly by Nancy Burton and Connecticut Residents Opposed to Relicensing of Indian Point (collectively, CRORIP).<sup>1</sup> CRORIP appeals two companion decisions of the Atomic Safety and Licensing Board in this matter: first, the Board's denial of a petition filed by CRORIP pursuant to 10 C.F.R. § 2.335; and second, the Board's denial of CRORIP's petition to intervene and request for hearing.<sup>2</sup> We deny CRORIP's appeal.

As a general matter, a board ruling denying a waiver request is interlocutory in nature, and therefore not appealable until the board has issued a final decision resolving the case.<sup>3</sup> Here, however, the Board's denial of CRORIP's waiver request is inextricably intertwined with its decision, in LBP-08-13, to wholly deny CRORIP's intervention petition — a decision which CRORIP may appeal immediately.<sup>4</sup> Pursuant to section 2.335, CRORIP sought a waiver of NRC regulations adopting NUREG-1437, the “Generic Environmental Impact Statement for License Renewal of Nuclear Plants” (May 1996) (GEIS), with regard to, first, the exclusion from site-specific analysis of occupational and public radiation exposures during the license renewal term,<sup>5</sup> and second, the NRC's use of the “Reference Man” dose models to calculate permissible levels of radiation exposure.<sup>6</sup> CRORIP's single proposed contention, in turn, argued that Entergy's

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<sup>1</sup> Notice of Appeal (Aug. 11, 2008) (CRORIP Appeal). Both the NRC Staff and Entergy filed answers opposing the CRORIP Appeal. NRC Staff's Answer in Opposition to CRORIP's Appeal from LBP-08-13 and the Licensing Board's “Order (Denying CRORIP's 10 C.F.R. § 2.335 Petition)” (Aug. 21, 2008); Entergy Nuclear Operations, Inc. Answer Opposing Appeal of Connecticut Residents Opposed to Relicensing of Indian Point (Aug. 21, 2008).

<sup>2</sup> Order (Denying CRORIP's 10 C.F.R. § 2.335 Petition) (unpublished) (July 31, 2008) (Waiver Order); LBP-08-13, 68 NRC 43 (2008), at 59, 60, 215-17. The Board held that, while CRORIP established standing, its sole proposed contention fell outside the scope of the license renewal proceeding and was therefore inadmissible.

<sup>3</sup> *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-95-7, 41 NRC 383, 384 (1995). Section 2.335 (formerly 10 C.F.R. § 2.758) itself provides for immediate certification to the Commission *only* when the board finds a *prima facie* case in favor of a waiver. *Id.*; 10 C.F.R. § 2.335(d).

<sup>4</sup> 10 C.F.R. § 2.311. *See* LBP-08-13, 68 NRC 220 (noting that the Board's decision is subject to appeal in accordance with section 2.311).

<sup>5</sup> Waiver Order, slip op. at 4-6. *See* Connecticut Residents Opposed to Relicensing of Indian Point and Its Designated Representative's 10 C.F.R. § 2.335 Petition (Dec. 10, 2007) (Waiver Petition) at 6-7.

<sup>6</sup> Waiver Order, slip op. at 6-7. *See* Waiver Petition at 1, 7. *See generally* 10 C.F.R. §§ 51.95(c), 51.53(c)(3)(i); 10 C.F.R. Part 51, Subpart A, App. B, Table B-1.

license renewal application did not adequately account for the health risks to local populations from the cumulative effects of radiation exposure from routine and accidental releases of radiation from the plant<sup>7</sup> — in effect, challenging the same rules that CRORIP sought to waive in its section 2.335 petition.

When considering whether to undertake “pendent” appellate review of otherwise nonappealable issues, the Commission, in the interest of efficiency and looking to analogous rulings by federal appeals courts, has expressed a willingness to take up otherwise unappealable issues that are “inextricably intertwined” with appealable issues.<sup>8</sup> We believe that the CRORIP Appeal presents an appropriate occasion to exercise pendent jurisdiction. The two decisions are so closely related that, in order to decide the immediately appealable challenge to the Board’s decision in LBP-08-13, we must necessarily consider the validity of the Board’s Waiver Order. We find that CRORIP’s challenges to both decisions are appropriately considered simultaneously.<sup>9</sup>

We further find the Board’s decisions regarding CRORIP’s waiver request and intervention petition to be comprehensive and well reasoned. The CRORIP Appeal fails to demonstrate that either of the Board’s rulings was in error. For the reasons the Board has given, we therefore *deny* the CRORIP Appeal and *affirm* the Waiver Order and the Board’s denial of CRORIP’s intervention petition in LBP-08-13.

IT IS SO ORDERED.

For the Commission

ANNETTE L. VIETTI-COOK  
Secretary of the Commission

Dated at Rockville, Maryland,  
this 6th day of November 2008.

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<sup>7</sup> LBP-08-13, 68 NRC at 215-16, citing Connecticut Residents Opposed to Relicensing of Indian Point and Its Designated Representative’s Petition to Intervene and Request for Hearing (Dec. 11, 2007) at 4-5.

<sup>8</sup> See *Sequoyah Fuels Corp.* (Gore, Oklahoma Site Decommissioning), CLI-01-2, 53 NRC 9, 19-20 (2001) (declining to exercise pendent jurisdiction where (among other things) the challenged “interlocutory” issues were not “inextricably intertwined” with the two immediately appealable issues), citing *Gilda Marx, Inc. v. Wildwood Exercise, Inc.*, 85 F.3d 675, 679 (D.C. Cir. 1996).

<sup>9</sup> See *Gilda Marx*, 85 F.3d at 679.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**COMMISSIONERS:**

**Dale E. Klein**, Chairman  
**Gregory B. Jaczko**  
**Peter B. Lyons**  
**Kristine L. Svinicki**

**In the Matter of**

**Docket No. 50-219-LR**  
**(License Renewal)**

**AMERGEN ENERGY COMPANY, LLC**  
**(Oyster Creek Nuclear Generating**  
**Station)**

**November 6, 2008**

**RULES OF PROCEDURE: PETITIONS FOR REVIEW**

The Commission's regulations, in 10 C.F.R. § 2.341(b)(4), provide that the Commission may grant a petition for review at its discretion, giving due weight to the existence of a substantial question with respect to the five considerations listed in the regulation.

**RULES OF PROCEDURE: MOTIONS TO REOPEN**

As 10 C.F.R. § 2.326(d) makes clear, where a motion to reopen proposes a contention not previously part of the proceeding, the requirements for late-filed contentions set out in 10 C.F.R. § 2.309(c) must also be satisfied.

**MOTIONS TO REOPEN: BURDEN OF PROOF**

“[A] party seeking to reopen a closed record to raise a new matter faces an elevated burden to lay a proper foundation for its claim. Commission practice holds that the standard for admitting a new contention after the record is closed is higher than for an ordinary late-filed contention.” “New information is not

enough . . . to reopen a closed hearing record at the last minute; the information must be significant and plausible enough to require reasonable minds to inquire further.” “The burden of satisfying the reopening requirements is a heavy one,” and “proponents of a reopening motion bear the burden of meeting all of [these] requirements.”

#### **RULES OF PROCEDURE: MOTIONS TO REOPEN**

The plain language of 10 C.F.R. § 2.326(b) requires motions to reopen to be accompanied by affidavits of qualified experts presenting the factual and/or technical bases for the claim that there is a significant safety issue, together with evidence that satisfies our admissibility standards. A “mere showing” of a possible violation is not enough.

#### **REGULATORY INTERPRETATION: GENERAL RULES**

“The interpretation of a regulation, like the interpretation of a statute, begins ‘with the language and structure of the provision itself . . . [and] the entirety of the provision must be given effect.’ ” The standards governing motions to reopen appear in 10 C.F.R. § 2.326. Motions for summary disposition are governed by an entirely separate rule, 10 C.F.R. § 2.710. The summary disposition standards are not applicable to and do not replace the standards applicable to motions to reopen.

#### **RULES OF PROCEDURE: MOTIONS TO REOPEN**

The party seeking reopening has the deliberately heavy burden, through its motion to reopen and accompanying affidavit, to demonstrate that the motion should be granted. Bare assertions and speculation do not supply the requisite support and a Judge’s dissenting opinion cannot substitute for the affidavit required to be submitted to the Board, with a motion to reopen, in the first instance.

#### **LICENSING BOARD: AUTHORITY**

A licensing board is not required to augment a deficient motion to reopen by performing supplementary technical analysis. In fact, “a Board is to decide the motion to reopen on the information before it and has no authority to engage in discovery in order to supplement the pleadings before it.

## **LICENSING BOARD: FINDINGS OF FACT**

The Commission is generally disinclined to upset fact-driven Licensing Board determinations, particularly “where the affidavits or submissions of experts must be weighed.” Where, as here, a party merely complains that the Board improperly weighed the evidence and identifies no clear Board factual or legal error requiring further Commission consideration on appellate review, the Commission is disinclined to second-guess the Board’s assessment of the party’s affidavits.

## **RULES OF PROCEDURE: CONTENTIONS, DISCOVERY**

The Commission’s rules and longstanding precedent bar discovery in connection with the preparation of proposed contentions.

## **ATOMIC ENERGY ACT: HEARING RIGHTS**

The Atomic Energy Act’s guarantee of a hearing on material issues is not without limitation. “[S]ection 189(a)’s hearing requirement does not unduly limit the Commission’s wide discretion to structure its licensing hearings in the interests of speed and efficiency.” The hearing right provided in section 189(a) is not automatic — the Commission’s rules appropriately require the identification of specific factual support to justify reopening.

## **MEMORANDUM AND ORDER**

Nuclear Information and Resource Service, Jersey Shore Nuclear Watch, Inc., Grandmothers, Mothers and More for Energy Safety, New Jersey Public Interest Research Group, New Jersey Sierra Club, and New Jersey Environmental Federation (collectively, Citizens) have petitioned for Commission review<sup>1</sup> of a Memorandum and Order of the Atomic Safety and Licensing Board, LBP-08-12.<sup>2</sup> In its decision, the Board denied Citizens’ most recent challenge to the application for renewal of the operating license of AmerGen Energy Company, LLC (AmerGen) for its Oyster Creek Nuclear Generating Station (Oyster Creek)

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<sup>1</sup> Citizens’ Petition for Review of LBP-08-12 (Aug. 1, 2008) (Petition).

<sup>2</sup> LBP-08-12, 68 NRC 5 (2008).

— Citizens’ motion to reopen the record and to add a new contention.<sup>3</sup> AmerGen<sup>4</sup> and the NRC Staff<sup>5</sup> filed answers opposing the petition for review. Citizens replied to AmerGen’s and the Staff’s filings.<sup>6</sup>

We deny the petition for review.

## I. BACKGROUND

### A. Citizens’ Motion to Reopen

Today’s decision addresses matters separate from those included in the contested proceeding associated with AmerGen’s license renewal application, to which Citizens is a party in connection with its drywell liner contention.<sup>7</sup> The subject of today’s decision is the Board’s denial of a Motion to Reopen filed by Citizens subsequent to the NRC Staff’s issuance of a Draft Regulatory Issue Summary (Draft RIS).<sup>8</sup> The Draft RIS, addressed to all operating power reactor licensees, informed licensees that the use of a simplified “Green’s function” analysis for calculating cumulative usage factors related to metal fatigue could be

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<sup>3</sup> Motion by Nuclear Information and Resource Service; Jersey Shore Nuclear Watch, Inc.; Grandmothers, Mothers and More for Energy Safety; New Jersey Public Interest Research Group; New Jersey Sierra Club; and New Jersey Environmental Federation to Reopen the Record and for Leave to File a New Contention, and Petition to Add a New Contention (Apr. 18, 2008) (Motion to Reopen), with Declaration of Dr. Joram Hopenfeld (Apr. 15, 2008) (First Hopenfeld Declaration). AmerGen and the Staff opposed this motion: AmerGen’s Answer Opposing Citizens’ Motion to Reopen Record and Petition to Add a New Contention (Apr. 28, 2008); NRC Staff’s Response in Opposition to Citizens’ Motion to Reopen the Record and for Leave to File and Add a New Contention (Apr. 28, 2008). *See also* Reply by Nuclear Information and Resource Service; Jersey Shore Nuclear Watch, Inc.; Grandmothers, Mothers and More for Energy Safety; New Jersey Public Interest Research Group; New Jersey Sierra Club; and New Jersey Environmental Federation to AmerGen’s Opposition to [Its] Petition to Add a New Contention (May 5, 2008) (Motion to Reopen Reply I). Reply by Nuclear Information and Resource Service; Jersey Shore Nuclear Watch, Inc.; Grandmothers, Mothers and More for Energy Safety; New Jersey Public Interest Research Group; New Jersey Sierra Club; and New Jersey Environmental Federation to the NRC Staff’s Opposition to [Its] Motion to Reopen (May 6, 2008) (Motion to Reopen Reply II).

<sup>4</sup> AmerGen’s Answer Opposing Citizens’ Petition for Review of LBP-08-12 (Aug. 11, 2008) (AmerGen Answer).

<sup>5</sup> NRC Staff’s Answer in Opposition to Citizens’ Petition for Review of LBP-08-12 (Aug. 11, 2008) (Staff Answer).

<sup>6</sup> Citizens’ Consolidated Reply Regarding Petition for Review of LBP-08-12 (Aug. 18, 2008) (Citizens’ Reply).

<sup>7</sup> *See, e.g.*, LBP-07-17, 66 NRC 327 (2007). A decision on Citizens’ petition for review of LBP-07-17 has not been issued. Today’s decision is limited to Citizens’ petition for review of LBP-08-12.

<sup>8</sup> *See* Draft NRC Regulatory Issue Summary 2008-xx, “Fatigue Analysis of Nuclear Power Plant Components” (Apr. 11, 2008), *published in* Proposed Generic Communication; Fatigue Analysis of Nuclear Power Plant Components, 73 Fed. Reg. 24,094 (May 1, 2008).



nonconservative if not correctly applied.<sup>9</sup> The Draft RIS also indicated that the Staff had asked recent license renewal applicants that used this simplified analysis to perform confirmatory analyses to show that their analyses produced sufficiently conservative results.<sup>10</sup> As part of its Motion to Reopen, Citizens sought admission of the following new contention:

The predictions of metal fatigue for the recirculation nozzles at Oyster Creek are not conservative. A confirmatory analysis using a conservative method is required to establish whether these nozzles could exceed allowable metal fatigue limits during any extended period of reactor operation.<sup>11</sup>

To support its Motion to Reopen,<sup>12</sup> Citizens attached a declaration by its expert<sup>13</sup> and cited the NRC Staff's notification to the Commission of the Staff's intention to ask for a confirmatory analysis from AmerGen,<sup>14</sup> the Draft RIS, an e-mail from the Staff's counsel,<sup>15</sup> two Advisory Committee on Reactor Safeguards (ACRS) meeting transcripts,<sup>16</sup> and AmerGen's response to the Staff request for additional information.<sup>17</sup>

Citizens also filed a motion to supplement, together with a second declaration by Citizens' expert,<sup>18</sup> in connection with its response to a Board order asking

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<sup>9</sup>The Green's function issue first arose in a different license renewal proceeding. (*Entergy Nuclear Vermont Yankee, LLC*, (Vermont Yankee Nuclear Power Station), Docket No. 50-271-LR). See also LBP-08-12, 68 NRC at 10-12.

<sup>10</sup>See, e.g., Request for Additional Information Concerning Metal Fatigue and Its Impact on the Review of the Oyster Creek Nuclear Generating Station, License Renewal Application (TAC No. MD7624) (Apr. 29, 2008) (RAI), available at ADAMS Accession No. ML081080077. AmerGen answered the RAI in its Response to NRC Request for Additional Information on Metal Fatigue Analysis Related to Oyster Creek Generating Station License Renewal Application (May 1, 2008) (RAI Response) (ADAMS Accession No. ML061240217).

<sup>11</sup>LBP-08-12, 68 NRC at 11.

<sup>12</sup>See Motion to Reopen at 2-4.

<sup>13</sup>First Hopenfeld Declaration.

<sup>14</sup>Motion to Reopen at 2, citing Samson S. Lee, Acting Director, Division of License Renewal, Office of Nuclear Reactor Regulation, Notification of Information in the Matter of Oyster Creek Nuclear Generating Station License Renewal Application (Apr. 3, 2008) (Staff Notification) (ADAMS Accession No. ML080930335).

<sup>15</sup>Motion to Reopen at 2, citing E-mail from Mary Baty, Esq. to Richard Webster, Esq. (Apr. 7, 2008).

<sup>16</sup>Motion to Reopen at 3, citing Transcript of 54th ACRS Meeting at 8-10, 10-11 (Feb. 7, 2008), (ADAMS Accession No. ML080500208); Transcript of 550th ACRS Meeting at 119-21 (Mar. 6, 2008) (ADAMS Accession No. ML080740427).

<sup>17</sup>Motion to Reopen at 3, citing RAI Response, Table 4.3.4-1.

<sup>18</sup>Citizens' Response to Board Order and Motion to Supplement the Basis of [Its] Contention (May 27, 2008) (Motion to Supplement), with Second Declaration of Dr. Joram Hopenfeld (May 23, 2008) (Second Hopenfeld Declaration).

the parties to discuss AmerGen's RAI Response.<sup>19</sup> In its Motion to Supplement, Citizens argued that AmerGen's RAI Response showed that the original metal fatigue calculation was not conservative.<sup>20</sup>

## **B. Technical Background**

Fatigue, in this context, may be defined as the weakening of a material due to cyclic loading. Components, such as the recirculation outlet nozzle at Oyster Creek, may experience repeated cyclic loading in the course of plant operation. In particular, transients like the significant temperature changes associated with events such as plant startup and shutdown induce stresses on components. If the number of load cycles or transients is excessive, fatigue failure — that is, fracture or significant reduction in strength — of components may occur. For a material (e.g., stainless steel), there is a characteristic number of cycles that the material can withstand at a particular applied stress level before fatigue failure occurs.

The “cumulative usage factor” quantifies the fatigue that a particular metal component experiences during plant operation. The cumulative usage factor is the ratio of the number of load cycles a component has experienced to the number of cycles the component can withstand before it fails. For example, a cumulative usage factor of 0.1 for a component indicates that the component has experienced one-tenth of the number of load cycles it can withstand before failure occurs.

Our regulations, in 10 C.F.R. Part 50, do not directly mention fatigue of metal components, but 10 C.F.R. § 50.55a(c)(1) requires components like the recirculation outlet nozzle, which is part of the reactor coolant pressure boundary, to meet the requirements for Class 1 components in Section III of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (ASME Code). The ASME Code provides a methodology for calculating the cumulative usage factors for nuclear power plant components, and specifies a design limit of 1.0 for the cumulative usage factor of a given component.<sup>21</sup> To demonstrate compliance with the ASME Code in connection with issuance of an initial operating license, an applicant would have performed a predictive fatigue analysis with a projected number of transients for the licensing period.<sup>22</sup>

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<sup>19</sup>Order (Directing Parties to Submit Explanatory Pleadings and Affidavits) (May 21, 2008) (unpublished). In this order, the Board directed the parties to respond to AmerGen's RAI Response by filing affidavits of experts and pleadings explaining the effect of this response on Citizens' Motion to Reopen.

<sup>20</sup>Motion to Supplement at 8-10.

<sup>21</sup>ASME Code, Section III, Division 1, Subsection NB-3222.4.

<sup>22</sup>See License Renewal Application, Oyster Creek Generating Station, Docket No. 50-219, Facility Operating License No. DPR-16, at 4-24 (July 22, 2005) (ADAMS Accession No. ML052080185).

In the license renewal context, our regulations, in 10 C.F.R. §§ 54.33 and 54.35, require that the regulations established under 10 C.F.R. Part 50, including compliance with the ASME Code, be followed during the period of extended operation. This means that the cumulative usage factor for a component should not exceed 1.0, even including additional cyclic loading that may occur during the period of extended operation. For the recirculation outlet nozzle at Oyster Creek, AmerGen demonstrated compliance with the fatigue requirements of the ASME Code as part of its time-limited aging analyses (TLAAs), as defined in 10 C.F.R. § 54.3(a).<sup>23</sup> Section 54.21(c)(1), which lists the technical information that must be contained in a license renewal application, requires license renewal applicants to include an evaluation of TLAAs that demonstrates at least one of the following:

- (i) The analyses remain valid for the period of extended operation;
- (ii) The analyses have been projected to the end of the period of extended operation; or
- (iii) The effects of aging on the intended function(s) will be adequately managed for the period of extended operation.<sup>24</sup>

The NRC's Standard Review Plan (SRP) provides guidance to the Staff for the evaluation of license renewal applications,<sup>25</sup> with SRP § 4.3 focusing on the review of the Applicant's metal fatigue analysis. For applicants choosing to demonstrate compliance with 10 C.F.R. § 54.21(c)(1)(ii), the SRP directs the Staff to apply the following criterion:

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<sup>23</sup>In 10 C.F.R. § 54.3(a), TLAAs are defined as licensee (plant-specific) calculations and analyses that:

- (1) Involve systems, structures, and components within the scope of license renewal, as delineated in § 54.4(a);
- (2) Consider the effects of aging;
- (3) Involve time-limited assumptions defined by the current operating term, for example, 40 years;
- (4) Were determined to be relevant by the licensee in making a safety determination;
- (5) Involve conclusions or provide the basis for conclusions related to the capability of the system, structure, and component to perform its intended functions, as delineated in § 54.4(b); and
- (6) Are contained or incorporated by reference in the [current licensing basis].

<sup>24</sup>AmerGen demonstrates compliance with the ASME Code by projecting the fatigue analysis for the nozzle through the extended operating period, which is acceptable under 10 C.F.R. § 54.21(c)(1)(ii), but also commits to an aging management program that would satisfy the requirements of 10 C.F.R. § 54.21(c)(1)(iii). See NUREG-1875, Vol. 2, "Safety Evaluation Report Related to the License Renewal of Oyster Creek Generating Station," Section 4.3.4.4 (Final SER) (ADAMS Accession No. ML071310246).

<sup>25</sup>NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants" (SRP), Rev. 1 (Sept. 2005) (ADAMS Accession No. ML052770566).

The [cumulative usage factor] calculations have been reevaluated based on an increased number of assumed transients to bound the period of extended operation. The resulting [cumulative usage factor] remains less than or equal to unity [1.0] for the period of extended operation.<sup>26</sup>

In addition to the regulatory requirement that the cumulative usage factor not exceed 1.0, the Staff guidance suggests that the cumulative usage factor be adjusted to account for the fact that the fatigue life of components in an operational environment (e.g., exposure to reactor coolant) may be less than predicted by the ASME Code, where fatigue life was measured in a controlled laboratory setting.<sup>27</sup> The SRP presents an acceptable methodology for calculating the environmentally adjusted cumulative usage factor.

To calculate the cumulative usage factor for a component, it is necessary to know the number of load cycles a component has experienced and the stress acting on the component during each cycle. These will be compared to the “allowed” number of load cycles a component can withstand before fatigue fracture occurs to determine the cumulative usage factor. The ASME Code contains fatigue design curves for various materials that specify the allowed number of cycles at any applied stress.<sup>28</sup> The number of load cycles is relatively easy to tabulate, as the licensee keeps records of events that cause transients (e.g., startup, shutdown, and unplanned shutdown (scram)). Determining the stress acting on the component is somewhat more complicated and may require detailed knowledge of material properties, component design, and the temperature profile of the transient, among other parameters. The stresses acting on a component are generally calculated by finite element modeling (computer modeling of the stress profile of a material).

Detailed fatigue analysis following the methodology of ASME Code Section III requires consideration of six stress inputs for a component: three normal (direct) stresses and three shear stresses. Fatigue analysis using these six stresses is potentially time and resource intensive. In some instances, license renewal applicants have taken a simplified approach, using only one stress as the stress input (the maximum difference between the normal stresses) rather than six, and using the “Green’s function” to estimate the stress response of a component during transients. AmerGen used this approach in its license renewal application for Oyster Creek for the recirculation output nozzle. In the course of its review of the Vermont Yankee Power Station license renewal application, the Staff found that while there is no inherent problem with using the Green’s function, the

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<sup>26</sup> SRP § 4.3.2.1.1.2.

<sup>27</sup> See generally the Staff recommendation for the closure of GSI-190 [Generic Safety Issue — 190 Fatigue Evaluation of Metal Components for 60-Year Plant Life], contained in Memorandum from Ashok Thadani to William Travers (Dec. 26, 1999) (ADAMS Accession No. ML003673136).

<sup>28</sup> ASME Code, Section III, Division 1, Mandatory Appendix I, Figures I-9.1 to I-9-6.

simplified methodology, particularly the consideration of only one stress instead of six, could provide nonconservative results.<sup>29</sup> In other words, the simplified methodology may underestimate the stress acting on the component and, in turn, the cumulative usage factor.

Use of the Green's function, with a simplified stress input, for fatigue analysis may result in either conservative or nonconservative results, depending on the assumptions used and the engineering judgment of the analyst. The conservatism of the analysis therefore is evaluated on a case-by-case basis. Because of the potential for nonconservative results, the Staff issued a generic communication, the Draft RIS, and, in the case of Oyster Creek, issued an RAI, requesting a confirmatory fatigue analysis using the ASME Code methodology with all six stress inputs, which Citizens refers to in its Motion to Reopen.

As summarized in the Draft RIS:

The Green's function approach involves performing a detailed stress analysis of a component to calculate its response to a step change in temperature. This detailed analysis is used to establish an influence function, which is subsequently used to calculate the stresses caused by the actual plant temperature transients. This methodology has been used to perform fatigue calculations and as input for on-line fatigue monitoring programs. *The Green's function methodology is not in question.* The concern involves a simplified input for applying the Green's function in which only one value of stress is used for the evaluation of the actual plant transients. . . . Simplification of the analysis to consider only one value of the stress may provide acceptable results for some applications; however, it also requires a great deal of judgment by the analyst to ensure that the simplification still provides a conservative result.

The [S]taff has requested that recent license renewal applicants that have used this simplified Green's function methodology perform confirmatory analyses to demonstrate that the simplified Green's function analyses provide acceptable results. The confirmatory analyses retain all six stress components.<sup>30</sup>

AmerGen responded to the Staff's Draft RIS and the RAI, providing the results of its confirmatory analysis.<sup>31</sup> The Staff subsequently issued and served its supplemental safety evaluation report relating, in part, to AmerGen's confirmatory analysis.<sup>32</sup>

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<sup>29</sup> See NUREG-1907, "Safety Evaluation Report Related to the License Renewal of Vermont Yankee Nuclear Power Station," Vol. 2, at 4-40 (May 2008) (ADAMS Accession No. ML081430109).

<sup>30</sup> Draft RIS, 73 Fed. Reg. at 24,095 (emphasis added).

<sup>31</sup> RAI Response.

<sup>32</sup> Safety Evaluation Report Related to the License Renewal of Oyster Creek Nuclear Generating Station, Supplement 1 (Sept. 2008) (SER Supplement) (ADAMS Accession No. ML080230078).

### C. Board Decision

In a split decision, the Board found that Citizens' Motion to Reopen failed to satisfy the regulatory requirements for reopening the record.<sup>33</sup> Judge Baratta, dissenting,<sup>34</sup> would have granted the motion, and he would have "reframe[d] the contention to promote efficiency and simplicity."<sup>35</sup> We agree that Citizens' Motion to Reopen failed to satisfy our regulatory requirements for reopening the record and deny the petition for review.

The Board majority also found that Citizens' Motion to Supplement the basis of its contention, which the Board treated as a separate motion to reopen, failed to satisfy the requirements for reopening the record.<sup>36</sup> Judge Baratta disagreed with the majority on this point as well. He viewed the Motion to Supplement as an addendum to the motion to reopen rather than as a separate motion to reopen,<sup>37</sup> and therefore permissible. We need not decide how best to characterize the Motion to Supplement, because, as we indicate below, the arguments in the motion and statements in the accompanying affidavit do not show a safety issue warranting further inquiry.

## II. LEGAL FRAMEWORK

Our regulations, in 10 C.F.R. § 2.341(b)(4), provide that we may grant a petition for review at our discretion, "giving due weight to the existence of a substantial question with respect to the following considerations":

- (i) A finding of material fact is clearly erroneous or in conflict with a finding as to the same fact in a different proceeding;
- (ii) A necessary legal conclusion is without governing precedent or is a departure from or contrary to established law;
- (iii) A substantial and important question of law, policy, or discretion has been raised;
- (iv) The conduct of the proceeding involved a prejudicial procedural error; or
- (v) Any other consideration which the Commission may deem to be in the public interest.

Motions to reopen are governed by 10 C.F.R. § 2.326, which provides:

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<sup>33</sup> LBP-08-12, 68 NRC at 25.

<sup>34</sup> Dissent of Judge Baratta, attached to LBP-08-12 (Dissent), *see* 68 NRC at 30.

<sup>35</sup> Dissent, 68 NRC at 30 n.1.

<sup>36</sup> LBP-08-12, 68 NRC at 28.

<sup>37</sup> Dissent, 68 NRC at 33 n.4.

(a) A motion to reopen a closed record to consider additional evidence will not be granted unless the following criteria are satisfied:

(1) The motion must be timely. However, an exceptionally grave issue may be considered in the discretion of the presiding officer even if untimely presented;

(2) The motion must address a significant safety or environmental issue; and

(3) The motion must demonstrate that a materially different result would be or would have been likely had the newly proffered evidence been considered initially.

(b) The motion must be accompanied by affidavits that set forth the factual and/or technical bases for the movant's claim that the criteria of paragraph (a) of this section have been satisfied. Affidavits must be given by competent individuals with knowledge of the facts alleged, or by experts in the disciplines appropriate to the issues raised. Evidence contained in affidavits must meet the admissibility standards of this subpart. Each of the criteria must be separately addressed, with a specific explanation of why it has been met. When multiple allegations are involved, the movant must identify with particularity each issue it seeks to litigate and specify the factual and/or technical bases which it believes support the claim that this issue meets the criteria in paragraph (a) of this section.

...

(d) A motion to reopen which relates to a contention not previously in controversy among the parties must also satisfy the requirements for nontimely contentions in § 2.309(c).

As subsection (d) makes clear, where a motion to reopen proposes a contention not previously part of the proceeding, the requirements for late-filed contentions set out in 10 C.F.R. § 2.309(c) must also be satisfied.

“[A] party seeking to reopen a closed record to raise a new matter faces an elevated burden to lay a proper foundation for its claim. Commission practice holds that the standard for admitting a new contention after the record is closed is higher than for an ordinary late-filed contention.”<sup>38</sup> “New information is not enough . . . to reopen a closed hearing record at the last minute; the information must be significant and plausible enough to require reasonable minds to inquire further.”<sup>39</sup> “The burden of satisfying the reopening requirements is a heavy

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<sup>38</sup> *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-05-12, 61 NRC 345, 350 (2005), citing *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 554-55 (1978). “Obviously, ‘there would be little hope’ of completing administrative proceedings if each newly arising allegation required an agency to reopen its hearings.” *Private Fuel Storage*, 61 NRC at 350 n.18.

<sup>39</sup> *Id.* at 350.

one,’’<sup>40</sup> and ‘‘proponents of a reopening motion bear the burden of meeting all of [these] requirements.’’<sup>41</sup>

### III. DISCUSSION

In its petition for review, Citizens argues that the Board erred in declining to reopen this license renewal proceeding to admit its new contention. Citizens makes four arguments, none of which persuades us that the Board made errors requiring that we grant the petition for review. First, Citizens argues that its metal fatigue cumulative usage factor contention addressed a significant safety issue (10 C.F.R. § 2.326(a)(2)), and that the Board majority, in finding that it did not, applied the wrong legal standard and ignored evidence supporting the view that the issue was safety significant.

Second, Citizens argues that admitting its contention would have had a material effect on the outcome of the proceeding (10 C.F.R. § 2.326(a)(3)). In making this point, Citizens argues that the correct standard for reopening is the summary disposition standard; that the conservatism of AmerGen’s analysis is in dispute; that the Board majority relied on the wrong evidence; and that the Board majority erred in finding that the contention was moot. Alternatively, Citizens argues, additional discovery should have been permitted.

Third, Citizens argues that when the Board asked for pleadings responding to AmerGen’s RAI Response, the Board ‘‘created procedural prejudice by allowing AmerGen and the Staff to make additional factual arguments about the deficiency of the proposed contention to which Citizens did not get a chance to reply, because the Board asked for simultaneous briefing from all the parties.’’<sup>42</sup>

Finally, Citizens argues that imposing stringent requirements for reopening the record and disallowing discovery ‘‘eviscerates Citizens[’] right to a hearing under the [Atomic Energy Act]. . . . [According to Citizens], [e]ither the majority’s interpretation of the rules is incorrect or the rules themselves are deficient.’’<sup>43</sup>

We discuss these four points in turn.<sup>44</sup>

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<sup>40</sup> *Louisiana Power & Light Co.* (Waterford Steam Electric Station, Unit 3), CLI-86-1, 23 NRC 1, 5 (1986).

<sup>41</sup> *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-90-10, 32 NRC 218, 221 (1990).

<sup>42</sup> Petition at 16.

<sup>43</sup> *Id.* at 20.

<sup>44</sup> We note that the Board majority did not find the Motion to Reopen untimely, so whether the motion satisfied the timeliness requirements of 10 C.F.R. § 2.326(a)(1) is not at issue now. Judge Baratta devotes a fair amount of discussion to the timeliness of Citizens’ motion to reopen. Dissent, 68 NRC at 30-33. As Judge Baratta points out, a decision on the timeliness of the motion to reopen

*(Continued)*



**A. 10 C.F.R. § 2.326(a)(2) — “Significant Safety Issue”**

The Board majority found that Citizens’ Motion to Reopen failed to show that its new contention raised a significant safety issue. In the majority’s view, Citizens failed to provide the factual evidence or expert testimony required by 10 C.F.R. § 2.326(b), and this failure was fatal to its effort to present a significant safety issue. In its petition for review, Citizens points to a number of asserted failings in the Board’s decision.

Citizens argues the Board majority set the “significance” bar too high. According to Citizens, the requirement that a motion to reopen must address a significant safety issue is satisfied by a “mere showing” that a possible violation of regulatory safety standards could occur. Such a demonstration would not require specific factual or technical information that shows that the purportedly nonconservative cumulative usage factor calculation for the Oyster Creek recirculation outlet nozzle will result in a significant safety issue. Citizens’ “mere showing” standard is a novel interpretation that misapprehends the plain language of the rule. Section 2.326(b) requires motions to reopen to be accompanied by affidavits of qualified experts presenting the factual and/or technical bases for the claim that there is a significant safety issue, together with evidence that satisfies our admissibility standards. A “mere showing” of a possible violation is not enough. And Citizens did not provide even that.

According to Citizens, AmerGen’s calculations with respect to the recirculation output nozzle used nonconservative assumptions and a nonconservative methodology. Citizens argues that because the predicted environmentally corrected cumulative usage factor was at or close to the allowable limit of 1.0 under the simplified, nonconservative assumptions, a reanalysis that complied with the ASME Code would likely predict that the allowed limit of 1.0 would be exceeded during any extended period of operation,<sup>45</sup> which “would lead to violation of the requirement for an adequate [time-limited aging analysis], 10 C.F.R. § 54.21(c)(1)(ii), [so] the increase would be safety significant.”<sup>46</sup> To support this, Citizens relied on the Staff’s April 3, 2008, notification<sup>47</sup> and on information from the *Vermont Yankee* proceeding, which, as the Board majority points out, Citizens

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was “not necessary to the [m]ajority” since the majority found that the motion to reopen failed our reopening rule’s “significant safety issue” and “materially different result” requirements (10 C.F.R. § 2.326(a)(2)-(a)(3)). Dissent, 68 NRC at 30. Because we agree with the majority’s assessment regarding whether the motion to reopen satisfied section 2.326(a)(2) and (3), we need not address the timeliness question.

<sup>45</sup> First Hopenfeld Declaration ¶ 9.

<sup>46</sup> Petition at 5.

<sup>47</sup> Staff Notification. We agree with the Board majority that Citizens’ reliance on an NRC Staff document to satisfy the 10 C.F.R. § 2.326(b) affidavit requirement is tenuous. *See* LBP-08-12, 68 NRC at 17 n.10. But, like the majority, we need not decide that issue to resolve the petition for review.

failed to link to the site-specific characteristics of the Oyster Creek plant. The cited regulation, 10 C.F.R. § 54.21(c)(1)(ii), specifies technical information that must be included in a license renewal application, namely a list of time-limited aging analyses, together with a demonstration that the “analyses have been projected to the end of the period of extended operation.”<sup>48</sup> Citizens provided no evidence to support its argument that AmerGen’s calculations were based on nonconservative assumptions or methodologies, or to support its premise that a change to a more conservative analytical methodology would push the cumulative usage factor over 1.0.

Citizens’ expert complains that AmerGen’s revised, ASME Code-based analysis omitted the cladding on the recirculation nozzle, which had been included in the first, Green’s function-based analysis. Citizens’ expert believed that, were the cladding accounted for under the revised analysis, the cumulative usage factor likely would have exceeded 1.0. Citizens argued, therefore, that AmerGen should have shown a plant-specific basis for omitting the cladding in its revised analysis.<sup>49</sup> Similarly, Judge Baratta argues that the omission of the cladding in the reanalysis had safety significance.<sup>50</sup>

We disagree. Omitting the cladding when performing ASME Code-based cumulative usage factor calculations is expressly allowed under both the ASME Code and under implementing NRC guidance.<sup>51</sup> An applicant is not required to

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<sup>48</sup> See 10 C.F.R. § 54.21(c)(1)(ii); section 54.21(c)(1) is reproduced in full, above (Section I.B). Citizens did not point explicitly to 10 C.F.R. § 54.21(c)(1)(ii) as the “violated” regulation until its petition for review. Citizens’ Motion to Reopen did not directly reference 10 C.F.R. § 54.21(c), though its expert briefly mentioned section 54.21(c)(iii) (First Hopenfeld Declaration ¶ 10). There was also a brief mention of section 54.21(c)(ii) in Citizens’ Motion to Supplement at 9.

<sup>49</sup> Petition at 6, citing Second Hopenfeld Declaration ¶¶ 9-11. Similarly, Dr. Hopenfeld bases his assertion that the reanalysis does not show that the original analysis was sufficiently conservative on his view that the assumptions incorporated in the reanalysis, particularly relating to the omission of the cladding on the recirculation output nozzle, were not justified. Second Hopenfeld Declaration ¶ 9.

<sup>50</sup> Dissent, 68 NRC at 39-40.

<sup>51</sup> See ASME Code, Section III, Subsection NB, Subarticle NB-3122.3 (“[W]hen the cladding is of the integrally bonded type and the nominal thickness of the cladding is 10% or less of the total thickness of the component, the presence of the cladding may be neglected”); NUREG/CR-6260, “Application of NUREG/CR-5999 Interim Fatigue Curves to Selected Nuclear Power Plant Components,” at 4-2 (Feb. 1995) (ADAMS Accession No. ML031480219) (“For the ASME Code fatigue curves, the fatigue usage for the base metal under the cladding is less than for the cladding for comparable stress intensity levels because the fatigue life for stainless steel is several times greater than for carbon/low-alloy steel. . . . Thus, for ASME Code analyses, it is reasonable to neglect fatigue of the cladding and compute the [cumulative usage factor] of the base metal”). See also Staff Responses to Public Comments on Draft Regulatory Guide DG-1144 (proposed new Regulatory Guide 1.207), “Guidelines for Evaluating Fatigue Analyses Incorporating the Life Reduction of Metal Components Due to the Effects of the Light-Water Reactor Environment for New Reactors,” and Draft NUREG/CR-6909, “Effect of LWR Coolant Environments on the Fatigue Life of Reactor

*(Continued)*

provide a plant-specific justification for excluding cladding for this component. Citizens has provided no evidence that the recirculation outlet nozzle at Oyster Creek is an exception to the rule permitting exclusion of the cladding for fatigue calculations. Citizens has not pointed to operating experience at Oyster Creek (or relevant operating experience at any other plant) that calls into question the justification for this exclusion. Finally, Citizens has provided only speculation that the Green's function analysis, which *did* include the nozzle cladding, was nonconservative.

Citizens argues that the Board erred when it discounted the relevance of a newspaper article that Citizens presented as evidence to support its contention. The article included a statement attributed to an NRC spokesperson to the effect that breakage of a recirculation outlet nozzle could have severe consequences.<sup>52</sup> Quite apart from evidentiary shortcomings presented by a newspaper article, we agree with the Board majority that the nexus between the purportedly nonconservative cumulative usage factor analysis and a "significant safety issue" is lacking. As the majority correctly noted, "[b]inding case law establishes that a movant who seeks to reopen the record does *not* show the existence of a significant safety issue merely by showing that a plant component 'perform[s] safety functions and thus ha[s] safety significance.'"<sup>53</sup>

Citizens faults the Board majority for disregarding what Citizens characterizes as "additional evidence" presented by Judge Baratta.<sup>54</sup> Even if we agreed that an affidavit of another party (here the NRC Staff) could appropriately function as Citizens' supporting affidavit,<sup>55</sup> clearly a dissenting judicial opinion cannot

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Materials (Draft Report for Comment)," Item 6, at 5 (ADAMS Accession No. ML070510687) ("The ASME Code allows the designer to neglect the presence of the cladding if its thickness is less than 10% of the total thickness of the component, as stated in paragraph NB-3122 of the ASME Code. The designer should assume that the environmental effects apply to the underlying carbon steel material for those cases in which the cladding is neglected").

<sup>52</sup> See LBP-08-12, 68 NRC at 19, citing Motion to Reopen at 7-8 (quoting Todd Bates, *NRC Wants Nuclear Plant's Water Nozzles Rechecked*, Asbury Park Press, Apr. 7, 2008).

<sup>53</sup> LBP-08-12, 68 NRC at 18, citing *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-90-6, 31 NRC 483, 487 (1990) (emphasis and alterations in original).

<sup>54</sup> Petition at 7. Citizens also faults the Board majority for disregarding the "broader safety significance of the [nonconservative calculation] issue" which is "also relevant to safety [at] least seven other reactors." Petition at 7-8. The scope of this proceeding, however, is limited to the license renewal application for the Oyster Creek facility.

<sup>55</sup> Dissent, 68 NRC at 34. To support his view that a document prepared by another party such as the Staff can substitute for the affidavit required under 10 C.F.R. § 2.326(b), Judge Baratta cites to a single case that antedates codification of the current rule in 1986. *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-124, 6 AEC 358, 364 (1973). In our view, Judge Baratta's reading of that case is too broad; the case also is distinguishable since here, unlike in the *Vermont Yankee* case, the documents do not, "on their face," raise "serious safety concerns" — a

(Continued)

substitute for the movant’s affidavit required to be submitted with that motion to reopen, and thus cannot be considered to be “additional evidence.” Moreover, we disagree that, even if true, an environmentally adjusted cumulative usage factor greater than 1.0 violates our “defense-in-depth” principle. The safety risk is negligible:

While the Staff is not suggesting that the [environmentally adjusted cumulative usage factor] of Oyster Creek’s recirculation nozzle actually exceeds 1.0 . . . the principle of defense[-]in[-]depth would not be violated even if [it] did exceed 1.0, because risk assessments demonstrate that the increase in the core damage frequency . . . resulting from a [cumulative usage factor] as high as 4.75 is negligible.<sup>56</sup>

**B. 10 C.F.R. § 2.326(a)(3) — “Materially Different Result”**

The Board majority found that not only did Citizens’ motion to reopen fail to present a significant safety issue, but it “also fail[ed] to show a likelihood that consideration of their new contention would result in the denial or conditioning of AmerGen’s license renewal application.”<sup>57</sup> Citizens argues that, in reaching this conclusion, the Board erred by misapplying the standard of proof applicable to motions to reopen.<sup>58</sup> According to Citizens, the appropriate standard for determining whether a motion to reopen should be granted is the summary disposition standard, which places the burden of proof on the moving party and requires the evidence to be considered in the light most favorable to the party opposing summary disposition. Citizens would have us reverse the burden, requiring opponents to its motion to reopen to demonstrate the absence of a genuine issue of material fact, while construing the evidence presented in the light most favorable to Citizens. This reading of our rules is incorrect.

“The interpretation of a regulation, like the interpretation of a statute, begins ‘with the language and structure of the provision itself . . . [and] the entirety of the

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prerequisite according to the *Vermont Yankee* Appeal Board for bypassing the accompanying affidavit requirement. *Id.* at 364. In *Vermont Yankee*, the Staff itself stated relatively early on, in its proposed findings, that resolution of the issues (which related to the applicant’s quality assurance program) must be resolved prior to issuance of the license (*id.* at 360), and the Appeal Board, in discussing the serious nature of its concerns, noted that there was “no record evidence that a satisfactory [quality assurance] program even exist[ed]” (*id.* at 362). In contrast, here the Staff simply asked for a confirmatory analysis (RAI, 4.3.4-1) and explicitly stated that the original analysis was not in question (Draft RIS, 73 Fed. Reg. at 24,095).

<sup>56</sup> Staff Answer at 10, referring to Fair Affidavit ¶ 8.

<sup>57</sup> LBP-08-12, 68 NRC at 23.

<sup>58</sup> Petition at 3.

provision must be given effect.’<sup>59</sup> The standards governing motions to reopen appear in 10 C.F.R. § 2.326. Motions for summary disposition are governed by an entirely separate rule, 10 C.F.R. § 2.710. By advocating a summary disposition standard, Citizens would effectively excise the reopening and “nontimely filing” standards<sup>60</sup> and replace them with a reformulated section 2.710, stripped of its own timeliness requirements and applied to a post-decisional context for which it was not intended.

Most significantly, Citizens’ interpretation shifts the burden — deliberately heavy and deliberately placed on the party seeking reopening — from parties advocating reopening to parties opposed to it. This is the exact opposite of what the rule requires. Under 10 C.F.R. § 2.326, it is not AmerGen’s (or the Staff’s) burden to defeat the motion to reopen. Instead, it is *Citizens’* burden, through its motion to reopen and in its accompanying affidavit (the First Hopenfeld Declaration), to demonstrate that the motion should be granted. Bare assertions and speculation, such as Citizens’ expert’s speculation that “[i]t is . . . likely that an analysis that complies with the ASME Code would predict that the [cumulative usage factor] would become greater than one during the proposed period of extended operation,”<sup>61</sup> and that “the environmental factors in the [license renewal application] and the [request for additional information] are probably non-conservative,”<sup>62</sup> do not supply the requisite support. Moreover, regardless of how Citizens’ Motion to Supplement (accompanied by the Second Hopenfeld Declaration) is characterized, as the Board majority correctly recognized, even in this second filing Citizens’ expert’s assertions remain speculative and continue to lack the technical details and analysis required to support reopening the proceeding.<sup>63</sup>

The arguments Citizens makes to us in its petition for review do not remedy the deficiencies of its motion to reopen. Nor do Citizens’ arguments demonstrate that the Board majority erred. Section 2.326(b) requires motions to reopen to be accompanied by supporting affidavits of experts, and the Board majority properly found Citizens’ Motion to Reopen lacking in this respect. In its petition for review, Citizens asserts that “there are unresolved issues of fact regarding whether a materially different result would be likely.”<sup>64</sup> For support, Citizens relies on Judge Baratta’s disagreement with the majority, citing heavily to his

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<sup>59</sup> *U.S. Department of Energy (High-Level Waste Repository)*, CLI-06-5, 63 NRC 143, 154 (2006), quoting *Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1)*, ALAB-900, 28 NRC 275, 288, *review denied*, CLI-88-11, 28 NRC 603 (1988).

<sup>60</sup> See 10 C.F.R. § 2.326 (reopening); 10 C.F.R. § 2.309(c)(1) (nontimely filing).

<sup>61</sup> First Hopenfeld Declaration ¶ 9 (emphasis added).

<sup>62</sup> First Hopenfeld Declaration ¶ 11 (emphasis added).

<sup>63</sup> In this connection, we note that in his admittedly limited analysis, Citizens’ expert identified no specific deficiencies in AmerGen’s RAI Response.

<sup>64</sup> Petition at 11.

dissent — almost as though the dissent were an affidavit and Judge Baratta were Citizens’ expert — and faulting the majority for “carr[ying] out no technical analysis at all.”<sup>65</sup> As we stated above, Judge Baratta’s dissenting opinion cannot substitute for the affidavit required to be submitted to the Board, with a motion to reopen, in the first instance. And the Board is not required to augment a deficient motion to reopen by performing supplementary technical analysis. In fact, “a Board is to decide the motion to reopen on the information before it and has no authority to engage in discovery in order to supplement the pleadings before it. Simply put, the burden of satisfying the reopening requirements is on the movant. . . .”<sup>66</sup>

Citizens goes on to accuse the Board majority of ignoring “critical evidence” and citing “irrelevant evidence” demonstrating a dispute as to the conservatism of the analyses.<sup>67</sup> For example, Citizens argues that it “provided expert testimony stating that to be certain that an analysis was conservative, each assumption should be justified by the actual conditions.”<sup>68</sup> Citizens argues that it also provided testimony that “AmerGen . . . failed to show that its second analysis, [which] omitted the effect of the cladding on the nozzle, was conservative,” and that Judge Baratta agreed with Citizens’ expert that this cladding issue mattered to the conservatism of the cumulative usage factor analysis.<sup>69</sup> According to Citizens, “AmerGen cannot successfully defeat the motion to reopen using the unsupported assertion of its expert that the confirmatory analysis conforms to the ASME code.”<sup>70</sup> Because the conservatism of the confirmatory analysis was in dispute, Citizens argues, dismissal of its motion to reopen was erroneous.

These arguments fundamentally dispute the Board’s assessment of the testimony Citizens provided in support of its contention. We are generally disinclined to upset fact-driven Licensing Board determinations, particularly “where the affidavits or submissions of experts must be weighed.”<sup>71</sup> We find unpersuasive Citizens’ arguments for Commission reconsideration of the Board’s findings regarding Dr. Hopenfeld’s expert testimony. Citizens has identified no clear Board

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<sup>65</sup> *Id.*

<sup>66</sup> *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-915, 29 NRC 427, 433 (1989), quoting *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), CLI-86-7, 23 NRC 233, 235-36 (1986), *aff’d sub nom. Ohio v. NRC*, 814 F.2d 258 (6th Cir. 1987), and citing *Louisiana Power & Light Co.* (Waterford Steam Electric Station, Unit 3), CLI-86-1, 23 NRC 1 (1986).

<sup>67</sup> Petition at 11-14.

<sup>68</sup> *Id.* at 11, citing Dissent at 13 [68 NRC at 39], in turn citing the Second Hopenfeld Declaration.

<sup>69</sup> *Id.*

<sup>70</sup> *Id.* at 13.

<sup>71</sup> *Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-00-12, 52 NRC 1, 3 (2000), quoting *Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-99-22, 50 NRC 3, 6 (1999).

factual or legal error requiring further Commission consideration on appellate review, but merely complains that the Board improperly weighed the evidence, essentially restating its objections to AmerGen's confirmatory analysis.<sup>72</sup> Without more, we are disinclined to second-guess the Board's assessment of Citizens' affidavits.

Citizens argues in the alternative that we should allow discovery so that Citizens can flesh out support for its proposed contention. This request is contrary to our rules and longstanding precedent barring discovery in connection with the preparation of proposed contentions.<sup>73</sup> Moreover, Citizens' expert could, in our view, have provided an analysis based on the technical information provided in the RAI Response, particularly the data included in Attachments 1 and 2 to the response.<sup>74</sup>

### C. Other Claims

Citizens argues that the Board created procedural prejudice when it requested

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<sup>72</sup>To the extent that Citizens argues that the Board majority erred in finding its proposed "contention of omission" moot, it is simply incorrect. The contention, as proffered on April 18, demanded that AmerGen perform a confirmatory analysis using a conservative methodology. AmerGen later performed a confirmatory analysis, using the ASME Code method called for in our regulations. Thus, the contention of omission, as originally proffered, was indeed rendered moot by AmerGen's submission to the NRC of its confirmatory analysis, and the Board majority did not err in making that determination. See *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 383 (2002); see also *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-05-24, 62 NRC 429, 431 (2005).

<sup>73</sup>Discovery is not available until after a request for hearing or petition to intervene has been granted. See 10 C.F.R. § 2.336. See *Consumers Energy Co.* (Palisades Nuclear Plant), CLI-07-18, 65 NRC 399, 416 (2007) ("We have long precluded petitioners from using discovery as a device to uncover additional information supporting the admissibility of contentions") See also *Baltimore Gas & Electric Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-25, 48 NRC 325, 351 (1998); *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-85-7, 21 NRC 1104, 1106 (1985) ("The movant is not entitled to engage in discovery in order to support a motion to reopen").

<sup>74</sup>On October 14, 2008, Citizens sent a letter to Chairman Klein, with an attachment prepared by Dr. Hopenfeld, in an apparent attempt to bolster the technical underpinnings of its cumulative usage factor contention. Citizens provided no procedural justification for this submission, and we do not consider it to be part of the record before us. Nonetheless, even though couched as a response to the Staff's SER Supplement, it is clear that the arguments Dr. Hopenfeld makes in the attachment to the letter are in actuality based upon information, like AmerGen's RAI Response, available several months ago. In our view, Citizens' letter simply confirms that Citizens' expert could have made a more complete argument based on the RAI Response — *without discovery* of AmerGen's confirmatory analysis. See Letter to Chairman Klein, Re: *In the Matter of AmerGen Energy Co., LLC* (License Renewal for Oyster Creek Nuclear Generating Station), Docket No. 50-219-LR (Oct. 14, 2008), served via e-mail by Citizens' counsel. The Staff responded to Citizens' letter, see NRC Staff's Motion for Leave to Reply to Citizens' October 14, 2008 Letter and Comments to the Chairman (Oct. 27, 2008).

simultaneous briefs from the parties to explain the effect of AmerGen’s RAI Response. Citizens argues that because both AmerGen and the Staff purportedly made additional factual arguments in their briefs, which the Board used in denying the proposed contention, Citizens should have been permitted to file a reply brief. Citizens reiterates its basic complaint regarding discovery, but, in reviewing Citizens’ filings before the Board,<sup>75</sup> we see no attempt on the part of Citizens’ expert to interpret the data that were provided in AmerGen’s RAI response, to demonstrate, specifically, why that information was not sufficient to form the basis for a new contention, or to indicate what a reply brief, had one been permitted, would have contained or how such a reply brief could have altered the outcome of the proceeding.<sup>76</sup> In fact, while Citizens filed a motion to strike portions of the other parties’ responses to the Board’s request for additional briefing, it did not file a motion seeking leave to file a reply brief, and provided no justification for a reply brief. We see no “compelling circumstances” justifying a reply brief — indeed, the parties could reasonably anticipate the argument that Citizens’ contention was moot simply based on the Board’s request for an explanation of the significance of the RAI Response.

Citizens argues that it was entitled to a hearing on its proposed contention because section 189(a) of the Atomic Energy Act (AEA)<sup>77</sup> guarantees a right to a hearing on any issue that is material to licensing and because traditional notions of due process require full consideration of Citizens’ concerns. According to Citizens, the Board’s overly stringent interpretation of our reopening rules violated the AEA; alternatively, Citizens argues, our rules are deficient because they violate the AEA.<sup>78</sup> But the AEA’s guarantee of a hearing on material issues is not without limitation. “[S]ection 189(a)’s hearing requirement does not unduly limit the Commission’s wide discretion to structure its licensing hearings in the interests of speed and efficiency.”<sup>79</sup> The hearing right provided in section 189(a) is not automatic — our rules appropriately require the identification of specific

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<sup>75</sup> See, e.g., Motion to Reopen, First Hopenfeld Declaration, Motion to Reopen Reply I, Motion to Reply II, Motion to Supplement, Second Hopenfeld Declaration, Citizens’ Motion to Strike and for Other Appropriate Relief (June 5, 2008).

<sup>76</sup> Cf. *Owner-Operator Independent Drivers Ass’n, Inc. v. Federal Motor Carrier Safety Administration*, 494 F.3d 188, 203 (D.C. Cir. 2007) (“To show that error was prejudicial, a [petitioner] must indicate with reasonable specificity what portions of the documents it objects to and how it might have responded if given the opportunity. . . . Moreover, a petitioner must show that on remand [it] can mount a credible challenge . . . and [was] thus prejudiced by the absence of an opportunity to do so before the agency”) (internal quotation marks and citations omitted, other alterations in original).

<sup>77</sup> 42 U.S.C. § 2239(a).

<sup>78</sup> See 10 C.F.R. § 2.335. Generic challenges to our rules are barred in adjudicatory proceedings.

<sup>79</sup> *Union of Concerned Scientists v. NRC*, 735 F.2d 1437, 1448 (D.C. Cir. 1984) (*UCS I*).



factual support to justify reopening.<sup>80</sup> Here, Citizens failed to articulate a claim with the specificity required under our rules. We find no deficiency in the Board majority's application of our reopening rules, our contention admissibility rules, or our discovery rules.

#### IV. CONCLUSION

For the reasons stated above, the petition for review is *denied*.  
IT IS SO ORDERED.

For the Commission

ANNETTE L. VIETTI-COOK  
Secretary of the Commission

Dated at Rockville, Maryland,  
this 6th day of November 2008.

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<sup>80</sup> See *UCS I* at 1448, citing *Business and Professional People for the Public Interest v. AEC*, 502 F.2d 424, 428 (D.C. Cir. 1974) (“[Section 189(a)] does not confer the automatic right of intervention upon anyone. Under its procedural regulations it is not unreasonable for the Commission to require that the prospective intervenor first specify the basis for his request for a hearing”).

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**Ronald M. Spritzer**, Chairman  
**Dr. Richard F. Cole**  
**Dr. Alice C. Mignerey**

**In the Matter of**

**Docket No. 52-017-COL**  
**(ASLBP No. 08-863-01-COL)**  
**(Combined License Application)**

**VIRGINIA ELECTRIC AND POWER**  
**COMPANY d/b/a DOMINION**  
**VIRGINIA POWER and OLD**  
**DOMINION ELECTRIC**  
**COOPERATIVE**  
**(North Anna Power Station, Unit 3)**

**November 7, 2008**

**LICENSING BOARDS: AUTHORITY**

Although licensing boards frequently hold oral arguments on contention admissibility, a board may instead elect to dispense with oral argument. *See* 10 C.F.R. § 2.331.

**LICENSING BOARDS: AUTHORITY**

When a board decides to allow oral argument on contention admissibility, neither NRC regulations nor agency policy mandates that the arguments be conducted in person near the site. The argument may be held in a public place in the vicinity of the facility in question or in the ASLBP Hearing Room at NRC Headquarters in Rockville, Maryland. Another option is to hold a prehearing teleconference.

## **DUE PROCESS: COMBINED OPERATING LICENSES**

In ASLBP proceedings, collateral estoppel may bar a party from relitigating the admissibility of a contention when an earlier board refused to admit the same contention in an earlier proceeding involving the same facility. The party against which collateral estoppel is applied must have had a full and fair opportunity to litigate its position, but it need not necessarily have had discovery or an evidentiary hearing.

### **ORDER**

#### **(Denying the Motion of the Blue Ridge Environmental Defense League to Reconsider the Board's Order of August 15, 2008)**

On August 25, 2008, the Blue Ridge Environmental Defense League (BREDL) filed a "Motion for Leave to File for Reconsideration and Motion for Reconsideration in Part of Atomic Safety and Licensing Board's Order of August 15, 2008."<sup>1</sup> On August 28, 2008, the Board granted BREDL leave to file the Motion to Reconsider without deciding whether reconsideration should be granted, and directed that any party wishing to file a response do so within the time limit provided in 10 C.F.R. § 2.323(c).<sup>2</sup> Virginia Electric and Power Company *dba* Dominion Virginia Power and Old Dominion Electric Cooperative (collectively, Dominion), and the NRC Staff both filed timely responses opposing the motion.<sup>3</sup> Having reviewed the parties' submissions, we conclude that BREDL has failed to meet the high standard for granting reconsideration, and we accordingly deny its Motion to Reconsider.

#### **I. BACKGROUND**

On November 26, 2007, pursuant to Subpart C of 10 C.F.R. Part 52, Dominion filed a Combined Operating License (COL) Application to construct and operate an Economic Simplified Boiling Water Reactor at its existing North Anna Power Station site.<sup>4</sup> On March 10, 2008, the NRC published a notice of opportunity

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<sup>1</sup> We will hereafter refer to the second of BREDL's combined motions, its Motion for Reconsideration in Part of the August 15, 2008 Order, as the "Motion to Reconsider."

<sup>2</sup> Licensing Board Order (Granting the Blue Ridge Environmental Defense League Leave to File for Reconsideration) (Aug. 28, 2008) (unpublished).

<sup>3</sup> Dominion's Answer Opposing BREDL's Motion for Reconsideration (Sept. 4, 2008); NRC Staff's Response in Opposition to the Blue Ridge Environmental Defense League's Motion for Reconsideration (Sept. 4, 2008).

<sup>4</sup> See 73 Fed. Reg. at 12,760 (Mar. 10, 2008).

for hearing on the Application.<sup>5</sup> On May 9, 2008, BREDL submitted a Petition to Intervene and Request for Hearing.<sup>6</sup> The NRC Staff and Dominion each filed answers on June 3, 2008,<sup>7</sup> and BREDL replied on June 11, 2008.<sup>8</sup> The Board conducted a prehearing teleconference on July 2, 2008, to hear legal argument on the admissibility of BREDL's contentions.<sup>9</sup> The Board issued a Memorandum and Order on August 15, 2008 (Order), in which it found that BREDL has standing, admitted BREDL's first contention in part, determined that its remaining contentions were inadmissible, admitted BREDL as a party, and granted BREDL's request for a hearing.<sup>10</sup> BREDL then timely filed the Motion to Reconsider, in which it raises two arguments. First, BREDL criticizes our decision to hold the oral argument on contention admissibility by teleconference, claiming this was inconsistent with Commission policy. Second, BREDL asks that we reconsider our ruling that Contentions Seven and Eight are inadmissible.

## II. STANDARD OF REVIEW

A motion for reconsideration may not be filed except with leave of the Licensing Board, "upon a showing of compelling circumstances, such as the existence of a clear and material error in a decision, which could not reasonably have been anticipated, that renders the decision invalid."<sup>11</sup> When the Commission revised its hearing procedures in 2004, it strengthened the standard for reconsideration motions, stating:

This standard, which is a higher standard than the existing case law, is intended to permit reconsideration only where manifest injustice would occur in the absence of reconsideration, and the claim could not have been raised earlier. In the Commission's view, reconsideration should be an extraordinary action and should not be used as an opportunity to reargue facts and rationales which were (or should have been) discussed earlier.<sup>12</sup>

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<sup>5</sup> *Id.*

<sup>6</sup> Petition for Intervention and Request for Hearing by Blue Ridge Environmental Defense League (May 9, 2008) [hereinafter Petition].

<sup>7</sup> NRC Staff Answer to "Petition for Intervention and Request for Hearing by the Blue Ridge Environmental Defense League" (June 3, 2008); Dominion's Answer Opposing Petition for Intervention and Request for Hearing by the Blue Ridge Environmental Defense League (June 3, 2008).

<sup>8</sup> Reply of the Blue Ridge Environmental Defense League to Dominion Virginia Power and NRC Staff Answers to Our Petition for Intervention and Request for Hearing (June 11, 2008).

<sup>9</sup> *See* Tr. at 1-59.

<sup>10</sup> LBP-08-15, 68 NRC 294, 338 (2008).

<sup>11</sup> 10 C.F.R. § 2.323(e).

<sup>12</sup> Final Rule: "Changes to Adjudicatory Process," 69 Fed. Reg. 2182, 2207 (Jan. 14, 2004).

### III. DISCUSSION

#### A. The Teleconference Procedure

BREDL argues that the Board should have conducted the oral argument on contention admissibility in person near the North Anna Site, rather than by teleconference.<sup>13</sup> BREDL does not ask for any specific relief concerning this issue, and the oral argument has already taken place and we have issued our ruling. The issue therefore appears to be moot. BREDL states, however, that the Commission should “prohibit the conduct of telephonic hearing conferences.”<sup>14</sup> We will therefore explain our reasons for deciding that a teleconference was appropriate in this case, so that the Commission will have a record of our position in the event of a future appeal concerning this issue.<sup>15</sup>

BREDL maintains that the decision to conduct the legal argument by teleconference “is not in keeping with the Commission’s traditional approach to dealing with the public,” that the public “has difficulty effectively participating in a telephonic hearing,” and that “[t]elephonic hearings greatly reduce both the number [of] interested persons who may participate in the hearing process and the effectiveness of the participation of those who can call in.”<sup>16</sup>

BREDL’s argument confuses several distinct types of ASLBP proceedings. When boards conduct evidentiary hearings, they often do so in person near the site of the facility at issue, although that general preference is not an absolute rule.<sup>17</sup> Similarly, when boards conduct limited appearance sessions under 10 C.F.R.

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<sup>13</sup> Motion to Reconsider at 1-4.

<sup>14</sup> *Id.* at 4.

<sup>15</sup> We have not previously responded to BREDL’s objection to the teleconference procedure because that objection was filed only 2 days before the argument date, which provided too little time for the Board to prepare a written ruling prior to the argument. On or about June 9, 2008, the law clerk assigned to this case contacted the participants to determine their availability for a teleconference. No participant, including BREDL, objected to the teleconference procedure at that time. We issued an Order on June 11, 2008, tentatively scheduling the teleconference for July 2, 2008. *See* Licensing Board Order (Tentatively Scheduling Teleconference for Oral Argument) (June 11, 2008) (unpublished) [hereinafter June 11 Order]. We issued another Order on June 20, 2008, establishing the format of the July 2, 2008 teleconference. *See* Licensing Board Order (Establishing Format of Oral Argument Scheduled for July 2, 2008) (June 20, 2008) (unpublished) [hereinafter June 20 Order]. Only on June 30, 2008, 2 days before the scheduled argument, did BREDL object to the teleconference procedure, claiming that, “[n]o one communicated to [BREDL’s representative] that the call would be for the purpose [of] hearing oral arguments.” Reply of the Blue Ridge Environmental Defense League to ASLBP Order Tentatively Scheduling Teleconference for Oral Argument (June 30, 2008) at 3. In fact, both the June 11 and June 20 Orders stated that the July 2, 2008 teleconference was “for the purpose of hearing oral argument on BREDL’s petition to intervene and request for hearing.”

<sup>16</sup> Motion to Reconsider at 2.

<sup>17</sup> *See* Licensing Board Order (*Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site) (Apr. 5, 2004) (unpublished)).

§ 2.315(a), in which members of the general public may make oral statements to the board, such sessions are generally conducted in person near the site. The sole purpose of the July 2, 2008 oral argument, however, was to hear legal argument from BREDL, Dominion, and the NRC Staff on whether BREDL's contentions satisfied the admissibility criteria of 10 C.F.R. § 2.309(f), and thus could serve as the basis of a future evidentiary hearing. We neither received evidence nor permitted public statements at the July 2 argument. We made this clear in our electronic message to the hearing participants of June 30, 2008, subsequently memorialized in our Order of July 1, 2008, which explained that only the individuals designated to represent each of the hearing participants would be permitted to address the Board, and "members of the public will not be permitted to speak, but are invited to listen to the Oral Argument by telephone."<sup>18</sup>

Neither NRC regulations nor agency policy mandate that oral arguments on contention admissibility be conducted in person near the site. Indeed, although licensing boards frequently hold oral arguments on contention admissibility, a board may instead elect to dispense with oral argument entirely.<sup>19</sup> As the Commission recently stated, "[o]ral argument on contention admissibility is not a 'right.'"<sup>20</sup> The Commission further explained that "our Boards have broad discretion to issue procedural orders to regulate the course of proceedings and the conduct of participants," and that "[a]s a general matter, we decline to interfere with the Board's day-to-day case management decisions, unless there has been an abuse of power."<sup>21</sup>

When a board decides to allow oral argument on contention admissibility, the argument may be held in a public place in the vicinity of the facility in question or in the ASLBP Hearing Room at NRC Headquarters in Rockville, Maryland. Another option is to hold a prehearing teleconference. If an oral argument is to be held in the vicinity of the facility in question, the public may attend the hearing. When a teleconference is conducted, boards may make additional telephone lines available so that interested members of the public might listen to the teleconference. In addition, a transcript of the hearing, whether it is held in person or by telephone, will be prepared and placed in ADAMS, where it may be reviewed by the public.

Because in this instance the Board's sole purpose was to hear legal argument from the parties' representatives, not to receive the testimony of witnesses or to review exhibits, there was no need for the Board to be in the same location as the participants' representatives. Moreover, the Board decided that it would be useful

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<sup>18</sup> Licensing Board Order (Regarding Teleconference for Oral Argument) (July 1, 2008).

<sup>19</sup> See 10 C.F.R. § 2.331.

<sup>20</sup> *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-08-7, 67 NRC 187, 191 (2008).

<sup>21</sup> *Id.* at 192.

to hear argument on only three of BREDL's eight contentions.<sup>22</sup> For that reason, the Board decided that the added expense and delay of holding oral argument near the facility site was not justified, and that a teleconference would be sufficient. The Board provided in the Order scheduling the teleconference that "[i]n the event that a participant desires to have the conference audited by a person or persons at a different location, upon request . . . one additional telephone line will be made available to the participant for that purpose."<sup>23</sup> Although that offer generated no response at first, shortly before the argument date the Board received various e-mail messages from members of the general public who stated they were interested in the argument.<sup>24</sup> In response, the Board made additional telephone lines available.<sup>25</sup> A number of persons made use of those lines. In its Motion to Reconsider, BREDL presents no evidence to show that any member of the public who wanted to listen to the argument was unable to do so. Indeed, BREDL itself states that persons interested in the oral argument came from across the United States, so it is likely that more persons were able to listen to the teleconference than would have been able to attend an oral argument conducted near North Anna, Virginia.<sup>26</sup> Moreover, a transcript of the argument was placed in ADAMS, where any interested member of the public could read it.<sup>27</sup> Thus, sufficient opportunity was provided for the general public to understand and evaluate the participants' legal arguments.

BREDL claims that conducting oral argument on contention admissibility by teleconference is contrary to 10 C.F.R. § 2.328, which provides that "[e]xcept as may be requested under section 181 of the Act, all hearings will be public unless otherwise ordered by the Commission."<sup>28</sup> The term "hearing" is not defined, but other provisions of 10 C.F.R. Part 2 that also refer to a "hearing" suggest that it means an evidentiary hearing.<sup>29</sup> By contrast, the NRC's regulations do

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<sup>22</sup> See June 20 Order.

<sup>23</sup> Licensing Board Order (Tentatively Scheduling Teleconference for Oral Argument) (June 11, 2008) (unpublished).

<sup>24</sup> Many of the messages also objected to conducting the argument by teleconference. We included these e-mail messages in ADAMS, together with the response of the ASLBP Chief Counsel explaining that the Board acted within its authority. See *Ex Parte* E-mails Regarding Telephonic Oral Argument in ASLBP Adjudications (July 1, 2008), ADAMS Accession No. ML081830849; Response to *Ex Parte* E-mails Regarding Teleconference, Part 2 (July 7, 2008), ADAMS Accession No. ML081900177.

<sup>25</sup> We notified the participants of that action by an electronic message on June 30, 2008, that was confirmed in our Order of July 1, 2008. Licensing Board Order (Regarding Teleconference for Oral Argument) (July 1, 2008).

<sup>26</sup> See Motion to Reconsider at 4.

<sup>27</sup> See Tr. at 1-59.

<sup>28</sup> Reply of the Blue Ridge Environmental Defense League to ASLBP Order Tentatively Scheduling Teleconference for Oral Argument (June 30, 2008) at 2.

<sup>29</sup> See, e.g., 10 C.F.R. §§ 2.309(a), 2.310, 2.327(a).

not expressly mandate how oral arguments on contention admissibility are to be conducted. In any event, the ASLBP, as previously explained, generally allows the public to attend or listen to oral arguments on contention admissibility and to review the argument transcript, and that policy was followed here. Thus, even assuming that section 2.328 should be construed to apply not only to evidentiary hearings but also to oral arguments on contention admissibility, the July 2, 2008 teleconference was consistent with the Commission's policy that NRC proceedings should be open to the public.

BREDL cites an Appeal Board decision and other documents for the proposition that "the ASLB has long been aware that direct participation of local citizens in nuclear reactor licensing improves the safety of nuclear reactor operations and NRC oversight of the construction and licensing process."<sup>30</sup> We do not dispute this statement as a general matter, but it does not pertain to the narrow procedural issue presented here. The "direct participation of local citizens in nuclear reactor licensing" referred to in the materials BREDL cites is not a right to have all legal arguments on contention admissibility take place near the facility at issue, but rather the right of persons with standing to file contentions in licensing proceedings and litigate admissible contentions.<sup>31</sup> There is nothing inconsistent between, on the one hand, recognizing the value of such public participation in the NRC licensing process, and, on the other, deciding that a particular stage of the litigation process, an oral argument on contention admissibility, may properly be conducted by teleconference.

Therefore, our decision to conduct the oral argument on contention admissibility by teleconference was consistent with NRC regulations and policy and reasonable in the circumstances of this case. Prohibiting licensing boards from conducting oral arguments by teleconference would prevent boards from making use of an efficient and useful procedure for cases such as this, in which the expense and delay of an in-person oral argument is not justified.

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<sup>30</sup> Motion to Reconsider at 2.

<sup>31</sup> For example, in *Gulf States Utilities Co.* (River Bend Station, Units 1 and 2), ALAB-183, 7 AEC 222, 227-28 (1974), the Appeal Board stated that "[p]ublic participation in licensing proceedings not only 'can provide valuable assistance to the adjudicatory process,' but on frequent occasions demonstrably has done so." (Footnote omitted.) A report on the Three Mile Island accident, also cited by BREDL, states that intervenors have made "an important impact on safety in some instances — sometimes as a catalyst in the prehearing stage of proceedings, sometimes by forcing more thorough review of an issue or improved review procedures on a reluctant agency." 1 *Three Mile Island: A Report to the Commissioners and the Public*, at 143-44 (1980). The concurring opinion of Judge Farrar in *Shaw Areva MOX Services* (Mixed Oxide Fuel Fabrication Facility), LBP-08-11, 67 NRC 460, 497 (2008), is similarly irrelevant to BREDL's disagreement with the teleconference procedure. In that case, Judge Farrar was concerned about the effect of the timing of the applicant's request for an operating license on the petitioner's ability to file timely, admissible contentions. No such problem is presented here.



## B. The Board's Ruling on Contentions Seven and Eight

BREDL asks that we reconsider our ruling that Contentions Seven and Eight are inadmissible.<sup>32</sup> Contention Seven alleged that “[t]he Environmental Report for the Dominion [COL Application] is deficient because it fails to discuss the environmental implications of the lack of options for permanent disposal of the irradiated (*i.e.*, ‘spent’) fuel that will be generated by the proposed reactors if built and operated.”<sup>33</sup> BREDL states that, although Dominion might have intended to rely on the NRC’s Waste Confidence Rule, that Rule applies only to currently operating reactors, not new reactors, and therefore Dominion was required to analyze the issue in its Environmental Report.<sup>34</sup> Contention Eight claims that, even if the Waste Confidence Rule applies to new reactors, the Commission should reconsider it “in light of significant and pertinent unexpected events that raise substantial doubt about its continuing validity, *i.e.*, the increased threat of terrorist attacks against U.S. facilities.”<sup>35</sup>

Both contentions were virtually identical to contentions BREDL litigated in the North Anna Early Site Permit (ESP) proceeding (identified as EC 3.2.1 and 3.2.2 in the ESP proceeding).<sup>36</sup> The Board in that proceeding concluded that both contentions were inadmissible because they were attempts to challenge the Waste Confidence Rule, in violation of 10 C.F.R. § 2.335.<sup>37</sup> We therefore concluded in our August 15, 2008 Order that we were prohibited from considering Contentions Seven and Eight by 10 C.F.R. § 52.39, which provides that matters resolved in a proceeding on an ESP application are also resolved in a subsequent COL proceeding when the COL application references the ESP.<sup>38</sup> In addition, the doctrine of collateral estoppel barred BREDL from relitigating contentions that had previously been ruled inadmissible. Finally, we stated that even if we were not precluded by the earlier North Anna ESP proceeding from considering Contentions Seven and Eight, those contentions were inadmissible for the reasons given by the Licensing Board for the ESP proceeding.<sup>39</sup>

BREDL does not dispute that Contentions Seven and Eight are “similar in many respects” to Contentions EC 3.2.1 and 3.2.2 in the ESP proceeding.<sup>40</sup>

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<sup>32</sup> Motion for Reconsideration at 4-8.

<sup>33</sup> Petition at 21.

<sup>34</sup> *Id.* at 22.

<sup>35</sup> *Id.* at 27.

<sup>36</sup> *See Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), LBP-04-18, 60 NRC 253 (2004).

<sup>37</sup> *See id.* at 270-72, 276.

<sup>38</sup> LBP-08-15, 68 NRC at 336-37. *See* 10 C.F.R. § 52.39(a)(2). There are exceptions to that general rule, including those listed in section 52.39(c)(1), but none applies to Contentions Seven and Eight.

<sup>39</sup> LBP-08-15, 68 NRC at 337.

<sup>40</sup> Motion to Reconsider at 5.

It contends, however, that it was denied a full and fair opportunity to litigate those contentions in the ESP proceeding, and that this Board therefore erred in holding that it is precluded from litigating those contentions again in this COL proceeding.<sup>41</sup> BREDL states that it was denied a full and fair opportunity to litigate the earlier contentions because, in the ESP proceeding, “there was no discovery or argument in a court of record” and because “the issue has not been given a full and fair hearing.”<sup>42</sup>

This argument fails for several reasons. First, as we explained in our ruling addressing the interpretation of 10 C.F.R. § 52.39, the preclusive effect of that provision does not require that an issue has been litigated in a referenced ESP proceeding, but only that it has been resolved at the earlier stage.<sup>43</sup> As we noted, the Commission intended to grant preclusive effect to issues resolved at the ESP stage even when traditional collateral estoppel principles would not apply because no litigation occurred.<sup>44</sup> The question of the admissibility of BREDL’s contentions was resolved in the ESP proceeding, and accordingly it may not be relitigated here. BREDL states that our conclusion that actual litigation is not required under section 52.39 is “illogical,” but it fails to point to any relevant matter that we overlooked in reaching our interpretation of section 52.39. Furthermore, the Commission itself reached the same conclusion. In promulgating the current 10 C.F.R. Part 52, the Commission stated, “[f]or an early site permit, the NRC prepares an EIS that *resolves* numerous issues within certain bounding conditions.”<sup>45</sup> Thus, the Commission has confirmed that an issue may be resolved in an EIS even if the issue has not been litigated.

Moreover, although actual litigation is required under traditional principles of collateral estoppel, that requirement was satisfied here because BREDL did in fact litigate the two ESP contentions (EC 3.2.1 and 3.2.2) that raised the same issues as Contentions Seven and Eight in this proceeding. A party need not necessarily have had discovery or an evidentiary hearing in order to have had a full and fair opportunity to litigate its position. In the ESP proceeding, BREDL and the other petitioners filed briefs in support of their contentions (some of which were admitted), participated in a 2-day oral argument on the subject of the petitioners’ standing and the admissibility of their contentions, and had the opportunity to appeal the ESP Board’s ruling.<sup>46</sup> Thus, BREDL had a full and fair opportunity in the ESP proceeding to litigate the issue whether the contentions were admissible,

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<sup>41</sup> *Id.* at 6-8.

<sup>42</sup> *Id.* at 7.

<sup>43</sup> *See* LBP-08-15, 68 NRC at 305-11.

<sup>44</sup> *Id.* at 310.

<sup>45</sup> 72 Fed. Reg. 49,352, 49,431 (Aug. 28, 2007) (emphasis added).

<sup>46</sup> LBP-04-18, 60 NRC at 261.

and that is sufficient to preclude BREDL from relitigating their admissibility a second time in this proceeding.

The situation here is analogous to cases in which federal courts have given collateral estoppel effect to judgments granting a motion to dismiss, when the party against which collateral estoppel is invoked had a full and fair opportunity to oppose the dismissal. For example, in *Keystone Shipping Co. v. New England Power Co.*, 109 F.3d 46, 52 (1st Cir. 1997), a state court had dismissed a claim on the ground that it was covered by an arbitration agreement, and a federal district court subsequently held that the state court judgment precluded relitigating the question of arbitrability. In affirming, the First Circuit explained:

Keystone opposed NEP's motion to dismiss the Massachusetts state cause of action before the state court with briefs, affidavits, and at a motion hearing. Keystone feebly argues that the state court should not have disposed of its cause of action by motion, but instead should have conducted an evidentiary hearing. As NEP correctly notes, the Massachusetts court had before it the relevant contractual documents, read and heard the litigants' opposing views on what meaning and effect should be afforded to those documents and the history of the parties' arbitration efforts, and properly concluded that the arbitrability question could be decided on motion. Well-settled principles of law indicate that the arbitrability issue was actually litigated for preclusion purposes because it was "subject to an adversary presentation and consequent judgment" that was not "a product of the parties' consent and is a final decision on the merits."<sup>47</sup>

Similarly, it is sufficient here that BREDL had a full and fair opportunity to litigate the admissibility of Contentions EC 3.2.1 and 3.2.2 before the ESP Board. The issue of the admissibility of Contentions EC 3.2.1 and 3.2.2 was litigated to the same extent that the contention admissibility issue is litigated in any ASLBP proceeding. The denial of discovery and an evidentiary hearing on Contentions EC 3.2.1 and 3.2.2 is merely the consequence of the ESP Board's ruling that those contentions were inadmissible. That necessary consequence is no reason to deny collateral estoppel effect to the ESP Board's rulings.

BREDL has not identified any changed circumstances or new information that would call into question the determination of the ESP Board that Contentions EC 3.2.1 and 3.2.2 were inadmissible. BREDL cites as "current information" the statement of a United States Department of Energy official that "63,000 metric tons of commercial irradiated nuclear fuel — enough to fill [the proposed

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<sup>47</sup> *Keystone Shipping Co. v. New England Power Co.*, 109 F.3d 46, 52 (1st Cir. 1997) (citation omitted). See also *Matosantos Commercial Corp. v. Applebee's International, Inc.*, 245 F.3d 1203, 1211 (10th Cir. 2001) (rejecting argument that party did not have a full and fair opportunity to litigate an issue in district court because the decision was made pursuant to a motion to dismiss for lack of jurisdiction).

high-level waste repository at Yucca Mountain, Nevada] to its legal limit — will exist in the U.S. by the spring of 2010.’’<sup>48</sup> According to BREDL, North Anna Unit 3 will not begin operation until 2016, by which time BREDL believes there will no longer be space available for additional spent fuel at the proposed Yucca Mountain repository.<sup>49</sup> Even if BREDL is correct, that does not allow us to revisit the holding of the ESP Board that Contentions EC 3.2.1 and 3.2.2 were impermissible attempts to challenge the Waste Confidence Rule. The ESP Board’s ruling was not based on calculations concerning available space at Yucca Mountain, but on the plain intent of the Commission in promulgating the Waste Confidence Rule that it should apply to new as well as existing reactors, and the rule that licensing boards may not consider challenges to the Commission’s regulations. If BREDL believes that the Waste Confidence Rule should be revised or abandoned because of limited capacity at Yucca Mountain, that request must be addressed to the Commission.<sup>50</sup>

Finally, BREDL has not expressly challenged the third reason we gave for rejecting Contentions Seven and Eight, which was that we would have agreed with the reasoning of the ESP Board even if we were not bound by section 52.39 or collateral estoppel.<sup>51</sup> We note that since our August 15, 2008 Order, two other Licensing Boards have found inadmissible contentions filed by BREDL that raised the same issues as Contentions Seven and Eight in this proceeding, and have done so based on the same reasoning as that of the North Anna ESP Board.<sup>52</sup>

We therefore deny reconsideration of our ruling that Contentions Seven and Eight are inadmissible.

#### IV. ORDER

For the foregoing reasons, it is this 7th day of November 2008, ORDERED

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<sup>48</sup> Motion to Reconsider at 5 (quoting Petition at 24).

<sup>49</sup> *Id.*

<sup>50</sup> In that regard, the Commission recently announced proposals to revise its Waste Confidence Rule and its Waste Confidence Decision, and that it is accepting public comment on both proposals. *See* 73 Fed. Reg. 59,547 (Oct. 9, 2008); 73 Fed. Reg. 59,551 (Oct. 9, 2008). *See also Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 345 (1999) (“If Petitioners are dissatisfied with our generic approach to the problem, their remedy lies in the rulemaking process, not in this adjudication”).

<sup>51</sup> LBP-08-15, 68 NRC at 337.

<sup>52</sup> *Duke Energy Carolinas, LLC* (William States Lee III Nuclear Station, Units 1 and 2), LBP-08-17, 68 NRC 431, 456-57 (2008); *Tennessee Valley Authority* (Bellefonte Nuclear Power Plant, Units 3 and 4), LBP-08-16, 68 NRC 361, 416 (2008).

that BREDL's Motion for Reconsideration in Part of Atomic Safety and Licensing Board's Order of August 15, 2008 is DENIED.

THE ATOMIC SAFETY AND  
LICENSING BOARD

Ronald M. Spritzer, Chairman  
ADMINISTRATIVE JUDGE

Dr. Richard F. Cole  
ADMINISTRATIVE JUDGE

Dr. Alice C. Mignerey  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
November 7, 2008

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**Michael M. Gibson**, Chairman  
**Dr. Richard F. Cole**  
**Brian K. Hajek**

**In the Matter of**

**Docket No. 40-8943**  
**(ASLBP No. 08-867-02-MLA-BD01)**  
**(License Renewal)**

**CROW BUTTE RESOURCES, INC.**  
**(In Situ Leach Facility, Crawford,**  
**Nebraska)**

**November 21, 2008**

**RULES OF PRACTICE: STANDING; COLLATERAL ESTOPPEL**

A Board in one proceeding is not constrained to follow the rulings of another Board absent explicit affirmation by the Commission.

**RULES OF PRACTICE: STANDING; INJURY DUE TO PROXIMITY  
IN SOURCE MATERIALS CASES**

The Commission has held that proximity alone is not sufficient to establish standing for a petitioner's proximity to a source materials activity. In cases involving ISL uranium mining and other source materials licensing, a petitioner must independently establish the requisite elements of standing, i.e., injury in fact, causation, and redressibility.

**RULES OF PRACTICE: STANDING; INJURY DUE TO PROXIMITY IN SOURCE MATERIALS CASES; PLAUSABILITY OF MIGRATION**

Standing can be accorded where a petitioner uses a substantial quantity of water personally or for livestock from a source that is reasonably contiguous to either the injection or processing sites, because such a showing demonstrates an “injury in fact.” Stated otherwise, to the extent contaminants can plausibly migrate to the aquifer from which a petitioner obtains his or her water, a petitioner would have a claim of a cognizable injury and could be accorded standing.

**RULES OF PRACTICE: STANDING; ADEQUACY OF SUPPORT**

Petitioners are not required to demonstrate their asserted injury with “certainty,” nor to “provide extensive technical studies” in support of their standing argument. These determinations are reserved for adjudicating the ultimate merits of a contention.

**RULES OF PRACTICE: STANDING; TREATY-BASED CLAIMS OF OWNERSHIP**

The Board is bound by the holding in *United States v. Sioux Nation of Indians*, 448 U.S. 371 (1980) and is required to reject treaty-based claims of ownership. As a consequence, any claims to ownership of the land upon which a mining site sits cannot support standing.

**RULES OF PRACTICE: STANDING; TRIBAL CULTURAL RESOURCE CLAIMS; FEDERALLY PROTECTED INTERESTS**

The preservation of cultural traditions is a protected interest under federal law. If this interest is endangered or harmed, it qualifies as an injury for the purposes of establishing standing.

**RULES OF PRACTICE: STANDING; TRIBAL CULTURAL RESOURCE CLAIMS; CONSULTATION REQUIREMENTS**

To establish an injury in fact, a party merely has to show some threatened concrete interest personal to the party that the National Historic Preservation Act was designed to protect. Without consultation with a Tribe, culturally significant resources will go unidentified and unprotected. As a result, development or use of the land might cause damage to these cultural resources, thereby injuring the protected interests of the Tribe.

**RULES OF PRACTICE: STANDING; TRIBAL CULTURAL RESOURCE CLAIMS; ZONE OF INTEREST REQUIREMENT**

Federal law not only recognizes that Native American tribes have a protected interest in cultural resources found on their aboriginal land, but as well has imposed on federal agencies a consultation requirement under the National Historic Preservation Act to ensure the protection of tribal interests in cultural resources. A Tribe's threatened injury is therefore within the zone of interests protected by the National Historic Preservation Act, and is beyond cavil that the failure of consultation provides a definite and concrete threat of injury to the interests of a Tribe.

**RULES OF PRACTICE: CONTENTIONS, SCOPE; ANALYSIS OF NONRADIOLOGICAL CONTAMINANTS**

The NRC has the authority to regulate the release of nonradiological contaminants, and therefore, a challenge to the analysis (or lack thereof) of nonradiological contaminants in the License Renewal Application is within the scope of the proceeding. 42 U.S.C. § 2114(a)(1) (2008).

**RULES OF PRACTICE: CONTENTIONS, RIPENESS**

The commitment of one party to fulfill its statutory duties in the application process is not enough to demonstrate that the issue would be properly addressed. Such assurances are no substitute for enabling a Tribe to prosecute its contention. The Board must afford a Tribe a way to ensure its interests are protected; if all claims were denied because an adverse party promises to fulfill its duties, the hearing process would be subverted.

**RULES OF PRACTICE: CONTENTIONS, RIPENESS; BALANCING OF INTERESTS**

In determining ripeness, the Board assesses both the fitness of the issue for judicial decision and the hardship to the parties of withholding court consideration.

**NATIONAL HISTORIC PRESERVATION ACT: CONSULTATION REQUIREMENT**

The regulations that implement the National Historic Preservation Act require federal agencies themselves to consult with a tribe if that tribe ascribes cultural or religious significance to properties not on tribal lands. The regulations clearly require that each federal agency consult with the Indian tribe(s) whose interests



are at stake as a result of agency action — such as the issuance, renewal, or amendment of a license — that may affect a tribe’s cultural resources. 36 C.F.R. § 800 *et seq.*; 16 U.S.C. § 470(f).

**RULES OF PRACTICE: CONTENTIONS; NATIONAL HISTORIC PRESERVATION ACT CONSULTATION REQUIREMENT**

The Applicant is not qualified to make representations regarding cultural resources found on the mining site. Because Tribal Historical Preservation Officers were not consulted by the NRC, the Petitioner raised a legitimate challenge to the Applicant’s finding in the License Renewal Application that no significant impact to cultural resources will occur as a result of mining activities.

**RULES OF PRACTICE: CONTENTIONS; PAST PERFORMANCE OF LICENSEE**

A license renewal proceeding is an appropriate occasion for appraising the entire past performance of the licensee. Such appraisals are relevant in a license renewal proceeding because NRC must assure the public that the facility’s current management encourages a safety-conscious attitude and must provide reasonable assurance that the facility can be safely operated.

**RULES OF PRACTICE: PLEADINGS; NOTICE PLEADING**

Unlike federal court practice, the Commission does not accept mere notice pleading in support of an admissible contention.

**RULES OF PRACTICE: PLEADINGS; INCORPORATION BY REFERENCE**

The Commission has made clear that a Board is not to permit incorporation by reference where the effect would be to circumvent NRC-prescribed specificity requirements.

**ISL MINING OPERATIONS: USE OF BACKUP POWER**

Part 40 of 10 C.F.R. does not require ISL uranium mining facilities to maintain backup power. If such a facility were to experience a power failure, uranium recovery operations would simply cease.

#### **RULES OF PRACTICE: CONTENTIONS, REQUIREMENTS**

The contention admissibility requirements are strict by design to ensure that hearings cover only genuine and pertinent issues of concern and that the issues are framed and supported concisely enough at the outset to ensure that the proceedings are effective and focused on real, concrete issues.

#### **NATIVE AMERICAN TRIBES: TRUST RESPONSIBILITY**

The trust responsibility imposes a fiduciary duty on NRC, as a federal agency, to the Tribe and its members.

#### **NATIVE AMERICAN TRIBES: ASSERTION OF TRIBAL RIGHTS**

An individual member of a Native American tribe may assert his or her rights on behalf of the tribe.

#### **RULES OF PRACTICE: CONTENTIONS; CONTENTION OF OMISSION**

Applicant's failure to disclose ownership by a foreign corporation in its License Renewal Application constitutes a contention of omission. 10 C.F.R. § 40.9.

#### **FOREIGN OWNERSHIP: MATERIALITY**

Concerns related to an Applicant's foreign ownership are potentially material to the safety and environmental requirements of 10 C.F.R. Part 40. Moreover, a license renewal proceeding is an appropriate time to review the adequacy of a licensee's corporate organization and the integrity of its management.

#### **FOREIGN OWNERSHIP: MATERIALITY; INIMICAL TO COMMON DEFENSE AND SECURITY OR PUBLIC HEALTH AND SAFETY**

Because the regulations clearly require the NRC Staff to take into consideration whether or not renewing an Applicant's license would be inimical to the common defense and security or the public health and safety, this issue is material. In fact, the Commission has held that the phrase "inimical to the common defense and security" refers to, among other things, the absence of foreign control over the applicant. 10 C.F.R. § 40.32(d).

**FOREIGN OWNERSHIP: SCOPE OF PROCEEDING**

The lease and proposed issues related to Nebraska laws on alien ownership of property are outside the scope of these proceedings and outside the jurisdiction of the NRC.

**RULES OF PRACTICE: SELECTION OF HEARING PROCEDURES**

Absent explicit Commission authority, there appears to be no provision in 10 C.F.R. § 2.700 for source materials licensing cases to be contested under Subpart G. If section 2.310(d) allows the Board to choose a Subpart G hearing process, the Board would only be permitted to do so if issues of motive or intent of the party or eyewitness material to the resolution of the contested matter are in dispute.

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**MEMORANDUM AND ORDER**  
**(Ruling on Hearing Requests)**

**I. INTRODUCTION**

Before this Board is an application by Crow Butte Resources, Inc. (“Crow Butte”), requesting renewal of its Source Materials License No. SUA-1534 for continued operation of its in-situ leach (ISL) uranium mine in Crawford, Nebraska.<sup>1</sup> In response to a May 27, 2008 notice of opportunity for a hearing in the *Federal Register*,<sup>2</sup> petitions to intervene and requests for hearing were

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<sup>1</sup> Application for 2007 License Renewal USNRC Source Materials License SUA-1534 Crow Butte License Area [hereinafter LRA] (Nov. 2007).

<sup>2</sup> 73 Fed. Reg. 30,426, 30,426 (May 27, 2008).

timely filed on July 28, 2008, by (1) the Oglala Sioux Tribe (the “Tribe”),<sup>3</sup> (2) several individuals and organizations sharing common counsel (“Consolidated Petitioners”),<sup>4</sup> and (3) the Oglala Delegation of the Great Sioux Nation Treaty Council (“Delegation Treaty Council”).<sup>5</sup>

In this Memorandum and Order, we find that Consolidated Petitioners Beatrice Long Visitor Holy Dance, Debra White Plume, Thomas Kanatakeniate Cook, Loretta Afraid of Bear Cook, Afraid of Bear/Cook Tiwahe, Joe American Horse, Sr., American Horse Tiospaye, Owe Aku/Bring Back the Way, and the Western Nebraska Resources Council (WNRC) have standing to participate in this proceeding and we admit four of their contentions. We also find that the Tribe has standing to participate in this proceeding and we admit all five of its contentions. Finally, we find that the Delegation Treaty Council does not have standing to participate in this proceeding as a party pursuant to 10 C.F.R. § 2.309, but that it may participate as an interested local governmental body pursuant to 10 C.F.R. § 2.315(c).

Based on these rulings, we grant the hearing requests of Beatrice Long Visitor Holy Dance, Debra White Plume, Thomas Kanatakeniate Cook, Loretta Afraid of Bear Cook, Afraid of Bear/Cook Tiwahe, Joe American Horse, Sr., American Horse Tiospaye, Owe Aku/Bring Back the Way, WNRC, and the Tribe and admit them as parties in this proceeding.

## II. BACKGROUND

Crow Butte currently operates an ISL uranium mine in Crawford, Nebraska. Crow Butte’s current license authorizes the operation of its ISL uranium mine, which involves injecting a leach solution into wells drilled into an ore body, allowing the solution to flow through the ore body to extract uranium, capturing the pregnant solution, and then removing the uranium from the solution by ion exchange and ultimately precipitation, drying, and packaging into solid yellowcake uranium.<sup>6</sup> On November 27, 2007, Crow Butte requested that the

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<sup>3</sup> See Request for Hearing and/or Petition to Intervene, Oglala Sioux Tribe (July 28, 2008) [hereinafter Tribe Pet.].

<sup>4</sup> Consolidated Petitioners include Beatrice Long Visitor Holy Dance, Joe American Horse, Sr., Debra White Plume, Loretta Afraid of Bear Cook, Thomas Kanatakeniate Cook, Dayton O. Hyde, Bruce McIntosh, Afraid of Bear/Cook Tiwahe, American Horse Tiospaye, Owe Aku/Bring Back the Way, and Western Nebraska Resources Council. See Consolidated Request for Hearing and Petition for Leave to Intervene (July 28, 2008) [hereinafter Cons. Pet.].

<sup>5</sup> See Request for Hearing and Petition for Leave to Intervene, Oglala Delegation of the Great Sioux Nation Treaty Council (July 28, 2008) [hereinafter Delegation Pet.].

<sup>6</sup> LRA at 1-12.

NRC renew its materials license,<sup>7</sup> approval of which would extend Crow Butte's license for operation of its ISL uranium mine for another 10 years.<sup>8</sup> The NRC Staff formally accepted Crow Butte's application for technical review on March 28, 2008,<sup>9</sup> and subsequently published the notice of opportunity to request a hearing in the *Federal Register*.<sup>10</sup>

On July 28, 2008, the Tribe, Consolidated Petitioners, and the Delegation Treaty Council each timely filed requests for a Hearing and Petition to Intervene, and on August 15, this Atomic Safety and Licensing Board was established to preside over this proceeding.<sup>11</sup> Responses to each hearing request were filed by Crow Butte<sup>12</sup> and the NRC Staff<sup>13</sup> on August 22 and 25, 2008, respectively.<sup>14</sup> Consolidated Petitioners and the Tribe each replied separately to Crow Butte and the NRC Staff's responses on September 3, 2008,<sup>15</sup> and the Delegation Treaty

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<sup>7</sup> See LRA.

<sup>8</sup> 73 Fed. Reg. at 30,426.

<sup>9</sup> *Id.*

<sup>10</sup> See *id.*

<sup>11</sup> Licensing Board Order (Establishment of Atomic Safety and Licensing Board) (Aug. 15, 2008) (unpublished). On August 21, 2008, this Board issued an order providing guidance for the proceeding. See Licensing Board Order (Regarding Schedule and Guidance for Proceedings) (Aug. 21, 2008) (unpublished).

<sup>12</sup> Applicant's Response to Petition to Intervene Filed by Oglala Sioux Tribe (Aug. 22, 2008) [hereinafter App. Resp. Tribe]; Applicant's Response to Petition to Intervene filed by Consolidated Petitioners (Aug. 22, 2008) [hereinafter App. Resp. Cons. Pet.]; Applicant's Response to Petition to Intervene Filed by Oglala Treaty Council of the Great Sioux Nation Treaty Council (Aug. 22, 2008) [hereinafter App. Resp. Treaty Council].

<sup>13</sup> NRC Staff's Response in Opposition to Petitioner's Request for Hearing and/or to Intervene of the Oglala Sioux Tribe (Aug. 25, 2008) [hereinafter NRC Resp. Tribe]; NRC Staff Response in Opposition to Petitioners' Consolidated Request for Hearing and Petition for Leave to Intervene of Debra White Plume, Thomas K. Cook, Loretta Afraid of Bear Cook, Dayton O. Hyde, Bruce McIntosh, Joe American Horse, Sr., Beatrice Long Visitor Holy Dance, Owe Aku/Bring Back the Way, Afraid of Bear/Cook Tiwahe, American Horse Tiospaye and Western Nebraska Resources Council (Aug. 25, 2008) [hereinafter NRC Resp. Cons. Pet.]; NRC Staff's Response in Opposition to Petitioner's Request for Hearing and/or to Intervene of the Delegation of the Great Oglala Sioux Nation Treaty Council (Aug. 25, 2008) [hereinafter NRC Resp. Delegation].

<sup>14</sup> The Oglala Sioux Tribe filed on behalf of all petitioners a request for an 8-day extension to reply to the NRC Staff and Crow Butte's responses. Joint Motion for Extension of Time (Aug. 26, 2008) at 1. We granted the request for an extension of time. Licensing Board Order (Granting Joint Motion for Extension of Time) (Aug. 27, 2008) (unpublished).

<sup>15</sup> Oglala Sioux Tribe's Reply to Applicant's Response to Petition to Intervene Filed by Oglala Sioux Tribe (Sept. 3, 2008) [hereinafter Tribe Reply App.]; Oglala Sioux Tribe's Reply to NRC Staff's Response to Petition to Intervene Filed by Oglala Sioux Tribe (Sept. 3, 2008) [hereinafter Tribe Reply NRC]; Petitioners' Consolidated Reply to Applicant and NRC Staff Answers to Consolidated Petition to Intervene (Sept. 3, 2008) [hereinafter Cons. Pet. Reply].

Council submitted a motion to join Consolidated Petitioners in their contentions as filed on September 4, 2008.<sup>16</sup>

The Board heard oral argument on petitioners' standing and contentions on September 30 and October 1, 2008.<sup>17</sup> Following oral argument, the Board and all the parties participated in a site visit to the Crow Butte ISL mine in Crawford, Nebraska, and the Pine Ridge Indian Reservation in South Dakota.<sup>18</sup> Because the Board posed several questions the NRC Staff was unable to address fully during oral argument, on October 22, 2008, the NRC Staff filed answers in response to those questions.<sup>19</sup>

It should be noted that this is one of two proceedings involving Crow Butte's Source Materials License, SUA-1534. Pending in another proceeding is Crow Butte's application for a license amendment to permit development of a satellite facility for additional ISL uranium mining resources in a nearby location.<sup>20</sup> This satellite facility, known as the "North Trend Expansion," is on a tract of land approximately 4.5 miles northwest of Crow Butte's licensed ISL uranium mine.<sup>21</sup> The application for license renewal was filed with the NRC on May 30, 2007, and a notice of opportunity for hearing regarding the North Trend Expansion was published on the NRC public website on September 13, 2007.<sup>22</sup>

The Board in the License Amendment proceeding ("Amendment Board") granted standing to Owe Aku/Bring Back the Way (Owe Aku) and WNRC as organizations, and to Debra White Plume as an individual.<sup>23</sup> That Board also admitted three of the petitioner's six contentions.<sup>24</sup> We note that all the petitioners admitted as parties in the Amendment Proceeding are also requesting intervention here. Indeed, Consolidated Petitioners have incorporated by reference herein

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<sup>16</sup> Petitioner Oglala Delegation of the Great Sioux Nation Treaty Council's Reply to Applicant and NRC Answers to Petition for Leave to Intervene (Sept. 4, 2008).

<sup>17</sup> Tr. at 14-426.

<sup>18</sup> Licensing Board Order (Regarding Tour of Reservation) (September 24, 2008) (unpublished). The Board scheduled these site visits after suggestion by the Consolidated Petitioners and Crow Butte that such tours would provide the Board with additional familiarity with both the Crow Butte mine and the Pine Ridge Indian Reservation, where many petitioners reside. *Id.* at 2.

<sup>19</sup> NRC Staff's (1) Response to the Board's "Follow Up" Questions During the September 30-October 1, 2008 Oral Argument and (2) Statement of Clarification Relating to the Scope of NRC's Jurisdiction to Regulate the Release of Non-radiological Contaminants (Oct. 22, 2008).

<sup>20</sup> *Crow Butte Resources, Inc.* (North Trend Expansion Project), LBP-08-6, 67 NRC 241 (2008).

<sup>21</sup> *Id.* at 252.

<sup>22</sup> *See id.* at 251.

<sup>23</sup> *Id.*

<sup>24</sup> *Id.* at 251-52.

several affidavits and other documents used to support their claims of standing and contentions in the License Amendment proceeding.<sup>25</sup>

### III. STANDING OF PETITIONERS TO PARTICIPATE IN THIS PROCEEDING

#### A. Legal Requirements for Standing in NRC Proceedings

A petitioner's participation in a licensing proceeding hinges on a demonstration of the requisite standing. The requirements for standing are derived from section 189a of the Atomic Energy Act of 1954 (AEA),<sup>26</sup> which instructs the NRC to provide a hearing "upon the request of any person whose interest may be affected by the proceeding."<sup>27</sup> The Commission's implementing regulation, 10 C.F.R. § 2.309(d), directs a licensing board, in ruling on a request for a hearing, to consider (1) the nature of the petitioner's right under the AEA or the National Environmental Policy Act (NEPA)<sup>28</sup> to be made a party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any decision or order that may be issued in the proceeding on the petitioner's interest.<sup>29</sup> In that regard, the Commission has long applied the test employed in the federal courts in resolving standing issues — i.e., the petitioner must allege "a concrete and particularized injury that is . . . fairly traceable to the challenged action and [is] likely to be redressed by a favorable decision."<sup>30</sup> In addition, the claimed injury must be arguably within the zone of interests<sup>31</sup> protected by the governing statute.<sup>32</sup> In order to determine

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<sup>25</sup> See Cons. Pet. at 5-6. Because of the potential overlapping issues between this proceeding and the Amendment Proceeding, we posed questions at oral argument regarding the appropriate scope of the present hearing. See Tr. at 216. It is worth noting that the NRC Staff stated that its assessment of the license renewal currently before the Board will not concern the ISL uranium mining activities at the proposed North Trend Expansion except to the extent that these activities affect the licensed mining activities. See *id.* at 216-17.

<sup>26</sup> 42 U.S.C. § 2011 *et seq.*

<sup>27</sup> *Id.* § 2239(a)(1)(A).

<sup>28</sup> *Id.* § 4321 *et seq.*

<sup>29</sup> 10 C.F.R. § 2.309(d)(1)(ii)-(iv).

<sup>30</sup> See, e.g., *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 195 (1998); *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 115 (1995); *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 92 (1993) (citing *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 561 (1992)).

<sup>31</sup> *Yankee Nuclear*, CLI-98-21, 48 NRC at 195-96.

<sup>32</sup> Although the Commission customarily follows judicial concepts of standing, it is not bound to  
(Continued)



whether an interest is in the “zone of interests” of a statute, “it is necessary ‘first [to] discern the interests ‘arguably . . . to be protected’ by the statutory provision at issue,’ and ‘then to inquire whether the [petitioner’s] interests affected by the agency action are among them.’”<sup>33</sup>

For an organizational petitioner to establish standing, it must show “either immediate or threatened injury to its organizational interests, or to the interest of identified members.”<sup>34</sup> An organization seeking to intervene in its own right — i.e., claiming “organizational” standing — “must demonstrate a palpable injury in fact to its organizational interests that is within the zone of interests protected by the AEA or NEPA.”<sup>35</sup> An organization seeking to intervene on behalf of one or more of its members — i.e., asserting “representational” standing — must (1) demonstrate that the interest of at least one of its members will be so harmed, (2) identify that member by name and address, and (3) show that the organization is authorized to request a hearing on behalf of that member.<sup>36</sup> The organization must show that the member has individual standing in order to assert representational standing on his or her behalf, and “the interests that the representative organization seeks to protect must be germane to its own purpose.”<sup>37</sup>

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do so given that it is not an Article III court. See *Quivira Mining Co.* (Ambrosia Lake Facility, Grants, New Mexico), CLI-98-11, 48 NRC 1, 6 n.2 (1998), *petition for review denied*, *Envirocare of Utah, Inc. v. NRC*, 194 F.3d 72 (D.C. Cir. 1999). Federal courts have recognized that because federal agencies are neither constrained by Article III nor governed by judicially created standing doctrines, “[t]he criteria for establishing ‘administrative standing’ therefore may permissibly be less demanding than the criteria for ‘judicial standing.’” See *Envirocare of Utah*, 194 F.3d at 74 (citing *Pittsburgh & W. Va. Ry. v. United States*, 281 U.S. 479, 486 (1930)).

<sup>33</sup> *U.S. Enrichment Corp.* (Paducah, Kentucky Gaseous Diffusion Plant), CLI-01-23, 54 NRC 267, 272-73 (2001) (citing *National Credit Union Administration v. First National Bank*, 522 U.S. 479, 492 (1998)). Generally, the AEA and NEPA are the statutes that govern proceedings before the Licensing Board. In this case, however, interests protected by the National Historic Preservation Act (NHPA) are at issue as well, and our analysis will include a discussion of whether issues before the Board fall within the “zone of interests” of the NHPA. See also *Ambrosia Lake*, CLI-98-11, 48 NRC at 6 (“the actual ‘breadth’ of the applicable zone of interests will vary according to the particular statutory provisions at issue”).

<sup>34</sup> *Georgia Tech*, CLI-95-12, 42 NRC at 115; see also *Sierra Club v. Morton*, 405 U.S. 727 (1972); *Yankee Nuclear*, CLI-98-21, 48 NRC at 195.

<sup>35</sup> *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), ALAB-952, 33 NRC 521, 528-30 (1991); see also *Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), LBP-98-9, 47 NRC 261 (1998), *rev’d on other grounds*, CLI-98-16, 48 NRC 119 (1998).

<sup>36</sup> See *GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 202 (2000).

<sup>37</sup> *Consumers Energy Co.* (Palisades Nuclear Plant), CLI-07-18, 65 NRC 399, 409 (2007).

## B. Collateral Estoppel

As previously noted, the Licensing Board for the Amendment Proceeding (the “Amendment Board”) granted standing to two organizations — Owe Aku and WNRC, and one individual — Debra White Plume, each of whom also filed here as Petitioners. These three Petitioners argue that collateral estoppel requires this Board to adopt the findings of the Amendment Board “if they are identical or if they are based on the same facts and circumstances provided that they have been litigated so that each side has an opportunity to be heard,”<sup>38</sup> and accord them standing here.<sup>39</sup>

Certainly, there is some licensing board precedent to suggest that where a petitioner is accorded standing in one proceeding, that petitioner need not make a separate demonstration of standing in another proceeding regarding that same facility and the same parties.<sup>40</sup> Nonetheless, given that a Board in one proceeding is not constrained to follow the rulings of another Board absent explicit affirmation by the Commission,<sup>41</sup> the Amendment Board’s ruling on standing is not dispositive of our determination here. Moreover, the facts at issue here are not identical to those at issue in the other pending proceeding involving Crow Butte, and so collateral estoppel may not attach.<sup>42</sup> Accordingly, collateral estoppel does not attach at this stage of the proceeding.

## C. Licensing Board’s Rulings on Standing of Petitioners

### 1. Hydrogeologic Considerations

In contrast to power reactor license proceedings, where proximity within 50 miles of a plant is often enough on its own to demonstrate standing,<sup>43</sup> the

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<sup>38</sup> See Cons. Pet. Reply at 3.

<sup>39</sup> *Id.* at 4.

<sup>40</sup> See *U.S. Army* (Jefferson Proving Ground Site), LBP-04-1, 59 NRC 27, 29 (2004); *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), LBP-95-23, 42 NRC 215, 217 (1995).

<sup>41</sup> See *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), LBP-92-4, 35 NRC 114, 125-26 (1992), *rev’d on other grounds*, CLI-93-21, 38 NRC 87 (1993); see also *PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-07-10, 66 NRC 1, 19 n.9 (2007) (“[T]he better practice for a petitioner is to submit a fully developed showing regarding standing in each proceeding in which it seeks to intervene, regardless of whether it has previously been found to have standing relative to the facility that is the locus of the proceedings”).

<sup>42</sup> See *United States v. Stauffer Chemical Co.*, 464 U.S. 165, 169 (1984) (collateral estoppel applies to another case involving “virtually identical facts”).

<sup>43</sup> See, e.g., *Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 75 n.22 (1994); *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 148-49 (2001).

Commission has held that proximity alone is not sufficient to establish standing for a petitioner's proximity to a source materials activity.<sup>44</sup> In cases involving ISL uranium mining and other source materials licensing, a petitioner must independently establish the requisite elements of standing, i.e., injury in fact, causation, and redressibility.<sup>45</sup> Thus, the Board's analysis of each Petitioner's claim in this proceeding must be assessed on a case-by-case basis to determine whether it meets these requisite elements for standing to intervene.

One basis on which many of the petitioners here seek to establish standing is the possibility that contaminants from Crow Butte's licensed ISL uranium mining site ("the Crow Butte mining site") either have contaminated, or will contaminate, the aquifer from which many petitioners obtain their water. This assertion is based on several essentially undisputed technical facts. In situ leach, or uranium solution, mining is a process that takes place underground by injecting an oxidizing solution (lixiviant) into an aquifer where the uranium ore body is present, and then recovering these solutions when they are rich in uranium. The oxidation process converts the uranium from a solid state to a form that is easily dissolved by the leach solution. ISL uranium mining also resolubilizes other elements that are typically associated with uranium in nature including arsenic, selenium, vanadium, iron, manganese, and radium. After removing the uranium, the used lixiviant is reinjected with carbonate/bicarbonate and oxidant and the solution with the remaining solubilized metals is returned through the injection wells to dissolve additional uranium.<sup>46</sup>

Because the Commission has placed the burden on the petitioner to show a "specific and plausible means" of how proposed licensed activities may affect him or her,<sup>47</sup> we must look to whether Petitioners demonstrate "specific and plausible means" by which Crow Butte's licensed ISL uranium mining operation will affect them. As far as we can discern, the Commission has addressed standing in ISL uranium mining cases in only one proceeding, *Hydro Resources, Inc. (HRI)*.<sup>48</sup> It is plain from this decision that standing can be accorded where a petitioner "uses a substantial quantity of water personally or for livestock from a source that is reasonably contiguous to either the injection or processing sites,"

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<sup>44</sup> See *Consumers Energy Co.* (Big Rock Point Independent Spent Fuel Storage Installation), CLI-07-19, 65 NRC 423, 426 (2007); see also *International Uranium (USA) Corp.* (White Mesa Uranium Mill), CLI-98-6, 47 NRC 116, 117 n.1 (1998).

<sup>45</sup> See *Exelon Generation Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), CLI-05-26, 62 NRC 577, 580 (2005).

<sup>46</sup> NUREG-1910, "Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities — Draft Report for Comment," Vol. 1, at 2-16, 2-17 (July 28, 2008).

<sup>47</sup> *Id.*

<sup>48</sup> *HRI*, LBP-98-9, 47 NRC 261 (1998), *rev'd on other grounds*, CLI-98-16, 48 NRC 119 (1998).

because such a showing demonstrates an “injury in fact.”<sup>49</sup> Stated otherwise, to the extent contaminants can plausibly<sup>50</sup> migrate to the aquifer from which a petitioner obtains his or her water, a petitioner would have a claim of a cognizable injury and could be accorded standing. On the other hand, if it were not plausible for contaminants to leave the area of the aquifer that is being mined, petitioners generally could have no cognizable injury, and hence could not be accorded standing. Our standing determination in this regard requires that we consider those geographical areas that could potentially be affected by ISL uranium mining operations, which, in turn, is largely dependent on the characteristics of the underground aquifers.

While no petitioner here claims to reside, or own property, immediately contiguous to an ISL injection or processing well, all assert that “[d]ue to inter-connections between the aquifer being mined ([Basal] Chadron) and other aquifers being used for drinking and other purposes” near Crawford and Chadron, Nebraska, and on the Pine Ridge Indian Reservation, the contaminants from Crow Butte’s mining site are “flowing into pathways to human ingestion” where petitioners reside.<sup>51</sup> They therefore argue that petitioners who “rely on water supplies adjacent to [the Crow Butte mining site] have a right to a hearing.”<sup>52</sup>

The Amendment Board found that, due to past undisputed excursions and spills from Crow Butte’s mining site and the lack of precise characterization of the hydrogeology of the area in question, it was at least plausible to conclude that contaminated water could mix with groundwater ultimately used by at least some of the petitioners.<sup>53</sup> That Board also noted that the asserted harm for standing “need not be great” and that a showing for standing has always been considerably less than for demonstrating an acceptable contention.<sup>54</sup>

This Board has before it a number of expert opinions alleging a sufficient link to find the requisite standing at more considerable distances than what was found in the Amendment proceeding.<sup>55</sup> In particular, Hannan LaGarry, Ph.D., opined

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<sup>49</sup> *Id.* at 275.

<sup>50</sup> *Nuclear Fuel Services, Inc.* (Erwin, Tennessee), CLI-04-13, 59 NRC 244, 248 (2004).

<sup>51</sup> *See* Cons. Pet. Reply at 10; *see also* Tribe at 7; Delegation at 4.

<sup>52</sup> *Id.* at 15 (citing *Hydro Resources, Inc.* (Crown Point, New Mexico), LBP-03-27, 58 NRC 408, 413 (2003)).

<sup>53</sup> *Crow Butte*, LBP-08-6, 67 NRC at 280.

<sup>54</sup> *Id.* (citing *Sacramento Municipal Utility District* (Rancho Seco Nuclear Generating Station), LBP-93-23, 38 NRC 200, 249 (1993), *petition for review denied*, CLI-94-2, 39 NRC 91 (1994)).

<sup>55</sup> The Amendment Board held that “potential groundwater contamination from ISL mining at the North Trend Expansion [site] might mix with surrounding aquifers and affect private wells at some distances from the ISL mining location,” *Crow Butte*, LBP-08-6, 67 NRC at 280, and that Board was presented with evidence to support standing based on contamination of aquifers that might be affected by mining at the proposed North Trend Expansion site. While this proceeding involves the same

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that the “layer cake” concept applied to the local geology by 1990s researchers, and relied on by Crow Butte, is incorrect and overestimates the thickness and areal extent of many units by a factor of 40 to 60%.<sup>56</sup> Dr. LaGarry further opines that contaminants could migrate away from Crow Butte’s mining site and into adjacent areas.<sup>57</sup> In addition to contaminants being transmitted through the White River alluvium,<sup>58</sup> Dr. LaGarry’s primary concern is that the licensed mining operations at Crow Butte are creating a vertical transfer of water through intersecting faults and joints that can extend for tens of miles.<sup>59</sup> Specifically, although Crow Butte maintains it is mining uranium that was deposited in a “roll-front” geologic process,<sup>60</sup> Dr. LaGarry opines that such uranium may instead lie within the faults

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Applicant and some of the same underlying factual considerations as the Amendment Proceeding, the petitioners’ submissions are in some instances remarkably different in the two proceedings. The Amendment Proceeding concerns an area approximately 5 miles north of the Crow Butte mining site, *id.* at 252, and the primary support for granting petitioners standing in that proceeding is not applicable here. In the Amendment proceeding, Crow Butte’s argument that the subject aquifers were not hydrologically connected conflicted with a letter from the Nebraska Department of Environmental Quality analyzing hydrogeologic data relating to the North Trend Expansion site (“Exhibit B”). *See id.* at 279; *see also id.* at 276. The Amendment Board held that Exhibit B lent credibility “to the doubts and uncertainty regarding various hydrogeological issues.” *Id.* at 279. Moreover, the Amendment Board noted that the Amendment Application itself acknowledged that the “geology and hydrology of the area connecting the Brule, Chadron and High Plains Aquifers is not completely understood.” *Id.* Accordingly, two organizational petitioners (Owe Aku and WNRC) were granted representational standing in the License Amendment proceeding based on plausible connectivity of aquifers leading to potential groundwater contamination. The farthest representative whose well was found to support the standing of an organization was David Alan House, who lives in Crawford, approximately 8 miles from the proposed North Trend Expansion area. *Id.* at 283. The Amendment Board was careful to note, however, that its determination was “not to say that any given distance would automatically confer, or result in a denial of, standing in a case involving ISL mining; many different variables, including the characteristics of the hydrogeology of a particular region and of aquifers in it, could inform any standing decision.” *Id.* at 286.

<sup>56</sup> *See* Expert Opinion Regarding ISL Mining in Dawes County, Nebraska (Hannan E. LaGarry, Ph.D.) at 3 [hereinafter LaGarry Opinion]; *see also* Tr. at 35.

<sup>57</sup> *See* LaGarry Opinion at 3.

<sup>58</sup> Dr. LaGarry opines that contaminants may enter the White River through surface spills, through transmission via the Chamberlain Pass Formation, and through faults. Dr. LaGarry further opines that, once in the White River, such contaminants might be transmitted into the areas where the alluvium intersects faults downstream of Crawford. Such contamination could then affect residential and agricultural users, wildlife, and the city of Crawford water supplies. *See id.* at 3.

<sup>59</sup> *See id.*; *see also* Tr. at 36. Dr. LaGarry notes that prior researchers have reported faults in the area that could transmit contaminants from Crawford to both Chadron, Nebraska, and Pine Ridge, South Dakota, where many petitioners use water. *See* LaGarry Opinion at 3.

<sup>60</sup> “A roll-front deposit is a uranium-ore body deposited at the interface of oxidizing and reducing groundwater. Roll fronts occur where water infiltrates from the surface and flows through an aquifer with slight amounts of uranium. Near the surface, oxidizing conditions cause the minerals and

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themselves.<sup>61</sup> If Dr. LaGarry is correct, then the risk of “spilling” contaminants into these faults increases with additional mining so that “contamination by chemically altered waters is a virtual certainty.”<sup>62</sup>

Crow Butte and the NRC Staff argue that none of the petitioners describes how any alleged harm will occur,<sup>63</sup> that they do not establish a concrete and particularized injury traceable to the licensed mining operations, and that in the absence of a mechanism or pathway for contamination of water sources that petitioners use, “injury and causation are ‘unfounded conjecture.’”<sup>64</sup> Specifically, Crow Butte notes that the “Arikaree Formation . . . is not present at Crow Butte; it does not begin for several miles to the east of the existing operation.”<sup>65</sup> Therefore, Crow Butte asserts, more detailed studies and geological information are needed to demonstrate plausibility.<sup>66</sup> Crow Butte and the NRC Staff both argue that Dr. LaGarry provides nothing more than an overview of regional hydrology, which “is no substitute for the detailed, site-specific investigation performed by Crow

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volcanic ash to weather (or dissolve) and release minute quantities of uranium into the groundwater. As groundwater continues to flow, it can encounter reducing conditions where the uranium is no longer stable in solution. In an aquifer, a reducing environment is characterized by the presence of hydrogen sulfide (H<sub>2</sub>S), iron sulfides, or organic material. As a result, uranium precipitates from the groundwater and forms mineral coatings on the sediment grains in the formation.” NUREG-1910 at 2-2, 3.1.2 (internal citations omitted).

<sup>61</sup> See LaGarry Opinion at 4. Dr. LaGarry adds that this situation could be further aggravated by the problem of artesian flow, which occurs along the Pine Ridge of Nebraska where there is a hydrologic connection (through faults or highly permeable strata) between the Chamberlain Pass Formation and the High Plains Aquifer. In such a situation, the weight of water in the topographically higher High Plains Aquifer exerts pressure downward into the Chamberlain Pass Formation, which can be released as artesian water flow. Such artesian flow “could transmit the most mineral-laden of waters onto the land surface (and into the White River alluvium) and discharge large amounts of contaminants into aquifers or faults in a very short time.” *Id.*

<sup>62</sup> *Id.*

<sup>63</sup> See App. Resp. Cons. Pet. at 9 (citing *International Uranium (USA) Corp.* (White Mesa Uranium Mill), CLI-01-21, 54 NRC 247, 254 (2001)) (mere conclusory allegations about potential harm to petitioner or others insufficient to confer standing); see also NRC Resp. Cons. Pet. at 7.

<sup>64</sup> App. Resp. Tribe at 10 (citing *White Mesa*, CLI-01-21, 54 NRC at 253); see also NRC Resp. Tribe at 24 (“Petitioner has presented no information to support the position that the hydraulic flow would be as assumed by petitioner in order to make its claim”).

<sup>65</sup> App. Resp. Cons. Pet. at 10 (citing LRA at 2-105, 2-84). Crow Butte also asserted at oral argument that the Basal Chadron Aquifer, which is where the mining is occurring, “pinches out” 5 or 6 miles east of the existing mine location and so does not reach the Pine Ridge Indian Reservation. Tr. at 53.

<sup>66</sup> App. Resp. Cons. Pet. at 10. See also *id.* at 9 (“a standing inquiry includes a threshold, fact-based question as to whether the alleged injury and causation are realistic or even plausible”); NRC Resp. Cons. Pet. at 4-5.

Butte.’’<sup>67</sup> Crow Butte further argues that without a more detailed standing inquiry including “an assessment of matters such as the geological makeup of the area, the direction of flow of water from the licensed facility, and the time it takes for water to flow a certain distance,” this Board “cannot properly assess whether an alleged injury or causal chain is realistic or plausible.”<sup>68</sup> According to Crow Butte, “the geologic, hydrologic, and geographic differences between the mining area and the aquifers used for well water at the Pine Ridge Reservation undermine any claims of plausible injury or causation.”<sup>69</sup>

We note, first, that many of Crow Butte’s arguments address various alleged facts as if they were already proven. However, factual arguments over such matters as the geological makeup of the area, the direction of flow, and the time required for water to flow a certain distance, go to the merits of the case.<sup>70</sup> We also note that a licensing board’s review of a petition for standing is to “avoid ‘the familiar trap of confusing the standing determination with the assessment of a petitioner’s case on the merits.’”<sup>71</sup> We recognize that the distances from Crow Butte’s mining site to many of the petitioners’ residences are considerable; however, neither Crow Butte nor the NRC Staff advances arguments refuting the plausibility that potential groundwater contamination from the Crow Butte mining site may travel through pathways of faults and joints and affect private wells at greater distances from the Crow Butte mining site, including petitioners at the Pine Ridge Indian Reservation. Petitioners are not required to demonstrate their asserted injury with “certainty,” nor to “provide extensive technical studies” in support of their standing argument.<sup>72</sup> These determinations are reserved for adjudicating the ultimate merits of a contention. We decline to burden the

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<sup>67</sup> App. Resp. Cons. Pet. at 39; *see also* NRC Resp. Cons. Pet. at 40. At oral argument, Crow Butte added “[t]o the extent they’re positing some connection based on . . . regional interpretations, those are no substitute for the detailed site-specific pump tests, hydrologic tests, baseline sampling, [and] geographic profiles that have been done at Crow Butte.” Tr. at 54. However, offsite geologic data that would support Crow Butte’s assertion is not part of the License Renewal Application.

<sup>68</sup> App. Resp. Cons. Pet. at 10.

<sup>69</sup> *Id.*

<sup>70</sup> *Crow Butte*, LBP-08-6, 67 NRC at 279. Crow Butte argues that the horizontal distance of 30-40 miles between the Basal Chadron formation at Crow Butte and the Arikaree formation at Pine Ridge is not a trivial hydrogeologic distance particularly when the horizontal flow rate in the Basal Chadron is roughly 10 feet per year. In addition to being farther away horizontally, the elevation of the mining unit at Crow Butte is such that an Arikaree well would be several hundred vertical feet above the mining units. If Crow Butte were correct, contamination would have to travel a distance of 30-40 miles horizontally in an aquifer with a flow rate of 10 feet per year and flow several hundred feet vertically — against the natural groundwater flow direction. App. Resp. Cons. Pet. at 10-11.

<sup>71</sup> *HRI*, LBP-98-9, 47 NRC at 272 (citing *Sequoyah Fuels Corp.* (Gore, Oklahoma Site Decontamination and Decommissioning Funding), LBP-94-5, 39 NRC 54 (1994)).

<sup>72</sup> *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), LBP-99-25, 50 NRC 25, 31 (1999) (citing *Sequoyah Fuels*, CLI-94-12, 40 NRC at 72).

petitioners, at this preliminary stage, with the need to conduct extensive technical studies that may be required to meet their burden at a hearing. A determination that “the injury is fairly traceable to the [challenged] action . . . [does] not depend[] on whether the cause of the injury flows directly from the challenged action, but *whether the chain of causation is plausible.*”<sup>73</sup>

While no petitioners in this proceeding can be accorded standing through collateral estoppel, we are persuaded that the Amendment Board properly conferred standing on those petitioners because of plausible migration of contaminants via subsurface aquifers that appear to be interconnected.<sup>74</sup> We likewise agree with the Amendment Board that “‘upon further analysis it may turn out that there is no way’ for the radioactive materials and byproducts from the ISL mining operation . . . to cause harm to persons living nearby.”<sup>75</sup> However, at this early stage of the proceeding, we simply cannot decide that there is no reasonable possibility that such harm could occur.<sup>76</sup>

With the foregoing in mind, we find that petitioners here have demonstrated that some level of interconnection between aquifers is plausible. We therefore grant standing to those petitioners with claims based on the use of well water for domestic or other related purposes (i.e., gardening, ranching, and other agrarian uses). Specifically, the Board grants representational standing to Owe Aku and WNRC through individuals Dr. Francis E. Anders<sup>77</sup> and David Alan House,<sup>78</sup> respectively. Anders’ and House’s affidavits from the Amendment proceeding, incorporated by reference here, demonstrate that both use their wells for drinking, bathing, irrigation, and stock water. Moreover, we also grant standing to individuals Beatrice Long Visitor Holy Dance, Debra White Plume, Loretta Afraid of Bear Cook, Thomas Kanatakeniate Cook, and Joe American Horse, Sr. These individual petitioners demonstrate standing through claims of water use from wells that draw from the Arikaree Aquifer on their property on

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<sup>73</sup> *Sequoyah Fuels*, CLI-94-12, 40 NRC at 75 (emphasis added). *See also id.* at 74 (“It is enough that [petitioner] has demonstrated a realistic threat . . . of sustaining a direct injury as a result of contaminated groundwater flowing from the [site at issue] to his property”).

<sup>74</sup> *Crow Butte*, LBP-08-6, 67 NRC at 280.

<sup>75</sup> *Id.* (citing *Armed Forces Radiobiology Research Institute (Colbalt-60 Storage Facility)*, ALAB-682, 16 NRC 150, 155 (1982)).

<sup>76</sup> *See Sequoyah Fuels*, CLI-94-12, 40 NRC at 74 (“we conclude that [petitioner] is not required to go further at this threshold stage to establish injury in fact”).

<sup>77</sup> The Amendment Board also accorded representational standing to WNRC through Dr. Francis E. Anders who purports to live in Crawford, Nebraska, within 1 mile of the existing mining operations, which is much closer to his residence than is the North Trend Expansion Area. *Crow Butte*, LBP-08-6, 67 NRC at 281 (citing Anders Affidavit ¶¶ 3, 6-8).

<sup>78</sup> David Alan House has indicated that he resides outside Crawford, approximately 8 miles from the mining operation, and that he gets his water from a well in the Brule Aquifer. *Id.* at 283 (citing House Affidavit at 1-2); *see also* Tr. at 144.



the Pine Ridge Indian Reservation for drinking, bathing, gardening, and other uses.<sup>79</sup> As Thomas Kanatakeniate Cook and Joe American Horse, Sr. are the authorized representatives of Afraid of Bear/Cook Tiwahe<sup>80</sup> and American Horse Tiospaye,<sup>81</sup> respectively, we accord these organizations (Tiwahe and Tiospaye) representational standing in the proceeding. Petitioners Dayton O. Hyde and Bruce McIntosh do not claim any actual or threatened cognizable injury attributable to Crow Butte’s licensed ISL uranium mining operations, and so we deny standing for them.

## 2. *Treaties and Related Native American Issues*

In addition to hydrogeologic issues, some of the petitioners claim standing through treaty-based rights. The Tribe alleges the Crow Butte mining site lies on its recognized aboriginal territory, and asserts standing based on treaty rights and cultural resources associated with these lands.<sup>82</sup> The Delegation Treaty Council claims a treaty-based ownership interest in the land where Crow Butte mines.<sup>83</sup> For the reasons set forth below, the claim of standing based on asserted treaty rights must fail. The Tribe’s cultural resource claims do, however, provide a basis for its standing.

### a. *Treaty Rights Claims*

Both the Tribe and the Delegation Treaty Council maintain that the Crow Butte mining site is located in aboriginal territory. The Tribe would have it that “the mere fact that [Crow Butte] is building, excavating, etc. within the aboriginal land of the Tribe gives standing to the Tribe.”<sup>84</sup> For its part, the Delegation Treaty Council claims actual ownership of the land where the Crow Butte mining site is

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<sup>79</sup> At oral argument several of these petitioners indicated that they draw water from the *Mni Wiconi* project, which pipes water in from deep wells 4 miles north of Pine Ridge and also from the Missouri River. Tr. at 25-26. However, all of the petitioners drawing water from the *Mni Wiconi* pipeline also use well water from the Arikaree for agrarian purposes. Thus, these petitioners have demonstrated a threatened injury — pathway for ingestion of contaminants — from the use of potentially contaminated groundwater.

<sup>80</sup> The Afraid of Bear/Cook *Tiwahe* (“family”) constitutes the organization of the married couple Thomas Kanatakeniate Cook and Loretta Afraid of Bear Cook, Loretta’s mother, Beatrice Long Visitor Holy Dance, and their children, including Sakakohe Afraid of Bear Cook. Cons. Pet. at 13.

<sup>81</sup> The American Horse *Tiospaye* (“extended family”) constitutes the organization of the related families, or *Tiwahe*, to Joe American Horse, Sr., and his brothers.

<sup>82</sup> Tribe Pet. at 6.

<sup>83</sup> Delegation Pet. at 3.

<sup>84</sup> Tribe Reply App. at 2.

located.<sup>85</sup> Both petitioners rely upon the terms of the 1868 Fort Laramie Treaty, which delineated, *inter alia*, the Crow Butte mining site as belonging to the Sioux Nation.<sup>86</sup>

In response, Crow Butte and the NRC Staff insist that the Board has no jurisdiction to adjudicate matters related to treaties made by the United States government with other nations. Therefore, they argue, the Tribe's and the Delegation Treaty Council's treaty-based claim of standing may not be entertained in this proceeding.<sup>87</sup> We do not agree.

In addressing these arguments, we first turn to the Fort Laramie Treaties. The initial Fort Laramie Treaty, entered in 1851, guaranteed the Sioux Nation<sup>88</sup> exclusive control over the entire Great Plains region. In exchange, non-Indians were allowed to pass through tribal land via the Oregon Trail.<sup>89</sup> The Fort Laramie Treaty of 1868 abrogated the Treaty of 1851.<sup>90</sup> It relegated the Lakota<sup>91</sup> nation, along with other Sioux tribes, to the Great Sioux Reservation, permitted the tribes to retain hunting rights on nonreservation land, and provided that the Lakota owned the Black Hills area of the reservation. The Treaty of 1868 also provided that any further cession of land to the United States would not be valid unless approved by three-fourths of all adult Sioux males.<sup>92</sup>

When gold was discovered in the Black Hills, the United States entered into yet another treaty with the Sioux Nation that provided for the cession of 7 million acres belonging to the reservation. This Fort Laramie Treaty of 1877 included the Black Hills. The United States did not obtain the signatures of three-fourths of all adult Sioux males when entering into this treaty<sup>93</sup> and it has been argued that the Indians who did sign the Treaty did so under duress.<sup>94</sup> The treaty was then codified by Congress in the Act of 1877.<sup>95</sup>

A mechanism for Native Americans to assert claims against the United States government was established in 1946 with the passage of the Indian Claims Commission Act.<sup>96</sup> The Sioux Nation sued the United States government under this

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<sup>85</sup> Delegation Pet. at 3.

<sup>86</sup> *Id.*; *see also* 15 Stat. 635, 636 (1868).

<sup>87</sup> *See* App. Resp. Delegation at 9; App. Resp. Tribe at 12-13; NRC Resp. Tribe at 13.

<sup>88</sup> 11 Stat. 749 (1851).

<sup>89</sup> *Id.*

<sup>90</sup> 15 Stat. at 640.

<sup>91</sup> "Lakota" refers to a band of seven individual Sioux tribes. The Oglala Sioux Tribe is one of the tribes that belong to the Lakota Nation. *See* Joe American Horse Aff. at 1 (July 28, 2008).

<sup>92</sup> 15 Stat. at 639.

<sup>93</sup> *See United States v. Sioux Nation of Indians*, 448 U.S. 371, 381-82 (1980).

<sup>94</sup> *Id.* at 388.

<sup>95</sup> 19 Stat. 254 (1877).

<sup>96</sup> 60 Stat. 1049, 25 U.S.C. § 70 *et seq.*

Act to recover compensation for the asserted unlawful taking of the Black Hills.<sup>97</sup> In *United States v. Sioux Nation of Indians*,<sup>98</sup> the Supreme Court determined that the 1877 Treaty was an unconstitutional taking of tribal property, and ordered just compensation to be paid to the Indians. However, the Court also confirmed that Congress's plenary power with respect to Native Americans entitles it to abrogate treaties with Native American nations.<sup>99</sup> Therefore, while the taking was unlawful, the Act of 1877 was not an unlawful abrogation of the 1868 Treaty, and, accordingly, the United States is no longer bound by the terms of the 1868 Fort Laramie Treaty.<sup>100</sup>

Though the Sioux Indians were awarded \$17.1 million plus interest, they have refused to accept this award and instead continue to demand the return of their lands.<sup>101</sup> The *United States v. Sioux Nation of Indians*<sup>102</sup> holding is controlling here, however, and plainly requires us to reject such treaty-based claims of ownership. As a consequence, any claims to ownership of the land upon which the Crow Butte mining site sits cannot support standing here.

*b. Cultural Resource Claims*

The Tribe additionally asserts standing on the basis of an interest in identified cultural resources and artifacts at the Crow Butte mining site, which is indisputably located within the Tribe's aboriginal lands, i.e., lands to which the Tribe previously held aboriginal title under the Fort Laramie Treaty of 1868.<sup>103</sup> The Supreme Court

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<sup>97</sup> *Sioux Nation of Indians v. United States*, 601 F.2d 1157 (Ct. Cl. 1979).

<sup>98</sup> 448 U.S. 371, 423-24 (1980).

<sup>99</sup> *Id.* at 410-11. *See also Lone Wolf v. Hitchcock*, 187 U.S. 553, 565 (1903) ("Plenary authority over the tribal relations of the Indians has been exercised by Congress from the beginning, and the power has always been deemed a political one, not subject to be controlled by the judicial department of the government").

<sup>100</sup> *Sioux Nation of Indians*, 448 U.S. at 382-83, 410-11.

<sup>101</sup> *See* Delegation Pet. at 3.

<sup>102</sup> In the face of the Supreme Court ruling, the Oglala Sioux people continue to raise the argument that the terms of the 1868 Fort Laramie Treaty are still effective. In at least three other federal court proceedings, this argument has failed. *See Oglala Sioux Tribe of the Pine Ridge Indian Reservation v. United States*, 650 F.2d 140 (8th Cir. 1981); *Oglala Sioux Tribe of the Pine Ridge Indian Reservation v. Homestake Mining Co.*, 722 F.2d 1407 (8th Cir. 1983); *Oglala Sioux Tribe v. Army Corps of Engineers*, 537 F. Supp. 2d 161 (D.D.C. 2008).

<sup>103</sup> Aboriginal title is a term of art used to describe an Indian possessory interest in land inhabited since time immemorial. It is a permissive right of occupancy granted by the federal government and may be extinguished by Congress at any time. *See United States v. Gemmill*, 535 F.2d 1145, 1147 (9th Cir. 1976); *cf. Lipan Apache Tribe v. United States*, 180 Ct. Cl. 487, 491-92 (Ct. Cl. 1967) ("continuous and exclusive use of property is sufficient, unless duly extinguished, to establish Indian or aboriginal title"). The Board notes a difference between "aboriginal title" and "aboriginal lands."

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has recognized that Native Americans have tribal rights to, and interests in, aboriginal lands.<sup>104</sup> Furthermore, several federal statutes have recognized the cultural and religious importance to Native Americans of artifacts and natural landscapes and have established mechanisms and procedures to protect these cultural resources.<sup>105</sup>

In short, the preservation of cultural traditions is thus a protected interest under federal law. If this interest is endangered or harmed, it qualifies as an injury.<sup>106</sup> In the case before us, the Crow Butte mining site is within the boundaries of the 1868 Fort Laramie Treaty and was occupied by the Lakota people. Moreover, the Tribe ascribes cultural and religious significance to this land and it is likely that artifacts are to be found there.<sup>107</sup> In fact, Crow Butte has identified eight Native American artifacts on the Crow Butte site, at least two of which have been identified as burial remains.<sup>108</sup>

In the National Historic Preservation Act (NHPA),<sup>109</sup> Congress declared that this Nation's historical heritage "is in the public interest so that its vital legacy of cultural, educational, aesthetic, inspirational, economic, and energy benefits will be maintained and enriched for future generations of Americans."<sup>110</sup> Section 106 of the Act, *inter alia*, requires a federal agency, prior to the issuance of any

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Aboriginal title, a possessory interest to aboriginal land, can be granted and repudiated by Congress. Here, while the Tribe no longer has "aboriginal title" under *United States v. Sioux Nation of Indians*, 448 U.S. 371 (1980), the Crow Butte mining site is located on the Tribe's aboriginal lands, as set forth in the Fort Laramie Treaties.

<sup>104</sup> See *Havasupai Tribe v. United States*, 752 F. Supp. 1471 (D. Ariz. 1990); *United States ex rel. Chunie v. Ringrose*, 788 F.2d 638 (9th Cir. 1986); *United States v. Pend Oreille County Public Utility District No. 1*, 585 F. Supp. 606 (D. Wash. 1984); *Ute Indians v. United States*, 28 Fed. Cl. 768 (Fed. Cl. 1993).

<sup>105</sup> See Native American Graves Protection and Repatriation Act (NAGPRA), 25 U.S.C. § 3001 *et seq.* (providing notification and inventory procedures so that Indian cultural objects and burial remains found on federal lands will be repatriated to the appropriate Tribe); National Historic Preservation Act, 16 U.S.C. § 470 *et seq.* (providing notification and consultation procedures federal agencies must follow prior to a federal "undertaking" to consider the undertaking's effect on historic properties); Archaeological Resources Protection Act (ARPA), 16 U.S.C. § 470aa *et seq.* (providing criteria and procedures pursuant to which a federal land manager may issue excavation permits for federal lands; and providing for notification to Indian Tribe if permits may result in harm to cultural or religious sites).

<sup>106</sup> *But see Crow Creek Sioux Tribe v. Brownlee*, 331 F.3d 912, 916 (D.C. Cir. 2003) ("Tribe does not have standing merely because it has statutory rights in burial remains and cultural artifacts . . . . Rather, to establish standing, the Tribe must show . . . some actual or imminent injury").

<sup>107</sup> See Tr. at 108-09; Tribe Pet. at 15.

<sup>108</sup> LRA at 2-48.

<sup>109</sup> 16 U.S.C. § 470 *et seq.*

<sup>110</sup> *Id.* § 470(b)(4).

license, to “take into account” the effect of the federal action on any area eligible for inclusion in the National Register of Historic Places.<sup>111</sup>

Detailed regulations, developed to give substance to the requirements of section 106, provide a complex consultative process that must be followed to comply with the NHPA.<sup>112</sup> As part of this process, a tribe may become a consulting party where its property, potentially affected by a federal undertaking, has religious or cultural significance.<sup>113</sup> A consulting tribe is entitled to a reasonable opportunity to identify its concerns about historic properties, advise on the identification and evaluation of historic properties (including those of traditional religious and cultural importance), articulate its views on the undertaking’s effects on such properties, and participate in the resolution of adverse effects.<sup>114</sup> Moreover, the regulations under NHPA provide that the federal agency “should be sensitive to the special concerns of Indian tribes in historic preservation issues, which often extend beyond Indian lands to other historic properties,” and should “invite the governing body of the responsible tribe to be a consulting party and to concur in any agreement.”<sup>115</sup>

In short, section 106 of the NHPA provides the Tribe with a procedural right to protect its interests in cultural resources. The Supreme Court has held that a party claiming violations of this procedural right is to be accorded a special status when it comes to standing: “The person who has been accorded a procedural right to protect his concrete interests can assert that right without meeting all the normal standards for redressability and immediacy.”<sup>116</sup> To establish an injury in fact, a party merely has to show “some threatened concrete interest personal” to the party that NHPA was designed to protect.<sup>117</sup> Here, the Tribe’s concrete interest is clear: there are cultural resources on the Crow Butte site that have not been properly identified and may be harmed as a result of mining activities. Without consultation with the Tribe, culturally significant resources will go unidentified and unprotected. As a result, development or use of the land might cause damage to these cultural resources, thereby injuring the protected interests of the Tribe.

As we note below,<sup>118</sup> the Tribe has alleged that, for years, the NRC Staff has failed to fulfill its clear statutory obligation to consult with the Tribe regarding the cultural resources that Crow Butte itself has acknowledged encountering on

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<sup>111</sup> *Id.* § 470f; *see also* 16 U.S.C. § 470a(a) (National Register Guidelines).

<sup>112</sup> 36 C.F.R. Part 800; *see* 65 Fed. Reg. 77,698 (Dec. 12, 2000).

<sup>113</sup> *See* 36 C.F.R. § 800.2(c)(2)(ii).

<sup>114</sup> *See id.* § 800.2(c)(2)(ii)(A).

<sup>115</sup> *See id.* § 800.1(c)(2)(iii).

<sup>116</sup> *Lujan*, 504 U.S. at 572 n.7.

<sup>117</sup> *Nulankeyutmonen Nkihtaqmikon v. Impson*, 503 F.3d 18 (1st Cir. 2007) (citing *Lujan*, 504 U.S. at 572-73 nn.7-8).

<sup>118</sup> *See infra* pp. 719-23.

its mining site. Federal law not only recognizes that Native American tribes have a protected interest in cultural resources found on their aboriginal land, but as well has imposed on federal agencies a consultation requirement under the NHPA to ensure the protection of tribal interests in cultural resources. The Tribe's threatened injury is therefore within the zone of interests protected by the NHPA, and is beyond cavil that the failure of consultation provides a definite and concrete threat of injury to the interests of the Tribe, and so the Tribe is accorded standing here.<sup>119</sup>

*c. Delegation Treaty Council as Governmental Entity*

Although not possessing standing as a party, the Delegation Treaty Council may nonetheless participate in this proceeding as a unit of local government<sup>120</sup> under 10 C.F.R. § 2.315(c). By virtue of section 2.315(c), an interested local governmental body that is not a party to the proceeding must be accorded a reasonable opportunity to participate, through a single representative, in the hearing of one or more of the admitted contentions. As such, it may introduce evidence, interrogate witnesses in circumstances where cross-examination by the parties is allowed, advise the Commission without being required to take a position on any issue, file proposed findings where such are allowed, and seek Commission review on admitted contentions.<sup>121</sup>

Accordingly, if it so elects, the Delegation Treaty Council may participate as a nonparty in this proceeding. As contemplated by section 2.315(c), should it so elect, its representative will be required to "identify those contentions on which it will participate in advance of any hearing held."<sup>122</sup>

#### **IV. STANDARDS FOR ADMISSIBILITY OF CONTENTIONS**

In order to participate as a party in this proceeding, a petitioner for intervention must not only establish standing, but must also proffer at least one admissible con-

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<sup>119</sup>The cases that have addressed procedural violations of NHPA have uniformly granted standing to tribes under this relaxed standard and have proceeded directly to the merits of the NHPA claim. *See, e.g., Naragansett Indian Tribe v. Warwick Sewer Authority*, 334 F.3d 161 (1st Cir. 2003); *Muckleshoot Indian Tribe v. United States Forest Service*, 177 F.3d 800 (9th Cir. 1999); *Snoqualmie Indian Tribe v. Federal Energy Regulatory Commission*, 2008 WL 4478591 (9th Cir. 2008). *See also Duncan's Point Lot Owners Association, Inc. v. Federal Energy Regulatory Commission*, 522 F.3d 371 (D.D.C. 2008).

<sup>120</sup>At oral argument, the Board verified that no parties objected to the Delegation Treaty Council participating in this proceeding as an interested governmental participant. *See Tr.* at 425.

<sup>121</sup>10 C.F.R. § 2.315(c).

<sup>122</sup>*Id.*

tion that meets the requirements of 10 C.F.R. § 2.309(f)(1).<sup>123</sup> The requirements for an admissible contention include a specific statement of the issue of law or fact to be raised or controverted, a brief explanation of the basis of the contention, and a concise statement of the alleged facts that support the contention, together with references to those specific sources, expert opinions, and documents on which the petitioner intends to rely to prove the contention. Additionally, the petitioner must present sufficient information to show a genuine dispute with the applicant on a material issue of law or fact. Proffered contentions generally must fall within the scope of the issues set forth in the notice of the proposed licensing action.<sup>124</sup> Failure of a contention to meet any of the requirements of section 2.309(f)(1) renders it inadmissible.<sup>125</sup>

## **V. BOARD ANALYSIS AND RULINGS ON PETITIONERS' CONTENTIONS**

### **A. Oglala Sioux Tribe**

#### ***1. Environmental Contention A***

The Tribe states in Environmental Contention A:

There is no evidence based science for [Crow Butte's] conclusion that ISL mining has "no non radiological health impacts" (see Table 8.6-1 of application), or that non radiological impacts for possible excursions or spills are "small" (see 7.12.1 of application).<sup>126</sup>

The Tribe contends that Crow Butte provided no scientific evidence in support of its conclusion in the License Renewal Application that its mining operations present no significant risk to the health of residents at the Pine Ridge Indian Reservation.<sup>127</sup> To demonstrate the possibility of "environmental and other effects beyond the confines of the mine itself,"<sup>128</sup> the Tribe cites to a 1989 letter to

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<sup>123</sup> See 10 C.F.R. § 2.309(a) and (f)(1).

<sup>124</sup> See 10 C.F.R. § 2.309(f)(1)(i)-(vi).

<sup>125</sup> See *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999); *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155-56 (1991).

<sup>126</sup> Tribe Pet. at 6.

<sup>127</sup> *Id.* at 7.

<sup>128</sup> *Id.*

the NRC<sup>129</sup> and to Dr. LaGarry's opinion. The Tribe asserts these documents demonstrate that spills from Crow Butte's mining site would likely reach the Pine Ridge Indian Reservation through surface and subsurface migration of contaminants.<sup>130</sup> In addition, the Tribe questions the adequacy of Crow Butte's spill contingency plans identified in the License Renewal Application. The Tribe claims that the identified "biweekly" scheduled testing of the monitoring wells is inadequate to ensure that leaks have not occurred.<sup>131</sup> And more specifically, the Tribe asserts that Crow Butte's License Renewal Application lacks a reliable scientific basis for excluding uranium from its monitoring well testing.<sup>132</sup> Finally, the Tribe contends that Crow Butte failed both to produce any scientific data to substantiate Crow Butte's claim in the License Renewal Application of "no non radiological health effect," and to address possible health hazards of ingesting drinking water contaminated with uranium.<sup>133</sup>

Crow Butte and the NRC Staff respond that the Tribe's references in support of its contention do not show a genuine dispute with the application, that the Tribe failed to provide expert or factual support to refute the adequacy of Crow Butte's monitoring program,<sup>134</sup> and that the Tribe has not shown how Crow Butte's choice of parameters to detect excursions is inadequate.<sup>135</sup> Crow Butte and the NRC Staff together assert that, because the State of Nebraska, rather than the NRC, establishes monitoring requirements for nonradiological parameters in

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<sup>129</sup>The letter was sent to Mr. Gary Konwinski, NRC Uranium Recovery Field Office, from an exploration geologist, John Petersen. At that time, Peterson was familiar with Uranerz and Ferret Exploration Company of Nebraska during the Research and Development stage of what is now the Crow Butte mining site.

<sup>130</sup>Tribe Pet. at 7.

<sup>131</sup>*Id.* (citing LRA at 5-28). The Tribe claims Crow Butte's spill plan does not recognize that there could be leaks that would be undetected if the scheduled testing does not coincide with a leak. *Id.*

<sup>132</sup>*Id.* (citing LRA at 5-88). In support of its argument, the Tribe cites to a report submitted by Richard Abitz, Ph.D., Principal Geochemist for Geochemical Consulting Services, which states: "As uranium is mobilized and transported by the high oxygen and alkalinity in the lixiviant, there is no valid scientific reason to exclude it from the list of excursion monitoring parameters . . . . Uranium is a key indicator of lixiviant excursions because its concentration in baseline wells is generally two or three orders of magnitude lower than the lixiviant . . . [and] there is no rational basis to exclude the best excursion indicator." *Id.* at 7-8 (citing Letter from Richard J. Abitz, Ph.D., Geochemical Consulting Services, LLC, to David Frankel, Counsel for Consolidated Petitioners at 6 (July 28, 2008) [hereinafter Abitz report]).

<sup>133</sup>*Id.* at 8. To support this argument, the Tribe cites to two studies regarding the health consequences of nonradiological exposure to uranium in drinking water, and one study suggesting higher than average cancer rates experienced by the Oglala Sioux Tribe. *Id.* at 9-11.

<sup>134</sup>Crow Butte claims that undetected excursions are highly unlikely and that past experience at ISL mining facilities has shown that Crow Butte's monitoring system is effective in detecting leachate migration. App. Resp. Tribe at 16.

<sup>135</sup>App. Resp. Tribe at 16-17; NRC Resp. Tribe at 18-19.



a state-issued permit, any challenge to those requirements is outside the scope of this proceeding.<sup>136</sup> Finally, Crow Butte and the NRC Staff claim that the Tribe fails to point to any regulatory or statutory requirement to conduct a literature review regarding the nonradiological impacts of ISL mining.<sup>137</sup>

We note first that the NRC has the authority to regulate the release of nonradiological contaminants,<sup>138</sup> and therefore, a challenge to the analysis (or lack thereof) of nonradiological contaminants in the License Renewal Application is within the scope of this proceeding. The Tribe provided sufficient factual allegations and expert opinions to support its position that migration of contaminants from one aquifer to another is plausible in this area, and that contaminants associated with the current mining operations may produce nonradiological health effects “beyond the confines of the mine itself.”<sup>139</sup> The Tribe has identified a genuine dispute with the License Renewal Application by raising sufficient questions as to whether Crow Butte’s spill contingency plan adequately addresses nonradiological contaminants. Specifically in this regard, the Tribe challenges the monitoring frequency for contaminants, and the Tribe’s expert, Dr. Abitz, opines that certain portions of the License Renewal Application related to groundwater monitoring are deficient.<sup>140</sup>

We find the Tribe has shown this contention to be within the scope of the proceeding and has provided expert opinion establishing a genuine dispute with Crow Butte and its License Renewal Application on material issues of fact. The Board is satisfied that the Tribe’s contention meets all the requirements of 10 C.F.R. § 2.309(f)(1). We therefore find the Tribe’s Environmental Contention A *admissible*.

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<sup>136</sup> App. Resp. Tribe at 18; NRC Resp. Tribe at 19.

<sup>137</sup> App. Resp. Tribe at 19; NRC Resp. Tribe at 20.

<sup>138</sup> Initially, the NRC Staff took the position at oral argument that it does not have such authority to regulate nonradiological contaminants. *See* Tr. at 73; *see also* NRC Staff’s (1) Responses to the Board’s “Follow Up” Questions During the September 30–October 1, 2008 Oral Argument and (2) Statement of Clarification Relating to the Scope of NRC’s Jurisdiction to Regulate the Release of Non-Radiological Contaminants (Oct. 22, 2008) at 8 [hereinafter NRC Resp. to Board]. Subsequently, the NRC Staff retracted this assertion, advising that the Uranium Mill Tailings Radiation Control Act of 1978 (which amended the AEA) authorizes the NRC Staff to ensure that management of certain byproduct material would be carried out in a manner to protect public health and safety. Specifically, that statute authorizes the NRC Staff to take appropriate steps “to protect the public health and safety and the environment from radiological and *non-radiological* hazards associated with such material.” *Id.* at 8–9 (citing 42 U.S.C. § 2114(a)(1) (2008)) (emphasis in original).

<sup>139</sup> Tribe Pet. at 7.

<sup>140</sup> *See id.* (citing LRA at 5–88).

## 2. *Environmental Contention B*

The Tribe states in Environmental Contention B:

The Oglala Sioux Tribe has not been consulted with [*sic*] regarding the cultural resources that may be in the license renewal area. [Crow Butte] has identified what it believes to be cultural resources in the area, but the Tribe has had no input on this list, and it therefore cannot be complete. Furthermore, [Crow Butte] has provided that it will work in conjunction with the Nebraska State Historical Society to avoid the identified resources, but this ignores mandated participation of the Oglala Sioux Tribe.

The Tribe supports this contention by asserting that, because the Crow Butte mining site is part of the land granted to the Sioux Nation in the 1851 Treaty, any artifacts or cultural resources found there would be connected to the Tribe.<sup>141</sup> The Tribe further contends that Crow Butte is not equipped to identify, to evaluate, or to preserve these artifacts, and that consultation with the Tribe is therefore essential.<sup>142</sup>

Crow Butte maintains that the Tribe fails to take issue with any specific part of the application and that the Tribe “[does] not assert that the significance of any identified resources was underestimated or ignored.”<sup>143</sup> Further, Crow Butte asserts that the Tribe fails to point to any legal requirement that it consult with the Tribe. According to Crow Butte, this duty rests with the NRC Staff, not Crow Butte as the Applicant.<sup>144</sup>

The NRC Staff concedes that section 106 of the NHPA imposes a duty, not on Crow Butte in preparation of its application, but rather on the NRC to consult with the Tribe regarding cultural resources. Because this duty does not lie with Crow Butte, the NRC Staff asserts the Tribe’s claim against Crow Butte’s failure to consult is misdirected. Therefore, the NRC Staff concludes this contention is not ripe for consideration,<sup>145</sup> and does not present an issue material to the findings the NRC must make in support of the action involved in this proceeding.<sup>146</sup> We disagree.

Recently, a Licensing Board determined that the commitment of one party to fulfill its statutory duties in the application process was not enough to demon-

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<sup>141</sup> *Id.* at 13.

<sup>142</sup> *Id.*

<sup>143</sup> App. Resp. Tribe at 20.

<sup>144</sup> *Id.*

<sup>145</sup> NRC Resp. Tribe at 21-22.

<sup>146</sup> *Id.* at 22.

strate that the issue would be properly addressed.<sup>147</sup> That Board stated “[i]f the presumptive intent of the Applicant [or the NRC Staff] were enough, there would be no role for the hearing process — an applicant [or the NRC Staff] could vitiate hearing opportunities simply by committing ‘to do everything required of it.’”<sup>148</sup> However laudable the NRC Staff’s assurance to the Board that it will involve the Tribe in its NEPA review of cultural resources at the Crow Butte mining site,<sup>149</sup> such assurances are no substitute for enabling the Tribe to prosecute its contention here. In fact, the NRC Staff notes that “the NRC has not yet even begun the required section 106 evaluation process.”<sup>150</sup> The Board must afford the Tribe a way to ensure its interests are protected; if we were to deny all claims because an adverse party promises to fulfill its duties, we would subvert the hearing process. Therefore, we reject the NRC Staff’s argument that this contention is not ripe.

This is doubly the case in light of the consequences that would flow from denying the Tribe’s contention for lack of ripeness. If the Board denies a contention as being premature, the petitioner sponsoring that contention will suffer adversity in two distinct ways: (1) once such a contention subsequently becomes “ripe” under the severe admissibility test the NRC Staff seeks to employ, the NRC Staff could then seek to characterize it as a “late-filed contention” subject to much more rigorous admissibility standards;<sup>151</sup> and (2) in the interim period (between the date a contention is denied and the date it eventually becomes ripe), the NRC Staff views itself as having no obligation to provide the Tribe, contemporaneously, with copies of any communications between the NRC Staff and Crow Butte — and by logical extension, NRC communications with anyone else, which in the case of this contention, would include the State of Nebraska Historical Preservation Officer — regarding these cultural resources.<sup>152</sup> Procrustes could not have devised a more odious method of frustrating petitioners than NRC proposes here. The United States Court of Appeals for the D.C. Circuit has instructed the NRC Staff that imposing such hardships on a petitioner will tilt the balance in favor of determining that a matter is ripe for adjudication: “In

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<sup>147</sup> *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-08-13, 68 NRC 43, 86 (2008).

<sup>148</sup> *Id.* (citing *Shaw Areva MOX Services* (Mixed Oxide Fuel Fabrication Facility), LBP-07-14, 66 NRC 169, 205-06 (2007) (defect in an application can give rise to a valid “contention of omission” and cannot therefore be rejected as unripe)). Petitioners “must have the opportunity to challenge the adequacy of the [the action] in the context of the hearing process . . . .” *Id.*

<sup>149</sup> *See* Tr. at 365.

<sup>150</sup> NRC Resp. Tribe at 22.

<sup>151</sup> Tr. at 299; *see also* 10 C.F.R. § 2.309(c)(1)(i)-(viii).

<sup>152</sup> Tr. at 401.

determining ripeness, we assess ‘both the fitness of the issue for judicial decision and the hardship to the parties of withholding court consideration.’ ”<sup>153</sup>

Recent NRC communications in this proceeding make clear that this issue is fit for judicial decision.<sup>154</sup> The NRC Staff asserts that it met section 106 requirements during the process for its prior license renewal in 1995 by consulting, not with the Tribe, but with the Nebraska State Historical Preservation Officer (SHPO) regarding the cultural sites identified at that time in Crow Butte’s License Renewal Application.<sup>155</sup> As a result of this “consultation,” the NRC Staff concluded that it would be sufficient if Crow Butte followed its plan to avoid the identified sites by not mining near them and to “consult” with the SHPO before mining in the vicinity of any cultural sites.<sup>156</sup> When the NRC Staff renewed Crow Butte’s Materials License in 1998, the NRC Staff stated that it required Crow Butte “to conduct a cultural inventory prior to engaging in any developmental activity not previously assessed by NRC.”<sup>157</sup> Crow Butte retained Resource Technologies Group, Inc. (RTG) to survey the Crow Butte mining site and “identify properties of cultural significance to Native American Tribes who once inhabited the area.”<sup>158</sup> RTG allegedly attempted to contact a number of tribes, but the Tribe alleges that no actual communication regarding these cultural resources appears to have reached the Tribe.<sup>159</sup>

The regulations that implement NHPA<sup>160</sup> require federal agencies themselves to consult with a tribe if that tribe ascribes cultural or religious significance to

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<sup>153</sup> *Nuclear Energy Institute, Inc. v. Environmental Protection Agency*, 373 F.3d 1251, 1312-13 (D.C. Cir. 2004) (citing *AT&T Corp. v. Federal Communications Commission*, 349 F.3d 692, 699 (D.C. Cir. 2003) (quoting *Abbott Laboratories v. Gardner*, 387 U.S. 136, 149 (1967))) (emphasis added).

<sup>154</sup> The NRC Staff filed answers in response to Board questions posed during oral argument. NRC Resp. to Board at 5.

<sup>155</sup> The Board asked the NRC Staff if a section 106 Consultation was performed relating to Crow Butte’s 1995 license renewal application. The NRC Staff claims that when Crow Butte initially applied for a Materials License in 1987, the NRC Staff did not conduct a Section 106 consultation with the Tribe because the NHPA did not set forth such a consultation requirement until 1992. *See* 16 U.S.C § 470(a) (1990); NRC Resp. to Board at 5-6.

<sup>156</sup> Letter from Joseph J. Holonich, Chief Uranium Recovery Branch, U.S. NRC, to Lawrence J. Sommer, Director, Nebraska State Historical Society (Dec. 31, 1997).

<sup>157</sup> NRC Resp. to Board at 6 n.19 (citing Application for 1995 License Renewal USNRC Source Materials License SUA-1534 Crow Butte License Area (December 1995) (ADAMS Accession No. ML082140217) [hereinafter Original Licensing Application]).

<sup>158</sup> Letter from Bartley W. Conroy, Vice President, Resource Technologies Group, Inc., to L. Robert Pushendorf, Deputy Nebraska State Historic Preservation Officer, Nebraska State Historical Society (Apr. 3, 1998).

<sup>159</sup> *Id.*

<sup>160</sup> 36 C.F.R. Part 800 *et seq.*

properties not on tribal lands.<sup>161</sup> When Crow Butte applied for a license renewal in 1995, it identified eight sites of potential significance to the Oglala Sioux Tribe.<sup>162</sup> The Tribe claims that, in direct violation of NHPA regulations, the NRC Staff failed to consult with the Tribe about known cultural resources on the site.<sup>163</sup> While the NRC Staff alleges that it had some limited communication with Nebraska's SHPO, such discussions are no substitute for direct consultation with the Tribe. The regulations clearly require that each federal agency consult with the Indian tribe(s) whose interests are at stake as a result of agency action — such as the issuance, renewal, or amendment of a license — that may affect a tribe's cultural resources.<sup>164</sup> Certainly, because the duty to consult with tribes lies with the Agency, not the Applicant, inserting a condition into Crow Butte's license requiring Crow Butte to consult with the Tribe does not absolve the NRC Staff of its duty to consult. Moreover, the NRC Staff's mention of RTG's apparently unsuccessful attempts to contact the Oglala Tribe, and the NRC Staff's subsequent determination that RTG made “a good faith effort in attempting to identify [Traditional Cultural Properties],”<sup>165</sup> also does not excuse the NRC Staff of its duty to contact and consult with the Tribe itself.<sup>166</sup> Although it is permissible for a federal agency to rely upon an applicant or an applicant's contractor to

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<sup>161</sup> *Id.* § 800.2(c)(2)(ii)(D): “When Indian tribes . . . attach religious and cultural significance to historic properties off tribal lands, section 101(d)(6)(B) of the act requires Federal agencies to consult with such Indian tribes . . . in the section 106 [i.e., consultation] process. Federal agencies should be aware that frequently historic properties of religious and cultural significance are located on ancestral, aboriginal, or ceded lands of Indian tribes . . . and should consider that when complying with the procedures in this part.” *See also Pit River Tribe v. United States Forest Service*, 469 F.3d 768, 787 (9th Cir. 2006).

<sup>162</sup> *See* Original Licensing Application at 2.4-1.

<sup>163</sup> “The Staff was unable to find any documentation reflecting a direct NRC contact with any Indian tribe.” NRC Resp. to Board at 7.

<sup>164</sup> *See* 16 U.S.C. § 470(f): “[T]he head of any Federal department or independent agency having authority to license any undertaking shall, . . . prior to the issuance of any license, . . . take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register. The head of any such Federal agency shall afford the Advisory Council on Historic Preservation established under part B of this subchapter a reasonable opportunity to comment with regard to such undertaking.” *See also USEC Inc. (American Centrifuge Plant)*, CLI-06-9, 63 NRC 433, 437 (2006).

<sup>165</sup> NRC Resp. to Board at 7 (citing Letter from Joseph J. Holonich, Chief Uranium Recovery Branch, U.S. NRC, to L. Robert Puschendorf, Deputy State Historic Preservation Officer, Nebraska State Historical Society (June 26, 1998)).

<sup>166</sup> “In initiating the Section 106 process, the *agency* is required to make a ‘reasonable and good faith effort’ ” to identify Indian tribes who may attach “‘religious and cultural significance’ to historic properties that may be affected by the proposed undertaking and invite them to participate as consulting parties in the Section 106 process.” *Comanche Nation v. United States*, 2008 WL 4426621 (Sept. 23, 2008) (slip op. at 4) (emphasis added). *See also* 36 C.F.R. § 800.2(c)(2)(ii)(A)-(D); *id.* § 800.3(f)(2).

collect data and make recommendations regarding cultural resources, it may not delegate its duty to consult under section 106 of the NHPA.<sup>167</sup>

The fact that there appear to have been no consultations between the NRC Staff and the Tribe for at least 13 years after the NRC Staff was alerted to these Native American cultural resources makes this matter more than ripe for adjudication. The Tribe's interests in its cultural resources must be protected, and the Tribe should not be precluded from trying to protect them through these proceedings. Contrary to the NRC Staff's argument, ensuring that it meets its consultation obligations under section 106 of the NHPA is indeed "an issue material to the findings the NRC must make in support of the action involved in this proceeding."<sup>168</sup>

Finally, the Board is satisfied that the Tribe's contention meets all the requirements of 10 C.F.R. § 2.309(f)(1). We find the Tribe has shown this contention to be within the scope of the proceeding and has demonstrated the issues raised in this contention are material to the findings the NRC must make to support the action. The Tribe also has established a genuine dispute with Crow Butte and its License Renewal Application on a material issue of fact. It has done so by alleging the legal requirement of consultation did not occur, and by specifically disputing Crow Butte's finding in the License Renewal Application that there will be no significant impacts to cultural resources as a result of the continued operation of the ISL uranium mine. The Tribe disputes this finding by arguing that Crow Butte is not qualified to make representations regarding cultural resources found on the site.<sup>169</sup> It argues that in order for Crow Butte to state that no significant impacts will occur to cultural resources as a result of mining activities, it must rely on the NRC having first consulted with the Tribal Historic Preservation Officers [THPOs], as those officers are singularly qualified to identify the cultural resources and to determine their importance and how they should be protected.<sup>170</sup> Because these THPOs were not consulted by the NRC, the Tribe raises a legitimate challenge to Crow Butte's finding in the License Renewal Application that no significant impact to cultural resources will occur as a result of mining activities. We therefore find the Tribe's Environmental Contention B *admissible*.

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<sup>167</sup> "It is the statutory obligation of the Federal agency to fulfill the requirements of section 106. . . ." *Id.* § 800.2(a). Furthermore, "the agency official may use the services of applicants, consultants, or designees to prepare information, analyses and recommendations under this part. The agency official remains legally responsible for all required findings and determinations. If a document or study is prepared by a non-Federal party, *the agency official is responsible for ensuring that its content meets applicable standards and guidelines.*" *Id.* § 800.2(a)(3) (emphasis added).

<sup>168</sup> *See* 10 C.F.R. § 2.309(f)(1)(iv).

<sup>169</sup> Tribe Pet. at 13. *See also* Tribe Reply App. at 2, 6; Tr. at 159.

<sup>170</sup> *Id.*

### 3. *Environmental Contention C*

The Tribe states in Environmental Contention C:

In 7.4.2.2 in its application for renewal, [Crow Butte's] characterization that the impact of surface waters from an accident is "minimal since there are no nearby surface water features," does not accurately address the potential for environmental harm to the White River.<sup>171</sup>

Despite the fact that Crow Butte's License Renewal Application identifies Squaw and English Creeks, as "small tributaries of a 'major regional watercourse, the White River'"<sup>172</sup> that cross the tract on which it conducts its mining operations, Crow Butte asserts that no surface water would be affected in the event of an accident.<sup>173</sup> Presumably, to make this assertion, Crow Butte is banking on its ability to prevent accidental releases from ever reaching surface waters. On the other hand, the Tribe contends that because the White River runs through the Pine Ridge Indian Reservation, reliable scientific evidence (documented excursions and leaks) demonstrates the potential for contamination of the White River from, *inter alia*, surface spills and subsurface migration.<sup>174</sup> The Tribe also has submitted expert opinion suggesting the White River alluvium (a potential pathway for such contamination) should be evaluated for contaminants.<sup>175</sup> The Tribe claims this expert opinion directly contradicts Crow Butte's characterization of an impact from an accident as "minimal since there are no nearby surface water features."<sup>176</sup>

Crow Butte's response details affirmative steps it has taken to protect "surface water quality in the event of a wellfield accident."<sup>177</sup> Crow Butte asserts the Tribe must show deficiencies or errors in the License Renewal Application and must

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<sup>171</sup> Tribe Pet. at 16.

<sup>172</sup> See LRA at 7-17; *see also* Tribe Pet. at 16.

<sup>173</sup> LRA at 7-17; *see also* Tribe Pet. at 16.

<sup>174</sup> Tribe Pet. at 16; the Tribe references Dr. LaGarry's opinion that the White River alluvium can receive contaminants from three sources: (1) surface spills at the Crow Butte mine site, (2) water transmitted through the Chamberlain Pass Formation where it is exposed at the land surface, and (3) subsurface faults. *Id.* (citing LaGarry Opinion at 3).

<sup>175</sup> Three expert reports (from Paul Ivancie, W. Austin Crewell, and Dr. LaGarry) all agree that the White River alluvium (as a potential pathway for contamination) should be evaluated for possible contamination from the Crow Butte mining site. Tribe Pet. at 17.

<sup>176</sup> Tribe Pet. at 17 (citing LRA at 7-9).

<sup>177</sup> App. Resp. Tribe at 21. Crow Butte points to License Renewal Application § 7.4.2.2 where Crow Butte acknowledges the potential to impact surface water quality, but then provides measures, such as the installation of dikes or berms in wellfield areas to prevent spilled solution from entering surface water features. Crow Butte also notes measures included in the License Renewal Application to protect against contamination of the shallow aquifer including the use of high-density polyethylene pipe with butt welded joints and leak testing. *Id.* (citing LRA at 7-9, 7-13 to 7-14).

establish a significant link between such claimed deficiencies and either the health and safety of the public or the environment which, Crow Butte asserts, the Tribe fails to do.<sup>178</sup> The NRC Staff responds that the Tribe's alleged factual support is nothing more than speculation that the subject aquifers are interconnected and therefore does not provide a valid basis for its contention.<sup>179</sup> We disagree.

As with the Tribe's Environmental Contention A, we find the Tribe has supplied sufficient expert opinion to draw into question whether these aquifers are interconnected and so could be the potential pathway for contaminant migration to surface waters. The Tribe provided the opinion of several experts in support of its position that the White River alluvium is a potential pathway for contamination.<sup>180</sup> There are clear factual differences between the positions of Crow Butte and the Tribe regarding whether such pathways exist; thus, the Tribe presents a genuine factual dispute with the results of Crow Butte's technical analyses in the License Renewal Application. Moreover, the Tribe points to the License Renewal Application wherein Crow Butte identifies surface waters near the Crow Butte mining site but then concludes that an accident would result in minimal impacts because "there are no nearby surface water features."<sup>181</sup> We agree with the Tribe that this illustrates a clear factual dispute that warrants further inquiry.

The Tribe has provided a concise statement of alleged facts that are within the scope of this proceeding. Moreover, the Tribe has established a genuine dispute with Crow Butte on a material issue, and has provided supporting expert opinions that directly controvert the License Renewal Application. Therefore, we find the Tribe's Environmental Contention C *admissible*.

#### **4. Environmental Contention D**

The Tribe states in Environmental Contention D:

In 7.4.3 [Crow Butte's] Application incorrectly states there is no communication among the aquifers, when in fact, the Basal Chadron aquifer, where mining occurs, and the aquifer, which provides drinking water to the Pine Ridge Indian Reservation, communicate with each other, resulting in the possibility of contamination of the potable water.<sup>182</sup>

The Tribe challenges Crow Butte's conclusion in the License Renewal Appli-

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<sup>178</sup> App. Resp. Tribe at 21 (citing *Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), LBP-02-23, 56 NRC 413, 439-41 (2002)).

<sup>179</sup> NRC Resp. Tribe at 24.

<sup>180</sup> See Tribe Pet. at 17.

<sup>181</sup> See *id.* at 16-17 (citing LRA at 7-9).

<sup>182</sup> *Id.* at 18.



cation that the subject aquifers are not interconnected, and that, as a result, ISL uranium mining is not a threat to water resources near the Crow Butte mine.<sup>183</sup> Specifically, the Tribe argues that these aquifers in this area are interconnected, and, as a result, there is a potential pathway for contamination of the Pine Ridge Indian Reservation water supply. To support this contention, the Tribe cites to Dr. LaGarry's opinion:

[M]any of the ancient river deposits of the Arikaree and Ogallala Groups, along with the alluvium deposited by modern rivers, follow the fault zones because fractured rock erodes more easily. Swinehart & Others (1985) and Diffendal (1994) reported faults that could transmit contaminants from Crawford to Chadron, and from Crawford to Pine Ridge, South Dakota. In its license amendment for the North Trend expansion, Crow Butte Resources reports a fault along the White River that could transport contaminants from the ISL mine to the White River, and from the river directly to Pine Ridge, South Dakota.<sup>184</sup>

Dr. LaGarry's opinion contradicts Crow Butte's claims in the License Renewal Application that the Basal Chadron Sandstone is a deep confined aquifer, and therefore that no surface water impacts are expected from the continuation of ISL mining in the Crawford area.<sup>185</sup> The Tribe also points to a November 8, 2007 letter from the Nebraska Department of Environmental Quality (NDEQ) to Crow Butte expressing concern that there was inadequate scientific support for Crow Butte's claim of no hydraulic connection between the Basal Chadron Sandstone and the White River.<sup>186</sup> Finally, the Tribe contends that Crow Butte failed to consider the White River Fault/Fold (located in the southern portion of the North Trend Expansion area) "which may affect the control of any migrations outside the mining area."<sup>187</sup>

Crow Butte and the NRC Staff both respond that the Tribe has failed to offer any evidence that the subject aquifers are interconnected.<sup>188</sup> Crow Butte adds that Dr. LaGarry merely "posits a potential link to the White River," and that his opinion provides nothing more than "an overview in regional geology."<sup>189</sup> The NRC Staff further asserts that Dr. LaGarry fails to confirm or to provide data to support that such faults exist in the area of the Crow Butte mining site.<sup>190</sup> The NRC Staff and Crow Butte maintain that Dr. LaGarry's propositions are no

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<sup>183</sup> *Id.* at 19.

<sup>184</sup> *Id.* at 20 (citing LaGarry Opinion at 3).

<sup>185</sup> *Id.* at 20-21 (citing LRA at 7-10).

<sup>186</sup> *Id.*

<sup>187</sup> *Id.* at 21.

<sup>188</sup> App. Resp. Tribe at 22; NRC Resp. to Tribe at 26.

<sup>189</sup> App. Resp. Tribe at 22.

<sup>190</sup> NRC Resp. Tribe at 26.

substitute for the detailed, site-specific investigation performed by Crow Butte in the License Renewal Application, which, they claim, establishes that no faults exist at the site.<sup>191</sup> Crow Butte also challenges the Tribe's use of the November 8, 2007 NDEQ letter to support this contention, arguing that the letter is analogous to an NRC Staff Request for Additional Information (RAI), and that "a contention cannot simply be based on comments by a state agency regarding a permitting issue separate from the NRC's review."<sup>192</sup>

We find that the Tribe proffers sufficient supporting documentation and expert opinion to demonstrate that a genuine dispute exists with Crow Butte on a material issue of fact. Dr. LaGarry's opinion is, as Crow Butte argues, an overview of the regional geology and not the detailed data collected at the current mining location by Crow Butte. What Crow Butte and the NRC Staff choose to ignore, however, is that the Tribe is concerned with potential migration "outside the mining area."<sup>193</sup> Dr. LaGarry notes a fault along the White River that, based on the regional geology, could act as a pathway to transport contaminants to the White River from the current ISL mining location.<sup>194</sup> The importance of this claim is substantiated by NDEQ in its November 8, 2007 letter wherein its scientists dispute Crow Butte's assertion that there is no hydraulic connection among regional aquifers and the White River. These NDEQ scientists assert that Crow Butte's claim is "lacking scientific support," and that Crow Butte "fails to account for the White River Fault" that may affect the control of any migration outside the mining area.<sup>195</sup> We do not find persuasive Crow Butte's characterization of the NDEQ letter as a document analogous to an RAI. To the contrary, the NDEQ letter is an expert source that directly supports the Tribe's proffered contention.

The Tribe makes a specific statement of fact that is clearly within the scope of this proceeding, and provides supporting documentation and expert opinion that controverts findings in the License Renewal Application and thus establishes a genuine dispute warranting further inquiry. The Tribe's contention satisfies the contention admissibility requirements in 10 C.F.R. § 2.309(f)(1); thus, we find the Tribe's Environmental Contention D *admissible*.

## 5. *Environmental Contention E*

The Tribe states in Environmental Contention E:

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<sup>191</sup> See App. Resp. Tribe at 22; see also NRC Resp. Tribe at 26 (citing LRA at 2-113).

<sup>192</sup> App. Resp. Tribe at 23.

<sup>193</sup> Tribe Pet. at 21.

<sup>194</sup> *Id.* at 20 (citing LaGarry Opinion at 3).

<sup>195</sup> *Id.* at 21.

[Crow Butte's] application incorrectly states in 7.11 that "Wastes generated by the facility are contained and eventually removed to disposal elsewhere."<sup>196</sup>

Referencing a complaint in a lawsuit alleging that Crow Butte violated its NDEQ-issued Underground Injection Control Permit, the Tribe notes an incident wherein Crow Butte released well development water "upon the surface of the ground" during its well development and drilling process.<sup>197</sup> The Tribe claims that these noncompliant activities directly contradict statements provided in Crow Butte's License Renewal Application that all generated wastes from the Crow Butte mining operations are contained and disposed of elsewhere.<sup>198</sup> The Tribe asserts that Crow Butte has disposed of wastewater in a manner that is inconsistent with its application, and therefore, its procedures do not meet the requirements for a license renewal because they do not protect public health or minimize danger to life or property.<sup>199</sup>

Crow Butte and the NRC Staff both respond that this contention is outside the scope of this proceeding because it involves an issue of state law.<sup>200</sup> Crow Butte further maintains that the basis of an admissible contention must relate directly to the proposed licensing action and not be based on allegations of improprieties of only historical interest.<sup>201</sup>

Contrary to Crow Butte's position, a license renewal proceeding is "an appropriate occasion for apprais[ing] . . . the entire past performance of [the] licensee."<sup>202</sup> The Tribe's allegations of historical improprieties concern the integrity of Crow Butte's ongoing management of its ISL mining operations. The Commission has found that such allegations are relevant in a license renewal proceeding because NRC must assure the public that "the facility's current management encourages a safety-conscious attitude" and must provide "reasonable

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<sup>196</sup> *Id.*

<sup>197</sup> *Id.*; see also NDEQ Complaint ¶ 2 (State of Nebraska, *Nebraska Department of Environmental Quality v. Crow Butte Resources, Inc.*, Dist. Ct. of Lancaster, NE Case No. CI08-2248) ("Crow Butte recycled its well development water as a conservation measure, rather than treating it as a waste stream and collecting and retaining such water in Crow Butte's lined evaporation ponds, contrary to the terms of its UIC permit"). The NDEQ Complaint states that the violation occurred from July 1, 2003, until March 31, 2006. The Complaint also notes that Crow Butte discovered the violation and self-reported it to the NDEQ onsite inspector. *Id.*

<sup>198</sup> Tribe Pet. at 22.

<sup>199</sup> *Id.*

<sup>200</sup> App. Resp. Tribe at 24; NRC Resp. Tribe at 28 (citing *Northern States Power Co.* (Tyrone Energy Park, Unit 1), ALAB-464, 7 NRC 372, 375 (1978)).

<sup>201</sup> App. Resp. Tribe at 25 (citing *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 365 (2001)).

<sup>202</sup> *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 120 (1995) (citing *Hamlin Testing Laboratories, Inc.*, 2 AEC 423, 428 (1964)).

assurance that the [ ] facility can be safely operated.’’<sup>203</sup> Furthermore, we do not agree that the Tribe’s concerns are outside the scope of this proceeding simply because the basis for the contention relies on a question of state law.

The Tribe’s allegations create a genuine dispute with the application on a material issue of law or fact. It has also demonstrated how these past violations support a challenge to the statement in the License Renewal Application that all wastes generated during Crow Butte’s licensed ISL uranium mining operations are disposed elsewhere. Accordingly, we find the Tribe’s Environmental Contention E *admissible*.

## **B. Consolidated Petitioners**

### **1. Environmental Contentions A and B**

Consolidated Petitioners state in Environmental Contentions A and B:

Environmental Contention A: [Crow Butte’s] License Application does not accurately describe the environment affected by its proposed mining operations or the extent of its impact on the environment as a result of its use and potential contamination of water resources, through mixing of contaminated groundwater in the mined aquifer with water in surrounding aquifers and drainage of contaminated water into the White River.<sup>204</sup>

Environmental Contention B: [Crow Butte’s] proposed mining operations will use and contaminate water resources, resulting in harm to public health and safety, through mixing of contaminated groundwater in the mined aquifer with water in surrounding aquifers and drainage of contaminated water into the White River.<sup>205</sup>

Rather than providing specific factual allegations or expert statements in support of Contention A,<sup>206</sup> Consolidated Petitioners contend simply that Environmental Contention A is *admissible* ‘‘for the reasons found by the Amendment Board in LBP-08-6.’’<sup>207</sup> With respect to Contention B, Consolidated Petitioners urge its admission for the same reason, although they make two additional allegations: (1) that the License Renewal Application fails to disclose results of baseline preoperational sampling, and (2) that the License Renewal Application fails to compare existing data with preoperational levels.<sup>208</sup> The only factual support Con-

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<sup>203</sup> *Georgia Tech*, CLI-95-12, 42 NRC at 121.

<sup>204</sup> *See* Cons. Pet. at 21.

<sup>205</sup> *Id.*

<sup>206</sup> *Id.*

<sup>207</sup> Cons. Pet. Reply at 50 (citing *Crow Butte*, LBP-08-6, 67 NRC at 323 (slip op. at 101)).

<sup>208</sup> Cons. Pet. at 26.

solidated Petitioners offer in support of Contention B is a 1982 Baseline Report discussing the water quality of wells in an area encompassing twelve townships in Northwest Nebraska, which Consolidated Petitioners deem to be illustrative of their claim of elevated concentrations of uranium in English and Squaw creeks.<sup>209</sup>

Crow Butte and the NRC Staff provide multiple arguments asserting procedural deficiencies in these two contentions.<sup>210</sup> The NRC Staff argues that Consolidated Petitioners fail to establish the relevance of the 1982 Baseline Report to Contention B, pointing out that the License Renewal Application discusses preoperational baseline groundwater sampling and restoration information for each mine unit and private well sampling information from 1991-2007.<sup>211</sup> Crow Butte adds that water quality samples in the mining area taken in 1998 (prior to mining operations beginning there), detected “elevated uranium concentrations *upstream* from the current operations.”<sup>212</sup> Crow Butte then argues this demonstrates that its licensed ISL uranium mining operations are not the cause of surface water contamination.

Unlike federal court practice, the Commission does not accept mere notice pleading in support of an admissible contention.<sup>213</sup> Moreover, it has made clear that a Board is not to permit “incorporation by reference where the effect would be to circumvent NRC-prescribed . . . specificity requirements.”<sup>214</sup> Our review of Consolidated Petitioners’ argument, and the Amendment Board’s ruling on these identical contentions for the Amendment proceeding, requires that we find these contentions inadmissible.

The aquifer connectivity issues before us, while similar to those facing the Amendment Board, nevertheless involve two separate proceedings addressing two separate applications, as well as two different licensing actions by the NRC covering two different mining site locations. What is at issue here is Crow Butte’s

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<sup>209</sup> *Id.* at 25.

<sup>210</sup> App. Resp. Cons. Pet. at 27-30; NRC Resp. Cons. Pet. at 29-31.

<sup>211</sup> NRC Resp. Cons. Pet. at 30 (citing LRA at 2-166, 5-107) (emphasis in original).

<sup>212</sup> App. Resp. Cons. Pet. at 30 (citing Crow Butte’s Semi-Annual Radiological Effluent and Monitoring Report for Third and Fourth Quarters 2008 (ADAMS Accession No. ML080710479) at 4); *see also* LRA at 5-87.

<sup>213</sup> *See Power Authority of the State of New York* (James A. Fitzpatrick Nuclear Power Plant; Indian Point, Unit 3), CLI-00-22, 52 NRC 266, 296 (2000) (Commission’s standards do not allow mere notice pleading); *see also Palisades*, CLI-07-18, 65 NRC at 408-09; *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC 419, 428 (2003); *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-06-24, 64 NRC 111, 119 (2006); *American Centrifuge Plant*, CLI-06-9, 63 NRC at 437.

<sup>214</sup> *Consolidated Edison Co. of New York* (Indian Point, Units 1 and 2), CLI-01-19, 54 NRC 109, 132-33 (2001); *see also Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-89-3, 29 NRC 234, 240-41 (1989) (“The Commission expects parties to bear their burden and to clearly identify the matters on which they intend to rely with reference to a specific point. The Commission cannot be faulted for not having searched for a needle that may be in a haystack”).

License Renewal Application, which involves the continued operation of Crow Butte's licensed ISL uranium mine, as opposed to the proposed expansion of that mine that is before the Amendment Board at a location nearly 5 miles away from Crow Butte's current ISL mining operations. The request for hearing and petition to intervene in the Amendment Proceeding includes direct citations to the Application for the North Trend Expansion and controverts statements provided in that application as bases for the contentions presented therein.<sup>215</sup> Here, in contrast, Consolidated Petitioners merely refer to the Amendment Proceeding and facts relating to another site than that at issue in the License Renewal Application.

We find that Consolidated Petitioners have provided insufficient explanation of the foundation for these two contentions, they have provided no concise statement of alleged fact or expert opinion supporting their position, and they have not demonstrated a genuine dispute with the License Renewal Application at issue in this proceeding.<sup>216</sup> Accordingly, Consolidated Petitioners' Environmental Contention A and Environmental Contention B are *inadmissible*.

## 2. *Environmental Contention C*

Consolidated Petitioners state in Environmental Contention C:

Failure of CBR to consider Climate Change.<sup>217</sup>

Although invoking "climate change," Consolidated Petitioners' Environmental Contention C challenges only Crow Butte's description of tornado frequency in the License Renewal Application.<sup>218</sup> Consolidated Petitioners assert that Crow Butte uses old data in its License Renewal Application regarding the weather and tornadoes and that such data need to be updated in light of known factors related to climate change.<sup>219</sup> Consolidated Petitioners further maintain that climate change

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<sup>215</sup> See *Crow Butte*, LBP-08-6, 67 NRC at 318 ("Contentions A and B of the Petition consist largely of references to, quotations from, and comparisons between language from various sections of the [North Trend Expansion Application], noticing some inconsistencies and pointing out some statements they challenge by reference to other statements therein").

<sup>216</sup> See 10 C.F.R. § 2.309(f)(1)(ii), (v), and (vi). In denying these two contentions, we express no opinion regarding the reasoning provided by the Amendment Board. To the contrary, we agree that aquifer connectivity issues are present in both proceedings and have said as much through our admission of the Tribe's Environmental Contentions A, C, and D. But those issues are not properly raised or supported by Consolidated Petitioners' Environmental Contentions A and B, and we therefore find them inadmissible here.

<sup>217</sup> Cons. Pet. at 26.

<sup>218</sup> *Id.* (citing LRA at 2-57).

<sup>219</sup> *Id.*

may be appropriate for consideration under 10 C.F.R. § 51.45 for reasons found by the Amendment Board in LBP-08-6.<sup>220</sup>

Crow Butte and the NRC Staff both respond that Consolidated Petitioners do not explain what information in the License Renewal Application is incorrect or inaccurate and fail to demonstrate that the issues related to climate change cannot be addressed through the NRC's normal regulatory process.<sup>221</sup> The NRC Staff further asserts that, because a discussion of climate change is not required for inclusion in an application, it would be more appropriate to challenge the adequacy of the meteorological information contained in the License Renewal Application, which Consolidated Petitioners did not do.<sup>222</sup> At oral argument, the NRC Staff noted that Consolidated Petitioners did not put forward any factual foundational support to controvert, or claim a deficiency in, the meteorological data submitted by Crow Butte in the License Renewal Application, but it also added that "[the NRC Staff's meteorological review has not yet been finished."<sup>223</sup>

We can envision circumstances when climate change would be a legitimate subject of inquiry.<sup>224</sup> However, the contention as proffered is far too broad. Petitioners must address alleged deficiencies in the License Renewal Application in a specific and well-supported contention. While Consolidated Petitioners have alleged that Crow Butte generally failed to mention "climate change" in its application, it does not supply supporting facts or expert testimony sufficient to raise a factual dispute. When afforded an opportunity to explain their position at oral argument, Consolidated Petitioners could not provide any specific impact climate change would have on the meteorological conditions at Crow Butte mining site,<sup>225</sup> other than a possible increase in the frequency of tornados that Crow Butte classified as being "rare."<sup>226</sup> Moreover, Consolidated Petitioners were unable to identify, assuming that the worst-case scenario of a tornado occurring at the

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<sup>220</sup> Cons. Pet. Reply at 52 (citing *Crow Butte*, LBP-08-6, 67 NRC at 322 (slip op. at 99) ("climate change would clearly fall within any reasonable consideration of the concepts expressed" in 10 C.F.R. § 51.45(b)(1) and (b)(4)).

<sup>221</sup> App. Resp. Cons. Pet. at 30-31.

<sup>222</sup> NRC Resp. Cons. Pet. at 32; *see also* Tr. at 238.

<sup>223</sup> Tr. at 254.

<sup>224</sup> *See* Official Transcript, Duke Energy Carolinas William States Lee III Nuclear Station Units 1 and 2 [hereinafter *Duke Tr.*] at 58-59 (NRC Staff responded, when asked, that it was considering global warming issues in its NEPA analysis); *see also* Tr. at 238.

<sup>225</sup> *See* Tr. at 240-52.

<sup>226</sup> Tr. at 249-51.

Crow Butte mining site would be a power outage, any adverse health and safety impacts.<sup>227</sup>

For the foregoing reasons, we find Consolidated Petitioners' Environmental Contention C is *inadmissible*.

### 3. *Environmental Contention D*

Consolidated Petitioners state in Environmental Contention D:

Changing the geo-chemistry of the water is equivalent to adulteration of the water. It takes many generations for the adulterated water to recover so that it can once again be used for traditional medicines and ceremonies, and before it can be healthy again for drinking and irrigation. This causes environmental and cultural impacts, lack of environmental justice, depletion of the aquifer at a time of drought, and economic detriments to property owners as a result of the lowering of the water table.<sup>228</sup>

In support of Environmental Contention D, Consolidated Petitioners point to several affidavits describing the spiritual nature of water and include excerpts from an article making the same claim.<sup>229</sup> Consolidated Petitioners further assert that, because the License Renewal Application acknowledges that the water is "geo-chemically changed by the ISL mining," such change supports Consolidated Petitioners' environmental justice and cultural impact claims because "it takes many generations before the water can once again be used."<sup>230</sup>

Crow Butte maintains that, to the extent Consolidated Petitioners are challenging (a) actions permitted under its state-issued aquifer exemption, (b) actions permitted under its state-issued Safe Drinking Water Act Class III permit, or (c) already-authorized activities under its current NRC license, this contention raises issues outside the scope of this license renewal proceeding.<sup>231</sup> Crow Butte further maintains that a license renewal proceeding is not the proper forum to challenge NRC regulations that purportedly allow an ISL uranium mine to change the geochemistry of groundwater.<sup>232</sup> Those issues aside, Crow Butte would have it that the Consolidated Petitioners do not meet any of the contention admissibility

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<sup>227</sup> Tr. at 256-57. This failure to supply any legitimate amplification for its climate change contention is particularly noteworthy because almost 2 weeks earlier, the Board advised the parties they should be prepared to address this global warming contention during oral argument. See Licensing Board Order (Regarding Oral Argument) at 4 (Sept. 18, 2008) (unpublished).

<sup>228</sup> Cons. Pet. at 26-27.

<sup>229</sup> *Id.* at 27-28.

<sup>230</sup> Cons. Pet. Reply at 53.

<sup>231</sup> App. Resp. Cons. Pet. at 31-32.

<sup>232</sup> *Id.* at 32.



criteria for this contention.<sup>233</sup> The NRC Staff asserts that this contention fails to raise a genuine dispute on a material issue of fact or law,<sup>234</sup> and that the affidavits provided in support of this contention “fail to demonstrate qualifications sufficient to address technical or environmental analysis related to the geochemical chemistry and the adulteration of water.”<sup>235</sup>

While these waters may well have spiritual significance for Consolidated Petitioners, and concomitantly, while they desire these waters to be pristine for traditional tribal practices, we have not been provided with facts or expert opinion adequate to support such a claim. Instead, Consolidated Petitioners allege generalized concerns regarding statements in the License Renewal Application that the “water is geo-chemically changed by the ISL mining.”<sup>236</sup> While we do not dispute the sincerity of Consolidated Petitioners’ claims, generalized statements of concern and personal accounts from “several reputable indigenous Grandmothers”<sup>237</sup> describing the “spiritual nature of the water”<sup>238</sup> regarding these religious and cultural impacts does not raise a genuine dispute with Crow Butte on its application. Likewise, Consolidated Petitioners have failed to supply factual or legal support for their environmental justice claims. Accordingly, we find Consolidated Petitioners’ Environmental Contention D *inadmissible*.

#### 4. *Environmental Contention E*

Consolidated Petitioners state in Environmental Contention E:

Cost Benefits as discussed in the [License Renewal Application] Fail to Include Economic Value of Environmental Benefits.<sup>239</sup>

In support of Environmental Contention E, Consolidated Petitioners reference a University of Adelaide (Australia) study placing an economic value on wetlands. More specifically, this study highlights the ramifications of cutting off water flows in times of drought.<sup>240</sup> At oral argument, Consolidated Petitioners stressed that Environmental Contention E “goes to value not cost, in the sense that

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<sup>233</sup> *Id.*

<sup>234</sup> NRC Resp. Cons. Pet. at 33.

<sup>235</sup> *Id.*

<sup>236</sup> Cons. Pet. Reply at 53.

<sup>237</sup> *Id.*

<sup>238</sup> Cons. Pet. at 27.

<sup>239</sup> *Id.* at 28.

<sup>240</sup> *Id.* (citing [www.adelaide.edu.au/adelaidean/issues/23221/news23241.html](http://www.adelaide.edu.au/adelaidean/issues/23221/news23241.html)). Consolidated Petitioners assert that the University of Adelaide study concluded that every hectare of permanent wetland provides more than \$7,000 worth of water purification each year.

there is a recognized value to an operating [wetland] system.’’<sup>241</sup> They urge that the value of the wetlands lost due to potential contamination should also be considered.<sup>242</sup> For example, in evaluating the “no-action alternative” under NEPA, Consolidated Petitioners maintain that the economic benefits from full-functioning wetlands potentially affected by ISL mining operations in the area should be balanced against the potential loss of jobs and economic loss to the surrounding community.<sup>243</sup>

Crow Butte responds that Consolidated Petitioners do not cite a regulatory or statutory requirement to consider the economic value of environmental benefits, and further insists that Consolidated Petitioners do not dispute any portion of the calculation of costs or benefits in the License Renewal Application.<sup>244</sup> For its part, the NRC Staff acknowledges that Crow Butte’s License Renewal Application identifies no impacts to wetlands,<sup>245</sup> but asserts that Consolidated Petitioners fail to cite supporting documentation or information to the contrary.<sup>246</sup> When we inquired at oral argument whether the economic benefits of wetlands would be considered as part of the NRC Staff’s “no-action alternative” analysis under NEPA, the NRC Staff responded that, if an impact to wetlands is found, the NRC Staff would conduct the value assessment proposed by the Petitioners.<sup>247</sup>

In essence, Consolidated Petitioners contend that Crow Butte’s License Renewal Application is flawed because it does not place an economic value on

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<sup>241</sup> Tr. at 270-71. Consolidated Petitioners conceded at oral argument that the NRC Staff accepts environmental costs measured in terms of damage and remediation, and environmental benefits in terms of job dollars and economic growth in the community. Tr. at 271.

<sup>242</sup> *Id.*

<sup>243</sup> Tr. at 271-72. Although Consolidated Petitioners urge additional support for Environmental Contention E, we were unable to discern that these other matters have any significant relationship to the proposed contention. At oral argument, Consolidated Petitioners made it clear to the Board that their primary concern regarding environmental benefits was related to the valuation of wetlands. Accordingly, we have made wetlands our exclusive focus here.

<sup>244</sup> App. Resp. Cons. Pet. at 33.

<sup>245</sup> Tr. at 272. *See also* NRC Resp. Cons. Pet. at 34.

<sup>246</sup> NRC Resp. Cons. Pet. at 34 (citing LRA at 7-17). The NRC Staff also argues that the University of Adelaide online article “should be ignored” because Consolidated Petitioners fail to “set forth an explanation of its significance” making it inadequate to support the admission of the contention. *Id.* (citing *Fansteel, Inc.* (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 205 (2003)). We disagree. Consolidated Petitioners specifically summarized the portions of the Adelaide article that were relevant to this assertion including the overall value of wetlands for natural water purification, as well as the economic value of approximately \$7,000 per hectare per year. *See* Cons. Pet. at 28.

<sup>247</sup> Tr. at 272. Although the NRC Staff states that it would undertake such a value assessment of the loss or diminution of wetlands on the ecosystem if it found that an impact on ecological resources was likely to occur, it was not able to provide a specific methodology for calculating that value. Tr. at 273. Moreover, the NRC Staff stated it was not taking a definitive position with regard to this contention as it relates to wetlands, but that it is currently engaged in that review process and has not come to any conclusions regarding information submitted in the License Renewal Application. Tr. at 281.

the environmental benefits of wetlands located near the Crow Butte mining site that would be realized only if the license was not renewed, i.e., the “no-action” alternative under NEPA does not account for the economic value of environmental benefits.<sup>248</sup> Crow Butte and the NRC Staff would have it that Consolidated Petitioners have not raised a genuine dispute with the application because they have not challenged Crow Butte’s claim in the License Renewal Application that there are no impacts to wetlands on the Crow Butte mining site.<sup>249</sup> We disagree. Consolidated Petitioners have effectively raised a genuine issue regarding whether wetlands are being degraded by virtue of the migration of contaminants from Crow Butte’s licensed mining operations, and thus the License Renewal Application improperly fails to account for such migration.<sup>250</sup> Therefore, we find that, solely as it relates to allegations of wetland impacts and the economic value of the environmental benefits from those wetlands in a nondegraded condition, the Consolidated Petitioners’ Environmental Contention E is *admissible*.

#### 5. *Technical Contention B*<sup>251</sup>

Consolidated Petitioners state in Technical Contention B:

[Crow Butte’s] proposed mining operations will use and contaminate water resources, resulting in harm to public health and safety, through mixing of contaminated groundwater in the mined aquifer with water in surrounding aquifers and drainage of contaminated water into the White River.<sup>252</sup>

Consolidated Petitioners’ Technical Contention B is identical to their Environmental Contention B. Consolidated Petitioners confirmed at oral argument that these two identical contentions were asserted to ensure that this contention would address both environmental and safety issues under NEPA and the AEA, respectively.<sup>253</sup> Regardless of the reasons for restating the contention under the auspices of the AEA or NEPA, we remain unable to admit this contention. For the reasons previously stated for denying admission of Consolidated Petitioners’ Environmental Contention B,<sup>254</sup> we also find Technical Contention B *inadmissible*.

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<sup>248</sup> See Tr. at 270-72.

<sup>249</sup> See Tr. at 282; *see also* Tr. at 269.

<sup>250</sup> See Tr. at 269-70.

<sup>251</sup> Consolidated Petitioners did not submit any contentions under the title “Technical Contention A.” See Cons. Pet. at 30.

<sup>252</sup> *Id.*

<sup>253</sup> Tr. at 282-83.

<sup>254</sup> See *supra* pp. 729-31.

## **6. Technical Contention C**

Consolidated Petitioners state in Technical Contention C:

Failure of CBR to consider Climate Change.<sup>255</sup>

This contention, as well, is identical to one submitted as an environmental contention. Nothing additional has been supplied to support it as a technical contention. Thus, for the reasons previously stated for denying admission of Consolidated Petitioners' Environmental Contention C,<sup>256</sup> we also find Technical Contention C *inadmissible*.

## **7. Technical Contention D**

Consolidated Petitioners state in Technical Contention D:

Failure to follow statistical analysis protocols.<sup>257</sup>

In support of Technical Contention D, Consolidated Petitioners merely reference an opinion provided by Dr. Abitz, and assert that it goes into great detail concerning specific inadequacies in the License Renewal Application, including a list of omissions and areas that he considers warrant more detailed evaluation.<sup>258</sup> The contention fails on its face to meet the contention admissibility requirements set forth in 10 C.F.R. § 2.309(f)(1). Rather than articulate any support or adequate factual explanation for the contention or describe some dispute with the application on a material issue, Consolidated Petitioners simply refer to Dr. Abitz's report. Whatever value Dr. Abitz's analysis and expertise might have, his list of omissions and alleged inadequacies do not support the contention as stated. The assertion that Crow Butte fails "to follow statistical analysis protocol" on its own, with no supporting statement or foundation, is vague, overly broad, and does not conform to the contention admissibility requirements. Accordingly, we find this contention *inadmissible*.

## **8. Technical Contention E**

Consolidated Petitioners state in Technical Contention E:

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<sup>255</sup> Cons. Pet. at 30.

<sup>256</sup> See *supra* pp. 731-33.

<sup>257</sup> Cons. Pet. at 30.

<sup>258</sup> Cons. Pet. Reply at 55.

Failure to use best available technology such as 3D computer modeling, SCADA  
. . . . Failure to maintain back-up power in case of power outages.<sup>259</sup>

Consolidated Petitioners offer nothing in support of Technical Contention E other than a reference to an opinion of JR Engineering, which, in turn, offers alternative methods to characterize the nature and extent of the potentially contaminated area and to mitigate such contamination, but does not itself raise any specific dispute with the License Renewal Application.<sup>260</sup> Consolidated Petitioners added in their Reply and at oral argument that Crow Butte fails to maintain backup power in the event of a power outage.<sup>261</sup> We note that Part 40 does not require ISL uranium mining facilities to maintain backup power. If such a facility were to experience a power failure, uranium recovery operations simply cease.<sup>262</sup> Accordingly, Consolidated Petitioners still provide no support needed to establish a genuine dispute of a material fact. We therefore find this contention *inadmissible*.

### 9. *Technical Contention F*

Consolidated Petitioners state in Technical Contention F:

Failure to include recent research.<sup>263</sup>

Consolidated Petitioners present Dr. LaGarry's opinion to support this contention, arguing that Crow Butte uses "old data and old research when there is more recent research" available. Consolidated Petitioners likewise note that Crow Butte's research was criticized in the November 8, 2007 NDEQ letter.<sup>264</sup> Both Crow Butte and the NRC Staff respond that Consolidated Petitioners fail to identify a specific regulatory requirement for the inclusion of recent research.<sup>265</sup> Crow Butte also asserts that Consolidated Petitioners have failed to demonstrate that incorporating new regional geologic research would undermine the site-specific data used by Crow Butte or otherwise change the conclusions reached in the License Renewal Application.<sup>266</sup>

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<sup>259</sup> Cons. Pet. at 30.

<sup>260</sup> *Id.*; JR Engineering Opinion at 1.

<sup>261</sup> Cons. Pet. at 30.

<sup>262</sup> NRC Resp. Cons. Pet. at 39-40; *see* Tr. at 256-57.

<sup>263</sup> Cons. Pet. at 30.

<sup>264</sup> *See id.* at 30 (citing to LRA at 2-76 to 2-128); *see also* NDEQ letter (Exhibit B in Amendment proceeding) (ADAMS Accession No. ML081090240).

<sup>265</sup> App. Resp. Cons. Pet. at 39; NRC Resp. Cons. Pet. at 40.

<sup>266</sup> App. Resp. Cons. Pet. at 39.

Crow Butte's and the NRC Staff's insistence that the regulations do not require Crow Butte to consider research or opinions of any particular alleged expert, while true, is also beside the point. The issue before us is the reliability of scientific evidence in order for Crow Butte's License Renewal Application to be complete and accurate.<sup>267</sup> What Crow Butte must consider is recent research that allegedly describes the geology more accurately than those sources Crow Butte references. Specifically, Consolidated Petitioners offer the comments and recommendations of Paul Robinson, Research Director for Southwest Research and Information Center, who notes that two of Crow Butte's references in the License Renewal Application were Environmental Protection Agency guidance documents for groundwater monitoring (from 1974 and 1977) that he claims are out of date and that more recent and appropriate guidance documents (from 1992 and 2000) should have been used.<sup>268</sup> It seems beyond dispute that EPA's updates reflect more reliable science than was contained in its earlier publications. As such, this more recent research likely represents more reliable science and thus there is a question regarding whether Crow Butte has simply cherry-picked its supporting data.<sup>269</sup>

Likewise, Consolidated Petitioners' references to Dr. LaGarry's opinion and the November 8, 2007 NDEQ letter are precise enough to provide the necessary support for this contention. Contrary to Crow Butte's statement at oral argument that Dr. LaGarry's opinion concerns only the overall regional geology of the area, and does not specifically challenge the site-specific data collected by Crow Butte in the immediate vicinity of the Crow Butte mining site,<sup>270</sup> Dr. LaGarry's opinion includes research that both encompasses the location of Crow Butte's licensed ISL uranium mining operations and extends to those areas beyond the Crow Butte mining site.<sup>271</sup> Although nothing in Dr. LaGarry's Opinion counters a specific portion of the application, Consolidated Petitioners raise a material dispute with the fundamental scientific evidence relied on for the conclusions presented in the License Renewal Application. Paul Robinson's critique of Crow Butte's use of outdated EPA sources raises a similar material dispute by drawing into question the reliability of scientific evidence used in support of the License

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<sup>267</sup> See 10 C.F.R. § 40.9(a); see also *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 592-93 (1993) (reliability is verified by assessing whether the reasoning or methodology underlying the evidence is scientifically valid); Comments and Recommendations Regarding the "Application for 2007 License Renewal USNRC Source Materials License SUA-1534 Crow Butte License Area" by Paul Robinson, Research Director, Southwest Research and Information Center at 4 (July 28, 2008) [hereinafter Robinson Opinion].

<sup>268</sup> See Robinson Opinion at 4.

<sup>269</sup> *Morgan Stanley Capital Group, Inc. v. Public Utility District No. 1 of Snohomish County*, 128 S. Ct. 2733, 2755 (June 26, 2008) (Justice Stevens' dissent discussing the dangers of cherry picking).

<sup>270</sup> Tr. at 334.

<sup>271</sup> Tr. at 338.

Renewal Application. Consolidated Petitioners' Technical Contention F has met requirements set forth in section 2.309(f)(1), and is therefore *admissible*.

#### **10. Technical Contention G**

Consolidated Petitioners state in Technical Contention G:

Failure to analyze mine unit activities in correlation with excursions and radiological emissions.<sup>272</sup>

In support of Technical Contention G, Consolidated Petitioners merely pose a series of questions regarding a purported spike in radon levels and then suggest that these recorded "spikes" might somehow be related to the production of a particular mining unit at the facility.<sup>273</sup> A series of questions without any explanation as to how they support or otherwise provide a foundation for the proposed contention neither challenges the adequacy of the License Renewal Application nor contradicts statements that Crow Butte has made. Consolidated Petitioners' unsupported comments about the License Renewal Application cannot serve as a basis for a contention. Moreover, Crow Butte claims that it addresses the issue of the radon "spike" in multiple portions of the License Renewal Application, which Consolidated Petitioners do not dispute, and adds that "even though there were elevated measurements in 2003, the levels were still below levels considered protective of the public."<sup>274</sup> Accordingly, Consolidated Petitioners have not advanced a genuine dispute on a material issue of law or fact to support admissibility of this contention, and we find it *inadmissible*.

#### **11. Miscellaneous Contention A**

Consolidated Petitioners state in Miscellaneous Contention A:

Reasonable consultation with Tribal Leaders regarding the prehistoric Indian camp located in the area surrounding CBR's proposed North Trend Expansion Project has not occurred as required under NEPA and the National Historic Preservation Act.<sup>275</sup>

Consolidated Petitioners "intentionally framed Miscellaneous Contention A to be identical with [ ] Contention C that was admitted in the [Amendment]

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<sup>272</sup> Cons. Pet. at 30.

<sup>273</sup> *Id.* at 30-31.

<sup>274</sup> App. Resp. Cons. Pet. at 41.

<sup>275</sup> Cons. Pet. at 31.

proceeding by LBP-08-06.’’<sup>276</sup> No additional discussion has been provided in support of this contention. Crow Butte argues that this contention is outside the scope of these proceedings because it concerns the License Amendment for the North Trend Expansion, and not the current License Renewal Application.<sup>277</sup> The NRC Staff adds that, because this contention is outside the scope of this proceeding, it “fails to raise a dispute with [Crow Butte] on a genuine issue of law or fact related to the license renewal proceeding.”<sup>278</sup>

While the Amendment Board found this identical contention admissible in LBP-08-6,<sup>279</sup> we do not find it admissible here. The prehistoric Indian camp referenced in this contention is “located in the area surrounding [Crow Butte’s] proposed North Trend Expansion Project,”<sup>280</sup> and not near the Crow Butte mining site at issue in this proceeding. The Amendment Board, not this Board, is concerned with the North Trend Expansion and its pertinent cultural resource study area, and so this contention is relevant only to those proceedings. We consequently find that the Consolidated Petitioners’ Miscellaneous Contention A is outside the scope of this license renewal proceeding and, therefore, *inadmissible*.

## ***12. Consolidated Petitioners’ Miscellaneous Contentions B, C, D, E, and F***

Consolidated Petitioners state in Miscellaneous Contentions B, C, D, E, and F:

Contention B: Failure to Consult with Tribal Authorities.<sup>281</sup>

Contention C: Failure to Abide Trust Responsibility.<sup>282</sup>

Contention D: Failure to respect *Winters* Rights.<sup>283</sup>

Contention E: Failure to respect Treaty Rights. Oglala Petitioners have asserted treaty rights concerning the Licensed Area.<sup>284</sup>

Contention F: Failure to respect Hunting and Fishing Rights.<sup>285</sup>

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<sup>276</sup> Cons. Pet. Reply at 58.

<sup>277</sup> App. Resp. Cons. Pet. at 42.

<sup>278</sup> NRC Resp. Cons. Pet. at 41-42.

<sup>279</sup> *Crow Butte*, LBP-08-6, 67 NRC at 330.

<sup>280</sup> Cons. Pet. at 31.

<sup>281</sup> *Id.*

<sup>282</sup> *Id.*

<sup>283</sup> *Id.*

<sup>284</sup> *Id.*

<sup>285</sup> *Id.* at 32.



Consolidated Petitioners have wholly failed to provide any discussion of the support for these contentions or point to any deficiencies in Crow Butte's application. For many of Consolidated Petitioners' other contentions, the Board has accepted simple references to documents where the foundational support was decipherable. However, Consolidated Petitioners have not provided the necessary information to satisfy the "brief explanation or basis" requirement for the admission of these contentions as required under 10 C.F.R. § 2.309(f)(1)(ii).<sup>286</sup> In their Reply, Consolidated Petitioners attempt to cure these deficiencies,<sup>287</sup> yet still fail to address the basic admissibility requirements, and instead provide only generalized statements of concern with the License Renewal Application without identifying genuine disputes on material issues of fact or law.

The contention admissibility requirements are strict by design to ensure "that hearings cover only genuine and pertinent issues of concern and that the issues are framed and supported concisely enough at the outset to ensure that the proceedings are effective and focused on real, concrete issues."<sup>288</sup> These contentions, as pleaded, do not fulfill this purpose. From assertions advanced by Counsel at oral argument, we understand the nature of Consolidated Petitioners' concerns advanced in these contentions. As discussed below, these contentions fail to demonstrate a genuine dispute with Crow Butte on a material issue of fact or law.

First, with regard to concerns regarding Tribal consultation, the Tribe itself has advanced these concerns in its Environmental Contention B, which we determined is admissible. Although Crow Butte erroneously asserts that an individual tribal member cannot advance his or her rights on behalf of the Tribe,<sup>289</sup> in this instance, the Tribe itself has already advanced these rights and, as such, they will be addressed in this proceeding. Second, we recognize the trust responsibility that imposes a fiduciary duty on NRC, as a federal agency, to the Tribe and its members.<sup>290</sup> But Consolidated Petitioners wholly fail to demonstrate, in the context of Miscellaneous Contention C, how a renewal of Crow Butte's license to continue operations at its mining site would violate such duties.

Third, Consolidated Petitioners allege that contamination of water on the reservation and depletion of their water sources as a result of Crow Butte's mining operations violate their *Winters* Rights, under which the Tribe is to

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<sup>286</sup> See *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-942, 32 NRC 395, 416-17 (1990) ("It is not the responsibility of the Licensing Board . . . to supply the basis information necessary to sustain a contention").

<sup>287</sup> See Cons. Pet. Reply at 60-63.

<sup>288</sup> 69 Fed. Reg. 2182, 2189-90 (Jan. 14, 2004).

<sup>289</sup> See App. Resp. Cons. Pet. at 45; Tr. at 394.

<sup>290</sup> *United States v. Mitchell*, 463 U.S. 206, 224 (1983); *Seminole Nation v. United States*, 316 U.S. 286, 296-97 (1942); see also Tr. at 368.

receive a sufficient quantity of quality water on the Reservation.<sup>291</sup> Certainly, both depletion and contamination of reservation groundwater can adversely affect water available for the Tribe, including water needed for agriculture. This interference with use and consumption can violate Consolidated Petitioners' *Winters* Rights. Accordingly, the Board recognizes that Consolidated Petitioners can assert *Winters* Rights as members of the Oglala Sioux Tribe.<sup>292</sup> We also note that this right is protected from adulteration by third parties and that any such adulteration is an injury to Consolidated Petitioners' interests.<sup>293</sup> Here, however, Consolidated Petitioners have failed to demonstrate a plausible causal nexus between the License Renewal Application and their *Winters* Rights.

Fourth, Consolidated Petitioners contend that Crow Butte's License Renewal Application fails to respect their Treaty Rights. This is essentially the same issue the Tribe and Delegation Treaty Council raised that has previously been discussed at length.<sup>294</sup> The Board is bound by *United States v. Sioux Nation of Indians*<sup>295</sup> and will not make a determination on treaty matters. Furthermore, Consolidated Petitioners fail to take issue with a specific part of the License Renewal Application; the statement that Crow Butte is not respecting Consolidated Petitioners' treaty rights is merely a statement of general concern, and does not raise a material dispute of law or fact for the Board to consider.

Finally, Consolidated Petitioners state that their hunting and fishing rights have been impaired in two separate ways. First, Consolidated Petitioners assert that possible arsenic contamination of the White River and Squaw Creek would render fish in those waters inedible.<sup>296</sup> Secondly, Consolidated Petitioners assert that an accumulation of contaminants in the soil and in the lower food chain affects animals higher in the food chain.<sup>297</sup> Consolidated Petitioners claim that contamination of food sources makes game dangerous to consume. As a result,

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<sup>291</sup> *Winters v. United States*, 207 U.S. 564, 567 (1908). See also *Cappaert v. United States*, 426 U.S. 128, 139 (1976) (“[W]hen the Federal Government reserves land, by implication it reserves water rights sufficient to accomplish the purposes of the reservation”). A tribe’s protected right to this water is known as *Winters* rights.

<sup>292</sup> Individual petitioners may assert rights granted to the Tribe through treaties. The Supreme Court in *United States v. Dion*, 476 U.S. 734, 738 n.4 (1986), quoting *United States v. Winans*, 198 U.S. 371, 381 (1905), has held that a tribe member may assert treaty rights as an individual member of the tribe.

<sup>293</sup> *Winters*, 207 U.S. at 567 (“it is essential and necessary that all of the waters of the river flow down the channel uninterrupted and undiminished in quantity and undeteriorated in quality [and] . . . are to be fully protected against invasion by other parties”); see also *id.* at 564, 573.

<sup>294</sup> See *supra* pp. 710-12.

<sup>295</sup> 448 U.S. 371 (1980).

<sup>296</sup> Tr. at 375.

<sup>297</sup> Tr. at 376.

Consolidated Petitioners claim their rights to hunt and fish for sustenance are compromised by contamination resulting from Crow Butte mining activities.<sup>298</sup>

Despite the fact that Consolidated Petitioners claim they have a protected right to hunt and fish on the Pine Ridge Indian Reservation,<sup>299</sup> they have not pointed to a specific deficiency in the License Renewal Application that raises a dispute on a material issue of fact or law. Consequently, Consolidated Petitioners' Contentions B, C, D, E, and F do not meet the required contention pleading criteria set forth in 10 C.F.R. § 2.309(f)(1). Therefore, we find this contention *inadmissible*.

### 13. *Miscellaneous Contention G*

Consolidated Petitioners state in Miscellaneous Contention G:

Failure to Disclose in violation of 40.9. There are several instances of intentional, reckless or negligent failures to disclose, including:

- (1) Concealment of Foreign Ownership, as described herein.
- (2) Suppression of Geologic Data — Whistleblower Letter/LaGarry, as described herein.
- (3) Failure to adequately disclose the flow of the White River towards Pine Ridge Indian Reservation.<sup>300</sup>

Consolidated Petitioners assert Crow Butte allegedly violated 10 C.F.R. § 40.9 by failing to disclose information in its License Renewal Application. Such lack of disclosure Consolidated Petitioners classify as “reckless or negligent,” including concealment of foreign ownership, suppression of geologic data, and disclosure of the flow of the White River toward Pine Ridge Indian Reservation.<sup>301</sup>

Prior to evaluating each of the individual parts of this contention, we consider whether an applicant's failure to disclose material information in its application is a violation of 10 C.F.R. § 40.9. Crow Butte argues that section 40.9 presents “no substantive standards or criteria for determining whether the applicable provisions of 10 C.F.R. Part 40 have been met,” and that section 40.9 may not be used as an independent reason to deny the application.<sup>302</sup> Crow Butte further insists

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<sup>298</sup> Tr. at 375-76.

<sup>299</sup> We note that the Tribe's hunting and fishing rights outside of the Pine Ridge Reservation were abrogated by the Black Hills Act of 1877. *See United States v. Sioux Nation of Indians*, 448 U.S. at 409-11.

<sup>300</sup> Cons. Pet. at 32. Although Consolidated Petitioners advance several bases for this contention, in fact, none actually support it.

<sup>301</sup> *Id.*

<sup>302</sup> App. Resp. Cons. Pet. at 51.

that 10 C.F.R. § 40.9 is tied to an enforcement mechanism that is within the sole discretion of the Commission through its Staff, and as such, is not within the Board's jurisdiction.<sup>303</sup> Finally, Crow Butte asserts that reliance on section 40.9 is Consolidated Petitioners' attempt to litigate the completeness of the application and the docketing of such by the NRC Staff, which is "not a matter that this Board should or can decide."<sup>304</sup>

While 10 C.F.R. § 40.9 might be more commonly utilized in the enforcement context, we disagree with Crow Butte that the alleged failure to disclose material facts in an application is beyond the appropriate scope of this proceeding. This provision is found in "General Provisions" of 10 C.F.R. Part 40 and is not obviously confined in application to enforcement proceedings. Through section 40.9, the Commission codified the obligations of applicants to provide "complete and accurate information," in recognition of "the NRC's need to receive complete, accurate, and timely communications" from its applicants, which, in turn, enables the NRC to fulfill its responsibilities "to ensure that utilization of radioactive material . . . [is] consistent with the health and safety of the public and the common defense and security."<sup>305</sup> This provision allows the Commission to revoke any license for any materially false statement in the application or any statement of fact required under [AEA] section 182.<sup>306</sup> Certainly, a violation of section 40.9 is subject to civil penalties and sanctions through an enforcement proceeding, but that does not mean that it is necessarily beyond consideration in a license proceeding.

At this stage of the proceeding, we are not to determine the merits of the case, but instead to apply the contention admissibility requirements set forth in section 2.309(f)(1)(i)-(vi). Based on the foregoing, we determine that this contention is within the scope of the proceeding and, contrary to Crow Butte's claim,<sup>307</sup> is material to the findings the NRC must make to support the action at issue here.<sup>308</sup> Keeping this in mind, and for the reasons set forth below, we admit in part and deny in part Consolidated Petitioners' Miscellaneous Contention G.

We begin first with Consolidated Petitioners' claim that Crow Butte concealed that it is 100% owned, controlled, and dominated by foreign interests.<sup>309</sup> Crow Butte insists these allegations are "flatly inaccurate and consist of nothing more than baseless speculation."<sup>310</sup> Rather than concealing a change in ownership,

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<sup>303</sup> *Id.*

<sup>304</sup> *Id.* at 52.

<sup>305</sup> 52 Fed. Reg. 49,362, 49,362 (Dec. 31, 1987).

<sup>306</sup> *Id.*

<sup>307</sup> App. Resp. Cons. Pet. at 51.

<sup>308</sup> See 10 C.F.R. § 2.309(f)(1)(iii) and (iv).

<sup>309</sup> Cons. Pet. at 36.

<sup>310</sup> App. Resp. Cons. Pet. at 53.

Crow Butte maintains that, pursuant to section 40.46, it notified the NRC in May 1998 of the change in ownership of shareholders of Crow Butte Resources. Crow Butte further asserts that the NRC formally consented to the change of ownership and specifically determined that Crow Butte's "proposed change in shareholder ownership [was] acceptable."<sup>311</sup> Accordingly, Crow Butte argues, Consolidated Petitioners lack any foundation for their contention.<sup>312</sup>

While Crow Butte might be factually correct about the events in question, its argument misses the point. Contrary to Crow Butte's characterization, Consolidated Petitioners' contention is not concerned with disclosure of the true ownership of Crow Butte, but rather with whether Crow Butte failed to disclose in the application itself that a foreign entity owns Crow Butte. Consolidated Petitioners specifically reference portions of the License Renewal Application wherein Crow Butte omits any statement disclosing its citizenship or control by a foreign entity. Moreover, Crow Butte has not disputed Consolidated Petitioners' allegation that Crow Butte is owned by Cameco, a Canadian corporation. Accordingly, for purposes of this contention, we must assume that Crow Butte is foreign-owned and that the License Renewal Application does not disclose this information. The NRC Staff extends Crow Butte's argument further by arguing that neither the AEA itself nor NRC's implementing regulations require that Crow Butte disclose foreign ownership of its U.S. corporate owners, and therefore this part of the contention should be rejected.<sup>313</sup>

In contradistinction to the positions of both Crow Butte and the NRC Staff, Consolidated Petitioners assert, *inter alia*, that section 182 of the AEA requires the application for a source materials license<sup>314</sup> "specifically [to] state such information as the Commission, by rule or regulation, may determine to be necessary to decide such of the technical and financial qualifications of the applicant, the character of the applicant, *the citizenship of the applicant*, or any other qualifications of the applicant as the Commission may deem appropriate for the license."<sup>315</sup> The Commission's interpretation of the "citizenship" requirement for license applications, as promulgated throughout its regulations, appears to

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<sup>311</sup> *Id.* at 53. On May 13, 1998, Crow Butte informed the NRC by letter that Cameco had agreed to purchase all of the shares of Uranerz U.S.A., Inc. — 79 of 100 shares, which would give Cameco a controlling ownership interest in Crow Butte. *See id.*, Exh. A, Letter to Joseph J. Holonich, NRC, from Stephen P. Collings, Crow Butte Resources, Inc. (May 13, 1998). The NRC consented to this change by letter, dated June 5, 1998, and indicated that the proposed change in shareholder ownership was acceptable and that no amendment to Crow Butte's Source Materials License was necessary. *See id.*, Exh. B, Letter to Stephen Collings, Crow Butte Resources, Inc., from Joseph J. Holonich, NRC (June 5, 1998).

<sup>312</sup> *See id.* at 53-54.

<sup>313</sup> *See* Staff Resp. Cons. Pet. at 44-45.

<sup>314</sup> *See* Cons. Pet. at 45-46.

<sup>315</sup> 42 U.S.C. § 2232(a) (emphasis added).

indicate that a corporate applicant must include the State where it is incorporated or organized; the citizenship of its directors and its principal officers; and whether it is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government.<sup>316</sup> What is not clear, however, is whether such a requirement would apply to an application for a Source Materials License under Part 40 because the required contents for such an application do not appear to be specified.<sup>317</sup>

Crow Butte does not dispute that the information Consolidated Petitioners have identified regarding Crow Butte's alleged foreign ownership is not in the License Renewal Application. Instead, both Crow Butte and the NRC Staff maintain that such information is not a requirement for a Part 40 license application. However, even if Consolidated Petitioners are in error and there is no requirement to disclose foreign ownership under section 182 of the AEA, they still assert that there is a second ground to support this contention insofar as 10 C.F.R. § 40.9(a) requires that the information in the application must be "complete and accurate in all material respects," which Consolidated Petitioners maintain requires this disclosure of foreign ownership.<sup>318</sup> For both reasons, Consolidated Petitioners have therefore identified a genuine dispute on a material issue of law regarding the interpretation of the requirements set forth in section 182 of the AEA and 10 C.F.R. § 40.9(a).

Moreover, 10 C.F.R. § 40.32 (covering domestic licensing of source material) requires NRC to ensure, prior to granting a license renewal, that "the issuance of the license will not be inimical to the common defense and security or to the health and safety of the public";<sup>319</sup> thus, information Crow Butte asserts has not been disclosed is "material" because it has the capability to influence an agency decisionmaker. The Commission has held that the phrase "inimical to the common defense and security" refers to several factors including "the absence of foreign control over the applicant."<sup>320</sup> Accordingly, Consolidated Petitioners are asserting that the disclosure of foreign ownership both (1) is material to the findings NRC must make to support the action under 10 C.F.R. § 2.309(f)(1)(iv) and (2) meets the materiality requirement stated in 10 C.F.R. § 40.9.

Consolidated Petitioners identify this alleged material omission through specific references to the License Renewal Application, and further support this contention with evidence of foreign ownership and control of Crow Butte. More

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<sup>316</sup> See 64 Fed. Reg. 52,355, 52,357 (Mar. 1, 1999); 64 Fed. Reg. 44,635, 44,649 (Aug. 16, 1999); see also 10 C.F.R. §§ 50.33(d)(3), 52.16, 76.33(a)(2).

<sup>317</sup> See 10 C.F.R. Part 40.

<sup>318</sup> Cons. Pet. at 32.

<sup>319</sup> 10 C.F.R. § 40.32(d).

<sup>320</sup> See *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), 4 AEC 9, 12 (1967); see also *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), LBP-84-45, 20 NRC 1343, 1400 (1984).

specifically, Consolidated Petitioners have identified a genuine dispute of material law regarding the required contents of an application for a Part 40 license with particular emphasis on the “citizenship” requirement identified in section 182 of the AEA. We therefore find Consolidated Petitioners’ Miscellaneous Contention G *admissible* as a contention of omission insofar as it claims Crow Butte failed to disclose in its License Renewal Application that it is owned and controlled by a foreign corporation.

The second issue raised by Consolidated Petitioners in this contention is the alleged suppression of geologic data.<sup>321</sup> As pointed out by Crow Butte, Consolidated Petitioners “do not even cite any portion of the application that they allege to be deficient.”<sup>322</sup> Consolidated Petitioners set forth a number of illustrations in support of their allegation that Crow Butte has suppressed geological data.<sup>323</sup> Crow Butte refutes each of these allegations with a specific reference to the License Renewal Application that addresses the alleged concerns or omissions.<sup>324</sup> It is fundamental that a contention of omission will fail where the allegedly missing information, in fact, is in the license application.<sup>325</sup>

In further support of their contention, Consolidated Petitioners reference Dr. LaGarry’s opinion,<sup>326</sup> as well as what they refer to as the “Whistleblower Letter,”<sup>327</sup> presumably to suggest an omission in the geological analysis in the License Renewal Application. We decline to admit this contention regarding the allegations that Crow Butte suppressed geological data because Consolidated Petitioners fail to identify any specific alleged omission in the License Renewal Application itself. Thus, we do not admit Miscellaneous Contention G insofar as it relates to the alleged suppression of geological information.

Consolidated Petitioners’ third issue in this contention concerns an allegedly inadequate disclosure of the flow of the White River. All parties agreed at oral argument that the White River flows directionally toward the Pine Ridge Indian Reservation.<sup>328</sup> While the directional flow of the White River is potentially material to the findings of the NRC, the omission of a statement to that effect is

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<sup>321</sup> Cons. Pet. at 32.

<sup>322</sup> App. Resp. Cons. Pet. at 54.

<sup>323</sup> Cons. Pet. at 32-35.

<sup>324</sup> See App. Resp. Cons. Pet. at 55-57.

<sup>325</sup> *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 383 (2002) (“Where a contention alleges the omission of particular information or an issue from an application, and the information is later supplied by the applicant . . . , the contention is moot”).

<sup>326</sup> Cons. Pet. at 32.

<sup>327</sup> The Whistleblower Letter refers to the letter written by Petersen to the NRC in 1989, *see supra* note 129.

<sup>328</sup> See Tr. at 348-49.

not particularly significant in light of the fact there is no dispute between Crow Butte and Consolidated Petitioners regarding the directional flow. Therefore, we fail to discern the materiality of such an alleged omission in the License Renewal Application to a violation of 10 C.F.R. § 40.9. As such, we do not admit Miscellaneous Contention G insofar as it alleges the License Renewal Application fails to disclose the flow of the White River.

In accordance with the foregoing, we admit in part and deny in part Consolidated Petitioners' Miscellaneous Contention G. The portion of Consolidated Petitioners' Miscellaneous Contention G that we admit (whether Crow Butte must disclose its alleged foreign ownership in its License Renewal Application) raises a substantive legal issue not heretofore briefed: "Whether the foreign ownership of an applicant must be disclosed in each and every source materials license renewal application." The Board is of the opinion that it is in the best interest in the management of this proceeding that this issue be segregated from the other contentions admitted here and briefed on the merits up front. Accordingly, Consolidated Petitioners, Crow Butte, and the NRC Staff are to file, within 30 days of the date of this Order, briefing on the merits with respect to this legal issue. Responses to such briefing shall be due no later than 20 days following receipt of the initial briefing, with replies due no later than 10 days after the responses are served.

#### **14. *Miscellaneous Contention H***

Consolidated Petitioners state in Miscellaneous Contention H:

Failure to Update in violation of Part 40, App. A; 51.45. There are many examples of failures to update to current information in the LRA.<sup>329</sup>

Consolidated Petitioners do not provide any additional basis in support of Miscellaneous Contention H other than that stated directly in the contention itself. Crow Butte insists that nothing in 10 C.F.R. Part 40, Appendix A and 10 C.F.R. § 51.45 "requires an applicant to provide updated information as part of a license renewal in the absence of any indication of a new or significant change in the environment."<sup>330</sup> The NRC Staff notes that updated information is found throughout the License Renewal Application.<sup>331</sup>

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<sup>329</sup> Cons. Pet. at 35.

<sup>330</sup> App. Resp. Cons. Pet. at 57.

<sup>331</sup> The Staff alleges that information regarding the use of adjacent lands and water of the commercial study area is updated throughout License Renewal Application §§ 2.2 through 2.28 beginning at p. 2-9. NRC Resp. Cons. Pet. at 49.



Consolidated Petitioners' statement that "there are many examples of failures to update" the information in the License Renewal Application provides no specificity or direction for the Board to determine whether or not the issue warrants further inquiry. General statements that a matter ought to be considered without an explanation of how the application is deficient or how it should be changed are insufficient to support a contention. Accordingly, Contention H is *inadmissible*.

#### **15. Miscellaneous Contention I**

Consolidated Petitioners state in Miscellaneous Contention I:

Failure to Include Recent Research; Use of Obsolete Data and Information in violation of AEA 182 or 184.<sup>332</sup>

Consolidated Petitioners provide no supporting information for Miscellaneous Contention I. Accordingly, this contention fails to provide the requisite basis under 10 C.F.R. § 2.309(f)(1)(ii). Moreover, sections 182 and 184 of the AEA do not support the Petitioners' claim that the use of "obsolete data and information" would somehow be a violation of the Act.<sup>333</sup> For these reasons, we find this contention *inadmissible*.

#### **16. Miscellaneous Contention J**

Consolidated Petitioners state in Miscellaneous Contention J:

Missing pages — incomplete — violation of 40.9.<sup>334</sup>

Miscellaneous Contention J concerns the absence of page 3-22 from the License Renewal Application.<sup>335</sup> At oral argument, Consolidated Petitioners indicated they now have this missing information.<sup>336</sup> Accordingly, we find this contention moot and need not be admitted.

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<sup>332</sup> Cons. Pet. at 36.

<sup>333</sup> AEA § 182 states that applicants must include the information in an application that the Commission determines to be necessary. AEA § 184 is applicable only to licenses to possess or use special nuclear material, and therefore does not apply to source material licensees such as Crow Butte Resources, Inc. 42 U.S.C. §§ 2232, 2234.

<sup>334</sup> Cons. Pet. at 36.

<sup>335</sup> *Id.*

<sup>336</sup> Tr. at 349-51.

## 17. *Miscellaneous Contention K*

Consolidated Petitioners state in Miscellaneous Contention K:

Lack of Authority to Issue License to US Corporation which is 100% owned, controlled and dominated by foreign interests; voidability of mineral and real estate leases due to Nebraska Alien Ownership Act.<sup>337</sup>

The issues presented in Miscellaneous Contention K are twofold. First, Consolidated Petitioners contest the legitimacy of Crow Butte's license "on grounds that [Crow Butte's] status as a foreign corporation violates the explicit terms of the [AEA], and the rules and regulations promulgated by the Commission thereunder."<sup>338</sup> Second, Consolidated Petitioners allege the voidability of mineral and real estate leases under the Nebraska Alien Ownership Act is dispositive on Crow Butte's Source Materials License for its ISL uranium mining operations.<sup>339</sup> As discussed below, we admit this contention insofar as it addresses foreign ownership, but deny it insofar as it relates to the Nebraska Alien Ownership Act.

Consolidated Petitioners maintain that the AEA and 10 C.F.R. § 40.32(d) clearly bar the issuance of a source materials license to a foreign-owned corporation.<sup>340</sup> They claim the NRC lacks authority under the AEA<sup>341</sup> to grant a license either where there is no benefit to the United States' national interest, common defense, and security or where there is a detriment to the health and

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<sup>337</sup> Cons. Pet. at 36.

<sup>338</sup> *Id.* at 37. Consolidated Petitioners support the claim that Crow Butte is foreign-owned by setting forth an overview of Crow Butte's relevant corporate history that they claim to have acquired through the public record. Cons. Pet. at 51-60. Crow Butte is purportedly wholly owned and controlled by a Canadian corporation, Cameco Resources, Inc. *Id.* at 38. Up to this point, Crow Butte has not disputed these facts in this proceeding.

<sup>339</sup> *See* Cons. Pet. at 36.

<sup>340</sup> *Id.* at 37-38. Consolidated Petitioners also argue that a fair reading of 10 C.F.R. § 40.38 supports a bar on license issuance. 10 C.F.R. § 40.38 states: "A license may not be issued to the Corporation if the Commission determines that . . . [t]he Corporation is owned, controlled, or dominated by . . . a foreign corporation." Consolidated Petitioners are in error. The plain language of section 40.38 limits its reach to uranium enrichment facilities, not ISL mining. *See* USEC Privatization Act: Certification and Licensing of Uranium Enrichment Facilities, 62 Fed. Reg. 6664, 6666 (Feb. 12, 1997); *see also* 10 C.F.R. § 40.4 (defines "Corporation" as "The United States Enrichment Corporation or its successor").

<sup>341</sup> In support of this contention, Consolidated Petitioners cite to three sections of the AEA (i.e., §§ 61, 62, 103(d)), but their primary argument is focused on AEA § 69, which states: "[t]he Commission shall not license any person to transfer or deliver, receive possession of or title to, or import into or export from the United States any source material if, in the opinion of the Commission, the issuance of a license to such person for such purpose would be inimical to the common defense and security or the health and safety of the public." 42 U.S.C. § 2099.

safety of the public.<sup>342</sup> Consolidated Petitioners further assert that mere technical compliance with NRC disclosure regulations does not satisfy the purposes stated in the AEA.<sup>343</sup> Consolidated Petitioners also claim that the NRC's regulations under section 40.32 prohibit the NRC from approving a source materials license unless, among other things, the "issuance of the license will not be inimical to the common defense and security or to the health and safety of the public."<sup>344</sup> Consolidated Petitioners claim that foreign ownership "is clearly inimical to the common defense and security or public health and safety," and claim that federal courts have recognized that Congress's intent is to ensure that only U.S. entities control nuclear materials.<sup>345</sup> In further support of their claim of inimicality, Consolidated Petitioners refer to the 2007 Annual Information Form from Crow Butte's parent subsidiary, Cameco Resources, Inc., to demonstrate that "while Canada is subject to the Non-Proliferation Treaty, there are other aspects of legal control over source and nuclear materials that can be avoided by foreign owners of US uranium mines such as Cameco."<sup>346</sup>

Crow Butte and the NRC Staff both respond that Consolidated Petitioners fail to raise a genuine dispute with the application on an issue of fact or law and that Consolidated Petitioners fail to identify information or documentation to support their contention.<sup>347</sup> The NRC Staff disputes Consolidated Petitioners' citation to section 40.32(d) as prohibiting foreign ownership, arguing this section does not require the License Renewal Application to discuss the foreign owners of an applicant.<sup>348</sup> The NRC Staff maintains that the only risk Consolidated Petitioners assert is "that natural uranium may end up in foreign hands."<sup>349</sup>

Crow Butte and the NRC Staff also claim that there are no NRC regulations prohibiting foreign entities from obtaining an ISL uranium mining license in the United States, and that issues raised in this contention are outside the scope of

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<sup>342</sup> Cons. Pet. at 41.

<sup>343</sup> *Id.* A regulation "is not a reasonable statutory interpretation unless it harmonizes with the statute's 'origin and purpose.'" *United States v. Vogel Fertilizer Co.*, 455 U.S. 16, 26 (1982).

<sup>344</sup> 10 C.F.R. § 40.32(d); *see also* Cons. Pet. at 49.

<sup>345</sup> Cons. Pet. at 40 (citing *Siegel v. AEC*, 400 F.2d 778, 784 (D.C. Cir. 1968) ("the internal evidence of the Act is that Congress was thinking of keeping such materials in private hands secure against loss or diversion; and of denying such materials and classified information to persons whose loyalties were not to the United States")).

<sup>346</sup> Cons. Pet. at 51 (citing Cameco Corporation, Annual Information Form at 12-13 (March 28, 2008)). Cameco's 2007 Annual Information Form states: "[t]he US restrictions have no effect on the sale of Russian uranium to other countries. About 70% of the world uranium requirements arise from utilities in countries unaffected by the US restrictions. In 2007, approximately 48% of Cameco's sales volume was to countries unaffected by the US restrictions."

<sup>347</sup> App. Resp. Cons. Pet. at 59; NRC Resp. Cons. Pet. at 50.

<sup>348</sup> NRC Resp. Cons. Pet. at 51.

<sup>349</sup> *Id.* at 51-52 (citing *Curators of the University of Missouri*, CLI-95-1, 41 NRC 71, 165 (1995)).

this license renewal proceeding.<sup>350</sup> Specifically, Crow Butte asserts that because the ownership of Crow Butte will not change as a result of license renewal, Consolidated Petitioners are effectively challenging NRC's prior approval of a change in the ownership share in Crow Butte back in 1998.<sup>351</sup> From this, Crow Butte avows that Consolidated Petitioners' remedy is instead to file a petition under 10 C.F.R. § 2.206 requesting the Commission to initiate enforcement action pursuant to 10 C.F.R. § 2.202.<sup>352</sup>

Contrary to arguments presented by Crow Butte and the NRC Staff, Consolidated Petitioners' concerns related to Crow Butte's foreign ownership are potentially material to the safety and environmental requirements of 10 C.F.R. Part 40. Moreover, a license renewal proceeding is an appropriate time to review "the adequacy of a licensee's corporate organization and the integrity of its management."<sup>353</sup>

Boiled down to its simplest form, we need only determine first whether the AEA and 10 C.F.R. § 40.32(d) prohibit a foreign entity from obtaining an NRC license to operate an ISL mine in the U.S. Although the prohibition against foreign control and ownership are clear with regard to uranium enrichment facilities<sup>354</sup> or nuclear power plants,<sup>355</sup> the regulations applicable to source materials licensing provide no such clarity. Next, if there is no absolute prohibition on NRC issuing a license for an ISL mine in the U.S. to a foreign corporation, we are called upon to determine whether issuance or renewal of a source materials license would be inimical to the U.S. national interest and the common defense and security. Because the regulations clearly require the NRC Staff to take into consideration whether or not renewing Crow Butte's license would be inimical to the common defense and security or the public health and safety,<sup>356</sup> this issue is material to our decision. In fact, the Commission has held that the phrase "inimical to the common defense and security" refers to, among other things, "the absence of foreign control over the applicant."<sup>357</sup> Moreover, "previous Commission decisions regarding foreign ownership or control did not appear to turn on which particular nation the applicant was associated with."<sup>358</sup>

The respective positions alleged by Consolidated Petitioners, Crow Butte, and the NRC Staff demonstrate there is a genuine dispute on material issues.

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<sup>350</sup> NRC Resp. Cons. Pet. at 52; *see also* App. Resp. Cons. Pet. at 60-61.

<sup>351</sup> App. Resp. Cons. Pet. at 61-62.

<sup>352</sup> *Id.*

<sup>353</sup> *Georgia Tech*, CLI-95-12, 42 NRC at 120.

<sup>354</sup> *See* 10 C.F.R. § 40.38.

<sup>355</sup> *See id.* § 50.38.

<sup>356</sup> *See* 10 C.F.R. § 40.32(d).

<sup>357</sup> *See Turkey Point*, 4 AEC at 12-13; *see also Shoreham*, LBP-84-45, 20 NRC at 1400.

<sup>358</sup> 64 Fed. Reg. at 52,357.

Accordingly, Consolidated Petitioners' Miscellaneous Contention K is *admissible* in part as it relates to foreign ownership. In addition, this portion of the contention raises both legal and factual issues that would be best resolved before reaching the merits of the other admitted contentions herein.

We do not, however, find this contention admissible with regard to the voidability of real estate and mining leases due to the Nebraska Alien Ownership Act. As stated by both Crow Butte and the NRC Staff, this proceeding is confined to determining compliance with AEA and NRC regulations. Accordingly, the lease and proposed issues related to Nebraska laws on alien ownership of property are outside the scope of these proceedings and outside the jurisdiction of the NRC.<sup>359</sup>

Consolidated Petitioners' Miscellaneous Contention K raises substantive issues not heretofore briefed, and its resolution in this proceeding is potentially fatal to Crow Butte's proposed renewal of its license. The Board is of the opinion that it is in the best interest in the management of this proceeding that this issue be segregated from the other contentions and briefed on the merits up front. Accordingly, Consolidated Petitioners, Crow Butte, and the NRC Staff are to file, within 30 days of the date of this Order, briefing on the merits with respect to Consolidated Petitioners' Miscellaneous Contention K as so admitted. Any such briefing shall be accompanied by a supporting legal memorandum and such affidavits of fact and expert opinion as shall be necessary. Responses to such briefing shall be due no later than 20 days following receipt of the initial briefing, with replies due no later than 10 days after the responses are served.

#### **18. *Miscellaneous Contention L***

Consolidated Petitioners state in Miscellaneous Contention L:

Calculation of Surety Bond Fails to Consider Reasonably Foreseeable Costs of Restoration and Decommissioning. The bond calculation fails to consider post-restoration, post-decommissioning monitoring, or related ecological monitoring. Cameco's subsidiary, Power Resources, Inc. was just required to increase its bond substantially by WY DEQ based on a similar theory.<sup>360</sup>

Consolidated Petitioners maintain that Crow Butte's surety bond is inadequate because it fails to include the costs associated with any health impacts or damages allegedly caused by contamination migrating from Crow Butte's licensed ISL mining operations.<sup>361</sup> Moreover, Consolidated Petitioners would have it that the

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<sup>359</sup> App. Resp. Cons. Pet. at 61; NRC Resp. Cons. Pet. at 52.

<sup>360</sup> Cons. Pet. at 41-42.

<sup>361</sup> Cons. Pet. Reply at 68.

current bond calculation fails to consider post-restoration, post-decommissioning monitoring, or related ecological monitoring.<sup>362</sup> In further support of this contention, Consolidated Petitioners note that a subsidiary of Cameco, Power Resources, Inc., was recently required to increase substantially its surety bond for similar reasons.<sup>363</sup>

Crow Butte and the Staff respond that Consolidated Petitioners fail to cite a regulatory requirement or supporting documentation that might bring into question the adequacy of the information contained in the License Renewal Application.<sup>364</sup> More specifically, Crow Butte asserts that its surety bond includes funds for groundwater restoration, decontamination and decommissioning, and surface reclamation costs for all areas to be affected by the installation and operation of the mine.<sup>365</sup> It further maintains that it employs detailed calculations to determine the bonding requirements that are submitted annually in compliance with Criterion 9 of 10 C.F.R. Part 40, Appendix A (“Criterion 9”).<sup>366</sup> Still further, Crow Butte insists that the technical criteria in Appendix A do not require post-restoration, post-decommissioning, or related ecological monitoring.<sup>367</sup>

Criterion 9 requires an applicant to establish a surety arrangement that ensures sufficient funds will be available for decommissioning and decontamination of an NRC-licensed source materials site.<sup>368</sup> Crow Butte stressed at oral argument that the calculations of its surety bond are not developed from a set formula, but are instead comprised of enough monetary contingencies for an independent third party to perform the decommissioning and restoration.<sup>369</sup> It asserts that its surety bond calculations take into account, *inter alia*, the type of treatment processes used, the resulting volume of waste for disposal, and the removal of pipe and well structures.<sup>370</sup> These calculations are developed to a “finely-grained level of detail” for such items as equipment costs, labor costs, monitoring costs, and remediation costs.<sup>371</sup>

Crow Butte maintains that Consolidated Petitioners cite no statutory or reg-

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<sup>362</sup> Cons. Pet. at 41-42.

<sup>363</sup> *Id.* at 42. Consolidated Petitioners state that the Wyoming Department of Environmental Quality required Power Resources, Inc., to increase its surety bond from \$40 million to \$80 million in July 2008. *See id.*; *see also* Cons. Pet. Reply at 69.

<sup>364</sup> App. Resp. Cons. Pet. at 63; NRC Resp. Cons. Pet. at 53.

<sup>365</sup> App. Resp. Cons. Pet. at 63-64.

<sup>366</sup> *See* Tr. at 346.

<sup>367</sup> App. Resp. Cons. Pet. at 63.

<sup>368</sup> *See* 10 C.F.R. Part 40, App. A, Criterion 9; *see also Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), LBP-04-3, 59 NRC 84, 88 (2004).

<sup>369</sup> Tr. at 346.

<sup>370</sup> *Id.*

<sup>371</sup> Tr. at 348.

ulatory authority that would require it to provide for post-restoration, post-decommissioning, or related ecological monitoring.<sup>372</sup> The fact is, however, Criterion 9 provides very little instruction with respect to making such calculations.<sup>373</sup> Because Criterion 9 addresses decommissioning and decontamination matters very generally, the Commission turned to NRC's guidance document on in situ uranium extraction facilities, i.e., the Standard Review Plan for a license application, NUREG-1569, for assistance with these issues.<sup>374</sup> Looking to NUREG-1569, we note that calculations for surety bonds are to be estimated "[t]o the extent possible," and based on the applicant's "experience with generally accepted industry practices" including "research and development at the site" or "previous operating experience in the case of a license renewal."<sup>375</sup> Additionally, Crow Butte disputes Consolidated Petitioners' assertion that its surety bond fails to include groundwater quality restoration, surface reclamation, and facility decommissioning.<sup>376</sup>

With the foregoing in mind, we remain unable to identify any specific inadequacies Consolidated Petitioners have raised with Crow Butte's surety bond estimates that would be sufficient to warrant further inquiry. At bottom, Consolidated Petitioners merely seek an increase in Crow Butte's surety bond similar to that imposed by the Wyoming Department of Environmental Quality on another of Cameco's subsidiaries, Power Resources, Inc.<sup>377</sup> Accordingly, Consolidated Petitioners offer us no foundational support for this contention. Consolidated Petitioners fail to dispute Crow Butte's methodology for conducting post-reclamation that underlies many of Crow Butte's surety estimates.<sup>378</sup> We therefore find Consolidated Petitioners' Miscellaneous Contention L *inadmissible*.

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<sup>372</sup> App. Resp. Cons. Pet. at 63.

<sup>373</sup> See generally 10 C.F.R. Part 40, App. A.

<sup>374</sup> See *Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-04-33, 60 NRC 581, 596 (2004) (Commission acknowledges such references are not legally binding, yet recognizes the usefulness in instances where legal authority is lacking).

<sup>375</sup> NUREG-1569 at 6-24; see also *HRI*, CLI-04-33, 60 NRC at 596. Further, the Commission has held that "[i]t seems neither unreasonable nor inconsistent with [NUREG-1569], for an applicant that has had experience [ ] in the uranium recovery field — including experience in restoration activities — to draw upon its own prior experience as a basis in estimating restoration cost estimates." *Id.* at 597.

<sup>376</sup> *Id.* at 63-64. We note that NRC evaluates such considerations on a case-by-case basis, and its evaluation includes "comparing proposed unit costs with standard industry cost guides, as well as consulting with local and state authorities on local and regional costs." *HRI*, CLI-04-33, 60 NRC at 597.

<sup>377</sup> Cons. Pet. Reply at 63.

<sup>378</sup> App. Resp. Cons. Pet. at 64.

### **C. Oglala Delegation of the Great Sioux Nation Treaty Council**

The Delegation Treaty Council did not specifically identify any contentions for admissibility in its petition. Instead, the Delegation Treaty Council advances its position regarding the Fort Laramie Treaties of 1851 and 1868 and its associated concerns regarding any impacts to the land and water resources, and any artifacts or historical evidence that has been, or may be, discovered at the Crow Butte mining site.<sup>379</sup> More specifically, the Delegation Treaty Council contends that many families obtain their water from wells or surface streams that have been contaminated by Crow Butte's mining site, which is adversely affecting the health of the Oglala Lakota people and the wildlife in the area. The Delegation Treaty Council also alleges Crow Butte's procedures to protect the land and water resources in the region are insufficient, and that Crow Butte's net consumption of water far exceeds the 500,000 gallons per year it claims in the application because the water returned to the aquifer is contaminated.<sup>380</sup>

Although these concerns are advanced by the Delegation Treaty Council in its petition, none of its arguments supply the detailed requirements needed for contention admissibility. It is unnecessary, however, for the Board to determine contention admissibility for the Delegation Treaty Council because we were unable to grant it standing to intervene in this proceeding. It would be permissible for the Delegation Treaty Council to join in this proceeding under 10 C.F.R. § 2.315(c) as noted *supra*.<sup>381</sup>

## **VI. PETITIONERS' REQUEST FOR 10 C.F.R. PART 2, SUBPART G HEARING**

The Commission's regulations provide for two different sets of rules for adjudicating hearings: (1) formal adjudications under 10 C.F.R. Part 2, Subpart G; and (2) informal hearing procedures under 10 C.F.R. Part 2, Subpart L. The formal adjudicatory procedures outlined in Subpart G allow the parties to propound interrogatories, take depositions, and cross-examine witnesses without requesting leave from the Board. Subpart L instead provides for a more informal adjudicatory process in which discovery is prohibited except for certain mandatory disclosures. Subpart L also mandates that the Board conduct oral hearings during which it interrogates the witnesses, and any cross-examination by the parties is permitted only if the Board deems it necessary for the development of an adequate record.

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<sup>379</sup> Delegation Pet. at 2-3.

<sup>380</sup> *Id.* at 4-6.

<sup>381</sup> *See supra* p. 715; *see also* 10 C.F.R. § 2.315(c).



A Board is to identify the specific hearing procedures to be used for a proceeding upon the admission of a contention. Such a determination is made on a contention-by-contention basis and selection of the hearing procedure is dependent on what is “most appropriate for the specific contentions before it.”<sup>382</sup> Absent any mandatory hearing procedure, the Board must exercise its discretion and select the hearing procedure most appropriate for the newly admitted contention.

Consolidated Petitioners assert they are entitled to a Subpart G hearing because the contentions advanced necessitate resolution of issues of material fact<sup>383</sup> relating to the occurrence of past events.<sup>384</sup> Consolidated Petitioners request a formal hearing on the ground that Crow Butte has allegedly concealed material information regarding its alleged ownership by a foreign company. As a result of this alleged concealment, Consolidated Petitioners claim the veracity of Crow Butte’s material statements are called into question, and that witnesses must be cross-examined to determine whether Crow Butte has perpetrated fraud.<sup>385</sup> They further assert the nature of the technical issues in this proceeding necessitates employing procedures not available under Subpart L.<sup>386</sup> Finally, Consolidated Petitioners insist Subpart G is essential for the development of an adequate record.<sup>387</sup>

Crow Butte maintains that Consolidated Petitioners’ reliance on section 2.310(d) is misplaced, as it clearly applies only to nuclear power reactors and not to license renewal proceedings under 10 C.F.R. Part 40.<sup>388</sup> Crow Butte specifically points to the Commission’s statements in promulgating section 2.310, that “unless one of the applications specified in paragraphs (b) through (h) are at issue, ‘the listed proceedings are to be conducted under Subpart L,’ ”<sup>389</sup> and concludes therefore that “the only available hearing procedures in the instant case are those in

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<sup>382</sup> *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-04-31, 60 NRC 686, 705 (2004).

<sup>383</sup> A petitioner requesting a Subpart G hearing pursuant to section 2.310(d) “must demonstrate, by reference to the contention and the bases provided and the specific procedures in subpart G of this part, that resolution of the contention necessitates resolution of material issues of fact which may be best determined through the use of the identified procedures.” 10 C.F.R. § 2.309(g). Therefore, although it is within the Board’s discretion to select the appropriate hearing procedure upon request, the burden is on a petitioner to first demonstrate the need for the Board to choose a more formal adjudicatory process.

<sup>384</sup> Cons. Pet. at 60.

<sup>385</sup> *Id.* at 61.

<sup>386</sup> *Id.* at 59.

<sup>387</sup> *Id.*

<sup>388</sup> App. Resp. Cons. Pet. at 65.

<sup>389</sup> *Id.* (citing 69 Fed. Reg. at 2206).

Subpart L.”<sup>390</sup> For its part, the NRC Staff adds that “the Commission strongly favors Subpart L” and that Subpart G is best used to resolve issues where “motive, intent, or credibility are at issue, or if there is a dispute over the occurrence of a past event.”<sup>391</sup>

We find that absent explicit Commission authority, there appears to be no provision in 10 C.F.R. § 2.700 for source materials licensing cases to be contested under Subpart G.<sup>392</sup> Section 2.700 provides in pertinent part:

The provisions in this subpart apply to . . . enforcement proceedings . . . , proceedings conducted with respect to the initial licensing of a uranium enrichment facility, proceedings for the grant, renewal, licensee-initiated amendment, or termination of licenses or permits for nuclear power reactors, . . . and any other proceeding as ordered by the Commission.

The doctrine of *expressio unis est exclusio alterius* “instructs that where a law expressly describes a particular situation to which it shall apply, what was omitted or excluded was intended to be omitted or excluded.”<sup>393</sup> Even if we were to agree that section 2.310(d) allows the Board to choose a Subpart G hearing process, we would only be permitted to do so if “issues of motive or intent of the party or eyewitness material to the resolution of the contested matter” are in dispute;<sup>394</sup> the contentions we admitted in this proceeding do not implicate these concerns.

We see no reason why the additional discovery mechanisms of Subpart G are necessary for the full and fair disclosure of the facts facing us in this proceeding. Moreover, the Board has the discretion to allow parties to cross-examine witnesses in Subpart L proceedings if the Board deems this practice necessary to establish

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<sup>390</sup> *Id.* at 66. To the contrary, the Board in *Vermont Yankee* held a Licensing Board has authority to choose the hearing process most suitable for the contentions before it. LBP-04-31, 60 NRC at 705. The plain language of 10 C.F.R. § 2.310(a) uses the permissive term “may” in describing a board’s authority to select the appropriate hearing procedures. *Id.*

<sup>391</sup> NRC Resp. Cons. Pet. at 54-55 (citing 69 Fed. Reg. at 2205). The Commission has identified that “the central feature of a Subpart G proceeding is an oral hearing where the decision-maker has an opportunity to directly observe the demeanor of witnesses in response to appropriate cross-examination . . .” 69 Fed. Reg. at 2205.

<sup>392</sup> Rules for formal adjudications are to apply to the proceeding as enumerated in section 2.700, “and any other proceeding as ordered by the Commission.” 10 C.F.R. § 2.700.

<sup>393</sup> *Reyes-Gaona v. North Carolina Growers Association*, 250 F.3d 851, 865 (4th Cir. 2001).

<sup>394</sup> 10 C.F.R. § 2.310(d). *See also* 69 Fed. Reg. at 2222: “[An] alternative criterion for determining whether Subpart G procedures should be used in a proceeding is whether the contention/contested matter necessarily requires a consideration and resolution of the motive or intent of a party or eyewitness. For example, a contention alleging deliberate and knowing actions to violate NRC requirements by an applicant’s representative necessarily requires resolution of the motive or intent of the applicant and its representative. Application of Subpart G procedures should be considered in such circumstances.”

an adequate record, and we see no reason why the moderate limits on cross-examination under a Subpart L proceeding would hinder the development of an adequate record here.<sup>395</sup> We therefore conclude that the procedures of Subpart L are appropriate for the adjudication of admitted contentions.

## VII. CONCLUSION AND ORDER

Based, therefore, upon the preceding findings and rulings, it is, this 21st day of November 2008, ORDERED as follows:

A. Petitioners Beatrice Long Visitor Holy Dance, Debra White Plume, Thomas Kanatakeniate Cook, Loretta Afraid of Bear Cook, Afraid of Bear/Cook Tiwahe, Joe American Horse, Sr., American Horse Tiospaye, Owe Aku/Bring Back the Way, and the Western Nebraska Resources Council are admitted as parties in this proceeding and their Requests for Hearing and Petitions to Intervene are granted. A hearing is granted with respect to their Environmental Contention E and Technical Contention F. Consolidated Petitioners' Miscellaneous Contentions G and K are admitted in part and denied in part, as set forth herein. The Requests for Hearing and Petitions to Intervene of Dayton O. Hyde and Bruce McIntosh are denied, as are Consolidated Petitioners' Environmental Contentions A, B, C, and D; Technical Contentions B, C, D, E, and G; and Miscellaneous Contentions A, B, C, D, E, F, H, I, J, and L.

B. The Oglala Sioux Tribe is admitted as a party in this proceeding and its Request for Hearing and Petition to Intervene is granted. A hearing is granted with respect to its Environmental Contentions A, B, C, D, and E.

C. The Request for Hearing and Petition to Intervene of the Oglala Delegation of the Great Sioux Nation Treaty Council is denied. The Oglala Delegation of the Great Sioux Nation Treaty Council may, however, participate in the hearing pursuant to 10 C.F.R. § 2.315(c) by filing a formal notice within 10 days of the date of this Order stating its intention to participate and identifying those contentions in which it chooses to participate.

D. Consolidated Petitioners' Miscellaneous Contention G is admitted in part regarding whether Crow Butte must disclose its alleged foreign ownership in its License Renewal Application. This raises a substantive legal issue not heretofore briefed: "Whether the foreign ownership of an applicant must be disclosed in each and every source materials license renewal application." The Board is of the opinion that it is in the best interest in the management of this proceeding that this issue be segregated from the other contentions admitted here and briefed on the merits up front. Accordingly, Consolidated Petitioners, Crow Butte, and the

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<sup>395</sup> 10 C.F.R. § 2.1204(b). *See also* 69 Fed. Reg. at 2213. Parties may file motions with the Board to request cross-examination under 10 C.F.R. § 2.1204(b) if they choose.

NRC Staff are to file, within 30 days of the date of this Order, briefing on the merits with respect to this legal issue. Responses to such briefing shall be due no later than 20 days following receipt of the initial briefing, with replies due no later than 10 days after the responses are served.

E. Consolidated Petitioners' Miscellaneous Contention K is admitted in part and involves substantive issues, the resolution of which is potentially dispositive of the remaining issues in this proceeding. The Board is of the opinion that it is in the best interest in the management of this proceeding that this issue be segregated from the other contentions admitted here and briefed on the merits up front. Accordingly, Consolidated Petitioners, Crow Butte, and the NRC Staff are to file, within 30 days of the date of this Order, briefing on the merits with respect to Consolidated Petitioners' Miscellaneous Contention K as so admitted. Any such briefing shall be accompanied by a supporting legal memorandum and such affidavits of fact and expert opinion as shall be necessary. Responses to such briefing shall be due no later than 20 days following receipt of the initial briefing, with replies due no later than 10 days after the responses are served.

F. The Licensing Board will hold a telephone conference with the parties in which we will discuss a schedule of further proceedings in this matter.

G. This Order is subject to appeal to the Commission in accordance with the provisions of 10 C.F.R. § 2.311. Any petitions for review meeting applicable

requirements set forth in that section must be filed within ten (10) days of service of this Memorandum and Order.

THE ATOMIC SAFETY AND  
LICENSING BOARD<sup>396</sup>

Michael M. Gibson, Chairman  
ADMINISTRATIVE JUDGE

Dr. Richard F. Cole  
ADMINISTRATIVE JUDGE

Brian K. Hajek  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
November 21, 2008

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<sup>396</sup> Copies of this Memorandum and Order were sent this date by the agency's E-Filing system to the counsel/representatives for (1) Applicant Crow Butte Resources, Inc.; (2) Consolidated Petitioners; (3) NRC Staff; (4) Oglala Delegation of the Great Sioux Nation Treaty Council; and (5) Oglala Sioux Tribe.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**Alex S. Karlin**, Chairman  
**Dr. Richard E. Wardwell**  
**Dr. William H. Reed**

**In the Matter of**

**Docket No. 50-271-LR**  
**(ASLBP No. 06-849-03-LR)**

**ENERGY NUCLEAR VERMONT**  
**YANKEE, LLC, and ENERGY**  
**NUCLEAR OPERATIONS, INC.**  
**(Vermont Yankee Nuclear Power**  
**Station)**

**November 24, 2008**

In this Partial Initial Decision concerning an application submitted by Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (collectively, Entergy) to renew the operating license for the Vermont Yankee Nuclear Power Station (VYNPS) in Windham County, Vermont, the Board concluded that Entergy's metal fatigue analyses of the core spray and reactor recirculation outlet nozzles did not comply with the time-limited aging analysis (TLAA) requirements of 10 C.F.R. § 54.21(c)(1) and did not provide the reasonable assurance of safety required by 10 C.F.R. § 54.29. Accordingly, the Board ruled that the license renewal is not authorized and cannot be granted unless and until 45 days after Entergy satisfactorily completes these TLAA metal fatigue calculations *and* serves them on the NRC Staff and the other parties herein. Until that time, the proceeding on Contentions 2A and 2B will remain open and Contention 2 will be held in abeyance. In addition, the Board concluded that the subjects of the other two remaining contentions, the aging management programs (AMPs) for the VYNPS steam dryer and for flow accelerated corrosion (FAC), comply with the relevant requirements and provide the reasonable assurance of safety

required by the regulations. However, to clarify ambiguity in the License Renewal Application (LRA), the Board's decision with respect to Contention 3 is that the license should include a condition requiring Entergy to continue to monitor and inspect the steam dryer during the period of extended operation (PEO) at the intervals specified in GE-SIL-644 Revision 2.

**LICENSE RENEWAL: SCOPE**

An application to renew the operating license of a commercial nuclear power plant may be granted only if the Commission finds that the continued operation of the facility "will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public" as specified in 42 U.S.C. § 2232(a).

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE)**

When the license renewal regulations were issued, the Commission acknowledged, at 56 Fed. Reg. 64,943, 64,946 (Dec. 13, 1991), that the NRC's "ongoing processes" for regulating a nuclear power plant during its initial 40-year operating life "have not . . . addressed safety questions which, by their nature, become important principally during the period of extended operation beyond the initial 40-year license term." Thus, the Commission concluded that analysis and management of "age-related degradation . . . must be elevated [*sic*] before a renewed license is issued. . . . [and] will be critical to safety during the term of the renewed license."

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE)**

License renewal is not limited to age-related degradation, however, because "there may be other safety issues that may arise in connection with renewal that . . . are not relevant to safety during the initial operating license term . . . but, because of their plant-specific nature, must be addressed in renewals case by case." 56 Fed. Reg. at 64,946.

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE)**

The licensing basis for a nuclear power plant during the renewal term consists of the current licensing basis (CLB) together with new commitments to monitor, manage, and correct age-related degradation unique to license renewal. 56 Fed. Reg. at 64,946.

### **LICENSE RENEWAL: SAFETY ISSUES**

The term “current licensing basis” or CLB, as defined in 10 C.F.R. § 54.3, is a “term of art comprehending the various Commission requirements applicable to a specific plant that are in effect at the time of the license renewal application.” *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plants, Units 3 and 4), CLI-01-17, 54 NRC 3, 9 (2001). The CLB “represents an ‘evolving set of requirements and commitments for a specific plant that are modified as necessary over the life of a plant to ensure continuation of an adequate level of safety.’” 60 Fed. Reg. 22,461, 22473 (May 8, 1995).

### **LICENSE RENEWAL: SAFETY ISSUES (SCOPE)**

The NRC Staff’s review of the “safety” related aspects of each license renewal application focuses on two main issues — the adequacy of the applicant’s aging management programs (AMPs) and an evaluation of the applicant’s time-limited aging analyses (TLAAs). The scope of each license renewal proceeding “encompasses a review of the plant structures and components that will require an aging management review for the period of extended operation and the plant’s systems, structures, and components that are subject to an evaluation of time-limited aging analyses.” *See Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-01-20, 54 NRC 211, 212 (2001).

### **LICENSE RENEWAL: SAFETY ISSUES (SCOPE)**

Adequate aging management programs (AMPs) are both a required element of the license renewal application (LRA) and a central finding that NRC must make before it can issue a license renewal. Under 10 C.F.R. § 54.21(a)(3), “[e]ach application must . . . demonstrate that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB for the period of extended operation.”

### **LICENSE RENEWAL: SAFETY ISSUES (SCOPE); TIME-LIMITED AGING ANALYSES**

Adequate time-limited aging analyses are a required component of the license renewal application and a necessary prerequisite to license renewal. Under 10 C.F.R. § 54.21(c)(1), each application must “demonstrate” that: the time-limited aging analyses (TLAAs) (i) “remain valid for the period of extended operation”; (ii) have been projected to the end of the period of extended operation”; or that



(iii) the “effects of aging on the intended function(s) will be adequately managed for the period of extended operation.”

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE)**

Both aging management programs (AMPs) and time-limited aging analyses (TLAAs) are subject to the requirement of 10 C.F.R. § 54.29 that the Commission may not grant a license renewal unless it finds that “[a]ctions . . . have been or will be taken with respect to [the AMP or TLAA] such that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the [current licensing basis (CLB)] and that any changes made to the plant’s CLB in order to comply with this paragraph are in accord with the Act and the Commission’s regulations.”

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE)**

The phrase “reasonable assurance” specified in 10 C.F.R. § 54.29 is not defined, but requires, at a minimum, that an applicant demonstrate compliance with all of NRC’s safety regulations. “[T]he *sine qua non* of adequate protection to public health and safety is compliance with all applicable safety rules and regulations.” *Maine Yankee Atomic Power Co.* (Maine Yankee Atomic Power Station), ALAB-161, 6 AEC 1003, 1009 (1973).

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE)**

Under 10 C.F.R. § 2.325, the applicant has the burden of proving that it has met the reasonable assurance standard of 10 C.F.R. § 54.29.

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE)**

A finding of “reasonable assurance that there will be adequate protection to the health and safety of the public” is based on judgment, not on the application of a mechanical verbal formula, a set of objective standards, or specific confidence interval.

**ADJUDICATORY HEARINGS: EVIDENCE**

While compliance with NRC regulations is legally mandatory, compliance with NRC guidance documents is neither necessary nor necessarily sufficient to satisfy the legal requirements that each application must meet under the Atomic Energy Act (AEA) and Part 54. Compliance or noncompliance with such guidance,

even if proven, is simply evidence and does not relieve the Board of the duty to determine whether an applicant has satisfied the relevant legal and regulatory requirements.

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE); CURRENT LICENSING BASIS**

The current licensing basis (CLB) for the plant during the license renewal term incorporates the CLB for the current license, including all licensee commitments, plus any “new commitments to monitor, manage, and correct age-related degradation unique to license renewal.” 56 Fed. Reg. at 64,946.

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE); TIME-LIMITED AGING ANALYSES**

Under 10 C.F.R. § 54.21(c), each license renewal application must contain three things: (1) an evaluation of time-limited aging analyses (TLAAs), (2) a list of TLAAs, and (3) a demonstration relating to TLAAs. But, since one cannot evaluate a TLAA unless it exists, the regulation seems to imply a fourth requirement, i.e., that the application include the TLAA.

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE); TIME-LIMITED AGING ANALYSES**

Section 54.21(c)(1)(i) requires that the application demonstrate that the time-limited aging analyses (TLAAs) “remain valid” for the period of extended operation (PEO). There is no definition of what this means. Technical accuracy of the TLAA is necessary, but not sufficient, because it is clear that a technically accurate TLAA that shows that the component *will fail* during the period of extended operation does not satisfy 10 C.F.R. § 54.21(c)(1)(i).

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE); TIME-LIMITED AGING ANALYSES**

Section 54.21(c)(1)(ii) requires that the application demonstrate that the time-limited aging analysis (TLAA) has “been projected to the end of the period of extended operation,” but a technically accurate projection of the TLAA that predicts that the component *will fail* due to aging during the 20-year PEO will not suffice.

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE); TIME-LIMITED AGING ANALYSES**

The “demonstrations” mandated by 10 C.F.R. § 54.21(c)(1)(i) and (ii) require that the time-limited aging analyses both (1) be performed in a technically accurate manner, *and* (2) produce a prediction that the component will *not* fail due to aging during the period of extended operation.

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE); TIME-LIMITED AGING ANALYSES; AGING MANAGEMENT PROGRAMS**

Section 54.21(c)(1)(iii) allows the applicant to pursue a license renewal even if the time-limited aging analyses (TLAAs) predict that the component will fail during the period of extended operation (PEO). In such a situation, a license renewal can still be granted if the applicant demonstrates that the effects of aging will be adequately managed during the PEO, i.e., the applicant demonstrates that it has an AMP and that it is adequate. Under this regulation, the applicant can use an AMP either when (1) the TLAAs predict that the component in question will fail due to aging during the PEO or (2) the applicant foregoes the TLAAs and assumes that aging is a problem.

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE); TIME-LIMITED AGING ANALYSES; AGING MANAGEMENT PROGRAMS**

Section 54.21(c)(1)(i)-(iii) requires that the applicant make its demonstration in the application, which is necessarily *before* the license may be granted. The applicant has a choice: either perform an analysis-of-record that demonstrates that aging is not a problem, or accept that aging is a problem and demonstrate that it will be adequately managed, i.e., time-limited aging analysis (TLAA) or aging management program (AMP). The demonstration is a *condition precedent* to issuance of a license renewal. Section 54.21(c)(1) does not allow the applicant to postpone the demonstration and say: renew our license now, and we will do our predictive TLAA (analysis-of-record) later to determine whether an AMP is needed.

**REGULATIONS: ASME CODE (COMPLIANCE)**

The feedwater, reactor recirculation, and core spray outlet nozzles on a boiling water reactor such as VYNPS are “components which are part of the reactor coolant pressure boundary that must meet the requirements of Class 1 components in Section III of the ASME Boiler and Pressure Vessel Code” under 10 C.F.R. § 50.55a.

**REGULATIONS: ASME CODE (COMPLIANCE)**

As Class I components, the feedwater, reactor recirculation, and core spray outlet nozzles on a boiling water reactor such as VYNPS must be designed, fabricated, erected, and tested to the “highest quality standards practical” as specified in Part 50, Appendix A, General Design Criterion 30.

**LICENSING BOARD(S): RESPONSIBILITIES**

Even if we assume that the applicant’s metal fatigue analysis complies with NUREG/CR-5704 and NUREG/CR-6583, it is not dispositive of the Board’s determination as to whether the application complies with the regulations. If the Board found that the use of a more accurate approach was needed in order to provide reasonable assurance that metal fatigue will be adequately managed during the PEO, then the Board would be authorized, and duty bound, to impose such a requirement.

**REGULATIONS: METAL FATIGUE AGING ANALYSIS (COMPLIANCE)**

The Board finds that the NRC Staff’s guidance document NUREG/CR-6909, which prescribes guidance on the calculation of metal fatigue on reactor components in a light water reactor environment, is built upon a larger and more recent database than NUREG/CR-5704 and -6583.

**REGULATIONS: METAL FATIGUE AGING ANALYSIS (COMPLIANCE)**

Although NUREG/CR-6909, which prescribes guidance on the calculation of metal fatigue on reactor components in a light water reactor environment, is built upon a larger and more recent database than NUREG/CR-5704 and -6583, the Board finds that Entergy’s use of the latter NUREGs was sufficient to provide the reasonable assurance required by 10 C.F.R. § 54.29. In this instance, although NUREG/CR-6909 is more accurate in certain respects, the use of NUREG/CR-5704 and -6583 produced more conservative results.

**REGULATIONS: METAL FATIGUE AGING ANALYSIS (COMPLIANCE)**

Entergy’s environmentally adjusted cumulative usage factor (CUFen) analyses for metal fatigue used a conservative number of transients in the calculations. Rather than using a simple linear projection as to the number of transients

expected during the period of extended operation, Entergy's projections are based on design basis events, actual experience at the VYNPS, industry experience, and increased severity levels that might be associated with the recent extended power uprate. Thus, with regard to the number of transients, Entergy's time-limited aging analysis calculations are adequate to provide the degree of assurance required by 10 C.F.R. § 54.29(a).

**REGULATIONS: METAL FATIGUE AGING ANALYSIS  
(COMPLIANCE)**

Entergy's environmentally adjusted cumulative usage factor metal fatigue analyses for the core spray and reactor recirculation outlet nozzles used a simplified Green's function methodology, and are thus inconsistent with the ASME Code, could underestimate the nature and extent of metal fatigue, cannot serve as the analysis-of-record, and do not satisfy the requirements of 10 C.F.R. §§ 54.21(c)(1) or 54.29(a).

**REGULATIONS: METAL FATIGUE AGING ANALYSIS  
(COMPLIANCE)**

The performance of corrected environmentally adjusted cumulative usage factor metal fatigue analyses for the core spray and reactor recirculation outlet nozzles without use of a simplified Green's function methodology, involves a considerable amount of technical and scientific judgment and is not a minor or ministerial task.

**REGULATIONS: METAL FATIGUE AGING ANALYSIS  
(COMPLIANCE)**

If an applicant's metal fatigue analyses on Class I components do not comply with the ASME Code and do not provide reasonable assurance as required by 10 C.F.R. §§ 54.21(c)(1) and 54.29(a), then a license renewal cannot be issued before the necessary "analysis-of-record" TLAA is performed and these analyses cannot be postponed until after the license is issued. They are a condition precedent, not a condition subsequent, to license issuance.

**REGULATIONS: METAL FATIGUE AGING ANALYSIS  
(COMPLIANCE)**

Allowing an applicant to postpone the performance of an "analysis-of-record" time-limited aging analysis (TLAA) until after the license renewal is issued, is

inconsistent with the language, structure, and intent of the Part 54 regulations and inconsistent with NRC precedent.

**REGULATIONS: METAL FATIGUE AGING ANALYSIS  
(COMPLIANCE)**

Allowing an applicant to postpone the performance of an “analysis-of-record” time-limited aging analysis (TLAA) until after the license renewal is issued would violate the intervenor’s right under section 189(a) of the Atomic Energy Act to have a hearing on an issue material to the licensing decision and would impermissibly remove a significant safety issue from the opportunity to be reviewed in the adjudicatory hearing process.

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE)**

**REGULATIONS: ASME CODE (COMPLIANCE)**

An accurate calculation as to whether components such as the core spray and reactor recirculation outlet nozzles are likely to fail due to metal fatigue during the period of extended operation is a critical part of the license renewal proceeding. Given the fact that the cumulative usage factor (CUF) used in the ASME Code fails to account for the substantial effects of the actual environment in a light water reactor (e.g., water, high temperature, high pressure, transients, nonsmooth metal surfaces) and the fact that these effects can cause a substantial acceleration of metal fatigue, the Board concludes that CUF *must* be adjusted to account for such environmental factors (e.g., “Fen” factors). An LRA analysis of metal fatigue that ignored the known and substantial effects of the LWR environment (the Fen) would be insufficient, both as a technical matter and as a legal matter under 10 C.F.R. § 54.21(c)(1)(i), (ii) or § 54.29(a).

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE); TIME-LIMITED  
AGING ANALYSES; AGING MANAGEMENT PROGRAMS**

**REGULATIONS: 10 C.F.R. PART 54**

Compliance cannot be achieved by repackaging and postponing a time-limited aging analysis (TLAA) analysis-of-record and calling it an aging management program (AMP). First, such an interpretation would collapse 10 C.F.R. § 54.21(c)(1)(ii) into subsection (iii), subsuming the former into the latter. An applicant cannot demonstrate compliance *now* by *promising* to demonstrate compliance *later*. Any other interpretation would render 10 C.F.R. § 54.21(c)(1)(ii)

superfluous, thus violating a cardinal rule of statutory and regulatory interpretation.

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE); TIME-LIMITED AGING ANALYSES; AGING MANAGEMENT PROGRAMS**

**REGULATIONS: 10 C.F.R. PART 54**

The structure and intent of 10 C.F.R. § 54.21(c)(1) require that the demonstration be in the application, i.e., *prior* to the issuance of the license renewal. An applicant must *either* demonstrate that aging will not be a problem (by submitting a TLAA) *or* demonstrate that aging will be properly managed (by submitting an AMP). One or the other must be *demonstrated* before the license can be granted. Promising to demonstrate, after the application is issued, that aging will not be a problem, does not suffice.

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE); TIME-LIMITED AGING ANALYSES; AGING MANAGEMENT PROGRAMS**

There is a distinction between *predictive* time-limited aging analyses (TLAAs) that are performed as the “analysis-of-record,” and TLAAAs that may be done after the license is issued in order to monitor or track compliance and safety (*tracking* TLAAAs). Nothing prevents a licensee from doing tracking TLAAAs after the license renewal is granted. If, however, a TLAA is to serve as the “analysis-of-record” that (1) predicts that aging will NOT be a problem during the period of extended operation (PEO) and (2) establishes that an aging management program (AMP) is not required, *then* it is a condition precedent to the grant of the license. The predictive analysis-of-record that serves to excuse the licensee from the need to have any further AMP cannot be postponed until after the license is issued.

**LICENSE RENEWAL: REQUIREMENTS**

**REGULATIONS: 10 C.F.R. PART 54**

The demonstration required by 10 C.F.R. § 54.21(c)(1)(i)-(iii) and the reasonable assurance criterion of 10 C.F.R. § 54.29(a), are conditions precedent to the issuance of a license renewal. The performance of satisfactory confirmatory CUFens on the core spray and reactor recirculation outlet nozzles are not merely ministerial and cannot be consigned to some post-hearing interaction between the NRC Staff and an applicant where there is no opportunity for the public to challenge the sufficiency of the methods and judgments that went into the calculation and/or to request a hearing.

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE)**

**REGULATIONS: 10 C.F.R. PART 54**

Although the steam dryer is not a safety-related system, the cracking of a dryer could cause a release of loose parts that could have an adverse impact on safety-related equipment by becoming lodged in places that might impede the function of other reactor components that do perform safety-related functions. Thus, the steam dryer is a “nonsafety-related system[ ], structure[ ], and component[ ] whose failure could prevent” safety-related systems, structures, and components from performing their safety-related functions, as specified in 10 C.F.R. § 54.4(a)(2) and it is within the scope of aging management review in a license renewal proceeding.

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE); AGING MANAGEMENT PROGRAMS**

**REGULATIONS: 10 C.F.R. PART 54**

Pursuant to 10 C.F.R. § 54.21(a)(3), (c)(1)(iii), an applicant must demonstrate that its AMP for the steam dryer is adequate to manage the effects of aging so that the functionality of the safety-related systems, structures, and components will be maintained during the period of extended operation (PEO). In addition, pursuant to 10 C.F.R. § 54.29(a), a Licensing Board must find there is “reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the [current licensing basis (CLB)].” Accordingly, an applicant is required to establish that it has an aging management program (AMP) for the steam dryer that provides “reasonable assurance” that it will not fail in such a way as to prevent the functioning of the safety-related systems, structures, and components during the PEO.

**LICENSE RENEWAL: SAFETY ISSUES (STEAM DRYER)**

**REGULATIONS: 10 C.F.R. PART 54**

Sections 54.21(a)(3) and 54.21(c)(1)(iii) require an AMP for the steam dryer to “demonstrate that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the [current licensing basis (CLB)] during the period of extended operation.” Meanwhile, section 54.29(a) does not permit the NRC to issue a renewed license until the applicant provides reasonable assurance that failure of the steam dryer will not interfere with the continued operation of safety-related components and that the activities that the renewed license authorizes will continue to be conducted in accordance with the



CLB. It is the burden of the applicant to show that the aging management program for the steam dryer meets these criteria, and it must do so by a preponderance of the evidence.

**LICENSE RENEWAL: SAFETY ISSUES (STEAM DRYER)**

**REGULATIONS: 10 C.F.R. PART 54**

Entergy's steam dryer aging management program (AMP) has two branches, the first calling for the continuation of Entergy's existing program, and the second specifying that a new AMP, the "BWRVIP-139," will apply if and when various contingencies occur, including (a) [Electric Power Research Institute (EPRI)] is finished revising it, (b) the NRC Staff approves it, and (c) Entergy decides to accept it or to take "exceptions" to it. BWRVIP-139 is an EPRI proprietary document that is not available to the public, has not been provided to the intervenors, and is not in evidence. Based solely on the first branch of Entergy's steam dryer AMP, the Board concludes that it is adequate. Our decision is not based on this second branch, the content of which is unknown. In the event that, in the future, Entergy attempts to switch its steam dryer AMP to the BWRVIP-139 option, nothing precludes a challenge to the second branch at that time.

**LICENSE RENEWAL: SAFETY ISSUES (STEAM DRYER)**

**REGULATIONS: 10 C.F.R. PART 54**

Our conclusion that Entergy's steam dryer aging management program satisfies the regulatory requirements is subject to the requirement that the license include a condition requiring Entergy to continue to perform and implement continuous parameter monitoring, moisture content monitoring, and visual inspections at the intervals specified in GE-SIL-644 Revision 2 for the full term of the period of extended operations, unless the license is duly amended.

**LICENSE RENEWAL: SAFETY ISSUES (SCOPE); FLOW ACCELERATED CORROSION**

**REGULATIONS: 10 C.F.R. PART 54**

Sections 54.21(a)(3), 54.21(c)(1)(iii), and 54.29(a) provide the applicable legal standards for the approval of an aging management program (AMP) for plant piping due to flow accelerated corrosion (FAC). Pursuant to 10 C.F.R. § 54.21(a)(3), (c)(1)(iii), the applicant must establish an AMP that is adequate to provide reasonable assurance that the intended function of the piping subject to

FAC will be maintained in accordance with the current licensing basis for the period of extended operation.

#### **LICENSE RENEWAL: REQUIREMENTS**

An aging management program which consists solely of the bald statements that it is (1) “comparable to the program described in NUREG-1801,” (2) “consistent with the program described in NUREG-1801,” and (3) “based on [Electric Power Research Institute (EPRI)] Report NSAC-202L-R2 recommendations,” does not satisfy the requirement that an applicant “demonstrate” that it will adequately manage aging, as required by 10 C.F.R. § 54.21(a)(3) and (c)(1)(iii). NUREG-1801 and the EPRI Report are not themselves aging management programs, and the terms “comparable,” “consistent,” and “based on” leave huge ambiguity and discretion to the applicant. A declaration of compliance is not a demonstration of compliance.

#### **RULES OF PRACTICE: OFFICIAL NOTICE**

As required by 10 C.F.R. § 2.337(f), and in accordance with Rule 201(e) of the Federal Rules of Evidence, where a Board’s decision rests in part on facts officially noticed, any party wishing to controvert the facts officially noticed may do so by filing a motion for reconsideration or an appeal from this Partial Initial Decision.

#### **LICENSING BOARD(S): CONSIDERATION OF GUIDANCE DOCUMENTS**

While some special weight should be given to some NRC guidance documents, the same does not apply to industry guidance documents. Further, any suggestion that NRC guidance is on par with NRC regulations (which are legally binding) is incorrect.

#### **REGULATIONS: 10 C.F.R. PART 54**

The term “demonstrate” as used in 10 C.F.R. § 54.21 is a strong, definitive verb that logically requires an applicant to provide a reasonably thorough description of its aging management program and to show conclusively how this program will ensure that the effects of aging will be managed for its specific plant. For an applicant to just illustrate how its proposed program will, or promises to, follow the same generic recommendations provided to all plants does not clear the bar required by the regulations. To claim otherwise would imply that the AMP has already been generically developed for all plants and would render 10 C.F.R. § 54.21 unnecessary.

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## ABBREVIATIONS

ACM	Acoustic Circuit Model
ACRS	Advisory Committee on Reactor Safeguards
AEA	Atomic Energy Act
AMP	Aging Management Program
AMR	Aging Management Review
ASME	American Society of Mechanical Engineers
BPV	Boiler and Pressure Vessel
BWR	Boiling Water Reactor
BWRVIP	BWR Vessel Internals Program
CFD	Computational Fluid Dynamic
CLB	Current Licensing Basis
CS	Core Spray
CUF	Cumulative Usage Factor
CUFen	Cumulative Usage Factor Environmentally Adjusted
DO	Dissolved Oxygen
DPS	Department of Public Services of the State of Vermont
ECP	Electrochemical Potential
EPRI	Electric Power Research Institute
EPU	Extended Power Uprate
FEIS	Final Environmental Impact Statement
FEN	Environmentally Adjusted Factor
FMP	Fatigue Monitoring Program
FSER	Final Safety Evaluation Report
FW	Feedwater
GALL	Generic Aging Lessons Learned
GDC	General Design Criteria
LOCA	Loss of Coolant Accident
LRA	License Renewal Application
LWR	Light Water Reactor
NEC	New England Coalition, Inc.
NEPA	National Environmental Policy Act
NRC	U.S. Nuclear Regulatory Commission
PEO	Period of Extended Operation
RFO	Refueling Outage
RR	Reactor Recirculation
SDMP	Steam Dryer Monitoring Plan
SIA	Structural Integrity Associates, Inc.
SRP-LR	Standard Review Plan — License Renewal
TLAA	Time-Limited Aging Analysis

UFSAR Updated Final Safety Analysis Report  
UT Ultrasonic Testing  
VYNPS Vermont Yankee Nuclear Power Station

**PARTIAL INITIAL DECISION**  
**(Ruling on Contentions 2A, 2B, 3, and 4)**

This Partial Initial Decision<sup>1</sup> concerns an application submitted by Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (collectively, Entergy) to renew the operating license for the Vermont Yankee Nuclear Power Station (VYNPS) in Windham County, Vermont.<sup>2</sup> The proposed license renewal, if approved, would extend Entergy's license for an additional 20 years beyond the current expiration date of March 21, 2012. The New England Coalition, Inc. (NEC), an environmental organization, and the Department of Public Services of the State of Vermont (Vermont or DPS) challenged the license renewal application (LRA) on several grounds. *See* LBP-06-20, 64 NRC 131, 140-41 (2006). The Attorney General of the State of New Hampshire (New Hampshire) and the Attorney General of the Commonwealth of Massachusetts (Massachusetts) participated in this adjudicatory proceeding as "interested states" pursuant to 10 C.F.R. § 2.315(c).<sup>3</sup>

During the week of July 21, 2008, this Board held an evidentiary hearing in Newfane, Vermont, on three challenges to the issuance of the license renewal.<sup>4</sup> These challenges, referred to as "contentions," are as follows:

*Contention 2A/B:*

A. [T]he analytical methods employed in Entergy's [environmentally corrected CUF or] CUFen Reanalysis were flawed by numerous uncertainties, unjustified assumptions, and insufficient conservatism, and produced unrealistically optimistic

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<sup>1</sup> This Initial Decision is partial because the Board's authorization is contingent on the performance of additional metal fatigue analyses and because Contention 2 is held in abeyance. *See infra* Section III.C.2.

<sup>2</sup> Vermont Yankee Nuclear Power Station License Renewal Application (Jan. 25, 2006), ADAMS Accession No. ML060300085 [LRA]. Entergy has since supplemented and amended its application several times.

<sup>3</sup> Order (New Hampshire Participation as Interested State) (Nov. 17, 2006) (unpublished); Order (Commonwealth of Massachusetts Participation as Interested State) (May 12, 2008) (unpublished).

<sup>4</sup> Other contentions and challenges were raised by NEC, Vermont, and Massachusetts, but they were resolved prior to the evidentiary hearing.

results. Entergy has not, by this flawed reanalysis, demonstrated that the reactor components assessed will not fail due to metal fatigue during the period of extended operation.

LBP-07-15, 66 NRC 261, 267-68 (2007).

B. Entergy's Second CUFen Reanalysis neither validates the results of Entergy's First CUFen Reanalysis, nor independently demonstrates that CUFens for all components . . . are less than one.<sup>5</sup>

*Contention 3:*

Entergy's License Renewal Application does not include an adequate plan to monitor and manage aging of the steam dryer during the period of extended operation.

LBP-06-20, 64 NRC at 187.

*Contention 4:*

Entergy's License Renewal Application does not include an adequate plan to monitor and manage aging of plant piping due to flow-accelerated corrosion during the period of extended operation.

*Id.* at 192.

As set forth below, after considering all of the evidence and legal arguments the Board rules as follows. First, with regard to Contentions 2A and 2B, we conclude that Entergy's metal fatigue analyses of the core spray and reactor recirculation outlet nozzles do not comply with relevant requirements and do not provide the reasonable assurance of safety required by 10 C.F.R. §§ 54.21(c)(1) and 54.29. Under these circumstances the Board rules that the license renewal is not authorized and thus cannot be granted until 45 days after Entergy satisfactorily completes these metal fatigue calculations *and* serves them on the NRC Staff and the other parties herein. Until that time, this proceeding on Contentions 2A and 2B will remain open and Contention 2 will be held in abeyance.

Second, with regard to Contentions 3 and 4, which deal with the aging management programs for the VYNPS steam dryer and for flow accelerated corrosion, respectively, the Board concludes that these programs comply with the relevant requirements and provide the reasonable assurance of safety required by the regulations. However, to clarify ambiguity in the LRA, our decision with

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<sup>5</sup>New England Coalition, Inc.'s Motion to File a Timely New or Amended Contention (Mar. 17, 2008) at 3 [NEC Motion to File Contention 2B].

respect to Contention 3 is conditioned on the requirement that Entergy continue to monitor and inspect the steam dryer during the PEO at the intervals specified in GE-SIL-644 Revision 2. Also our findings on Contention 4 rest in part on certain facts that have been officially noticed under 10 C.F.R. § 2.337(f) and Rule 201(e) of the Federal Rules of Evidence, and therefore any party wishing to challenge such facts may do so either by filing a motion for reconsideration with this Board, or an appeal to the Commission. Absent any such timely motion or appeal, the record with regard to Contentions 3 and 4 is closed.

## I. GENERAL BACKGROUND

Entergy filed its LRA for the VYNPS on January 25, 2006. On March 27, 2006, the Commission published a notice of opportunity to request a hearing on the application. 71 Fed. Reg. 15,220 (Mar. 27, 2006).

On May 26, 2006, petitions to intervene and requests for hearing, each including one or more contentions, were filed by several entities, including NEC, Vermont, and Massachusetts.<sup>6</sup> Entergy and the NRC Staff filed answers, arguing that the petitions should be denied because none of the petitioners had submitted an admissible contention as required by 10 C.F.R. § 2.309(a).<sup>7</sup> On June 29 and 30, 2006, NEC, Vermont, and Massachusetts each filed their reply briefs.<sup>8</sup> On

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<sup>6</sup>Petition for Leave to Intervene, Request for Hearing, and Contentions (May 26, 2006) [NEC Petition]; [Vermont] Notice of Intention to Participate and Petition to Intervene (May 26, 2006) [Vermont Petition]; [Massachusetts] Request for a Hearing and Petition for Leave to Intervene with Respect to [Entergy's] Application for Renewal of the Vermont Yankee Nuclear Power Plant Operating License and Petition for Backfit Order Requiring New Design Features to Protect Against Spent Fuel Pool Accidents (May 26, 2006).

<sup>7</sup>Entergy's Answer to [NEC]'s Petition for Leave to Intervene, Request for Hearing, and Contentions (June 22, 2006) [Entergy Answer to NEC]; Entergy's Answer to [Vermont] Notice of Intention to Participate and Petition to Intervene (June 22, 2006); Entergy's Answer to the [Massachusetts] Request for a Hearing, Petition for Leave to Intervene, and Petition for Backfit Order (June 22, 2006); Entergy's Answer to the Town of Marlboro's Request for Hearing (June 14, 2006); NRC Staff Answer to Request for Hearing of [NEC] (June 22, 2006) [Staff Answer to NEC]; NRC Staff Answer to [Vermont] Notice of Intention to Participate and Petition to Intervene (June 22, 2006); NRC Staff Answer Opposing [Massachusetts] Request for Hearing and Petition for Leave to Intervene and Petition for Backfit (June 22, 2006); NRC Staff Answer to Town of Marlboro's Request for Hearing (June 22, 2006).

<sup>8</sup>[NEC]'s Reply to Entergy and NRC Staff Answers to Petition for Leave to Intervene, Request for Hearing, and Contentions (June 29, 2006); [Massachusetts] Reply to Entergy's and NRC Staff's Responses to Hearing Request and Petition to Intervene with Respect to Vermont Yankee License Renewal Proceeding (June 30, 2006); [DPS] Reply to Answers of Applicant and NRC Staff to Notice of Intention to Participate and Petition to Intervene (June 30, 2006).



August 1 and 2, 2006, the Board heard oral argument in Brattleboro, Vermont, on the admissibility of the various proposed contentions. Tr. at 40-452.

On September 22, 2006, the Board admitted four of NEC's six proposed contentions (NEC Contentions 1 through 4)<sup>9</sup> and one of Vermont's three proposed contentions (Vermont Contention 1). LBP-06-20, 64 NRC at 162-67, 175-96. The Board also permitted NEC and Vermont to adopt each other's contentions. *Id.* at 208-09. The Board found that Massachusetts' one proffered contention failed to meet the requirements of 10 C.F.R. § 2.309(f)(1) and was therefore inadmissible.<sup>10</sup>

Subsequently, two of the five admitted contentions were resolved. On April 11, 2007, the Commission ruled that NEC Contention 1 was not admissible and therefore it was eliminated from this proceeding. CLI-07-16, 65 NRC 371, 375 (2007).

On May 4, 2007, Vermont, on behalf of itself and NEC, and with the agreement of Entergy, filed a joint motion for approval of a settlement agreement and dismissal of Vermont Contention 1.<sup>11</sup> The NRC Staff did not oppose the settlement. *Id.* at 2. The Board found that the proposed settlement agreement conformed to the requirements of 10 C.F.R. § 2.338(g) and (h), approved the settlement agreement, and dismissed Vermont Contention 1.<sup>12</sup>

The disposition of NEC Contention 1 and Vermont Contention 1 left three admitted contentions (Contentions 2, 3, and 4 (formerly "NEC Contentions")), four parties (Entergy, NEC, Vermont, and the NRC Staff), and one interested state (New Hampshire) in the proceeding. Subsequently, Massachusetts reentered the adjudicatory proceeding as an interested state.<sup>13</sup>

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<sup>9</sup> Judge Wardwell filed a dissent concerning the admission of NEC Contention 1, which dealt with thermal discharges and the National Environmental Policy Act. LBP-06-20, 64 NRC at 211.

<sup>10</sup> *Id.* at 209. The Town of Marlboro, Vermont, also filed a request for a hearing, but its contention was denied. *Id.* at 201.

<sup>11</sup> Joint Motion for Approval of Settlement Agreement and Dismissal of DPS Contention 1 (May 4, 2007).

<sup>12</sup> Order (Approving Settlement of DPS Contention 1) (May 31, 2007) at 1 (unpublished).

<sup>13</sup> Initially, Massachusetts appealed our denial of its single contention, which alleged that Entergy's environmental report failed to satisfy the National Environmental Policy Act (NEPA) because it did not address the environmental impacts of severe spent fuel pool accidents. LBP-06-20, 64 NRC at 152. The Board ruled that, "as a matter of law the contention is not admissible because the Commission has already decided, in *Turkey Point*, that licensing boards cannot admit an environmental contention regarding a Category 1 issue." *Id.* at 155 (referencing *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3 (2001)). On January 22, 2007, the Commission affirmed the denial of Massachusetts' contention. CLI-07-3, 65 NRC 13 (2007), *reconsideration denied*, CLI-07-13, 65 NRC 211 (2007). On April 8, 2008, the U.S. Court of Appeals for the First Circuit affirmed the denial of Massachusetts' contention, ruling that Massachusetts had

(Continued)

Pursuant to our November 17, 2006, initial scheduling order and 10 C.F.R. § 2.332(d), the evidentiary hearing in this case could not be held until after the NRC Staff issued its Final Environmental Impact Statement (FEIS) and Final Safety Evaluation Report (FSER). Order (Initial Scheduling Order) (Nov. 17, 2006) at 4, 12 (unpublished). The NRC Staff issued the FEIS on August 1, 2007, and the FSER on February 25, 2008.<sup>14</sup> This triggered a cascade of filings and events leading to the evidentiary hearing. On April 28, 2008, NEC (on behalf of itself and Vermont) filed its initial statement of position, prefiled written testimony, and exhibits for all three contentions.<sup>15</sup> On May 13, 2008, Entergy and the NRC Staff filed their initial statements of position, prefiled written testimony,

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chosen the wrong path in seeking to raise the spent fuel pool issues in the licensing proceeding while its petition for rulemaking was pending concerning the same issue. *Massachusetts v. United States*, 522 F.3d 115, 118 (1st Cir. 2008). However, the First Circuit said it would “bind the NRC to its litigation position,” *id.*, whereby NRC said that Massachusetts could participate in the licensing proceeding as an “interested state” under 10 C.F.R. § 2.315(c) and may request, under 10 C.F.R. § 2.802(d), the Commission to suspend all or any part of any licensing proceeding to which the petitioner is a party pending disposition of the petition for rulemaking. *Id.* at 128. Subsequently, Massachusetts joined this proceeding as an interested state. Order (Commonwealth of Massachusetts Participation as Interested State) (May 12, 2008) (unpublished). As we understood it, the purpose of obtaining “interested state” status was so that Massachusetts could request a suspension of the license renewal proceeding under 10 C.F.R. § 2.802(d). See *Massachusetts*, 522 F.3d at 130; *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-08-9, 67 NRC 353, 355 (2008). However, Massachusetts has not requested a suspension and on October 3, 2008, its counsel withdrew from this proceeding. Notice of Withdrawal of Appearance by Diane Curran (Oct. 3, 2008).

<sup>14</sup> NUREG-1437, “Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants Regarding Vermont Yankee Nuclear Power Station,” Supp. 30 (Aug. 2007) [FEIS]; NUREG-1907, “Safety Evaluation Report Related to the License Renewal of Vermont Yankee Nuclear Power Station, Docket No. 50-271” (issued Feb. 2008, bound version dated May 2008) [FSER].

<sup>15</sup> [NEC] Initial Statement of Position (Apr. 28, 2008) [NEC Initial Statement]; NEC Exh. NEC-JH\_01, Pre-Filed Direct Testimony of Dr. Joram Hopenfeld Regarding NEC Contentions 2A, 2B, 3 and 4 (Apr. 18, 2008) [Hopenfeld Decl.]; NEC Exh. NEC-RH\_01, Pre-Filed Direct Testimony of Dr. Rudolf Hausler Regarding NEC Contention 4 (Apr. 22, 2006) [Hausler Decl.]; NEC Exh. NEC-UW\_01, Pre-Filed Direct Testimony of Ulrich Witte Regarding NEC Contention 4 (Apr. 23, 2008) [Witte Decl.]; NEC Exhibits NEC-JH\_02 to NEC-JH\_62, NEC-RH\_02 to NEC-RH\_03, and NEC-UW\_02 to NEC-UW\_22.

and exhibits.<sup>16</sup> In June the parties filed their rebuttal statements, written testimony, and exhibits.<sup>17</sup>

Thereafter, pursuant to our scheduling orders, the parties filed several motions in limine and motions to strike certain portions of the prefiled testimony and exhibits.<sup>18</sup> On July 16, 2008, the Board issued an order ruling on all of those motions.<sup>19</sup>

Meanwhile, after reviewing the initial and rebuttal statements of position, written testimony, and exhibits, the Board recognized that they presented certain legal issues that could benefit from briefing. The Board raised this point in a June 24, 2008, prehearing conference with the parties. Tr. at 672-77. On June 27,

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<sup>16</sup>Entergy's Initial Statement of Position on [NEC] Contentions (May 13, 2008) [Entergy Initial Statement]; Entergy Exh. E2-01, Joint Declaration of James C. Fitzpatrick and Gary L. Stevens on NEC Contention 2A/2B — Environmentally Assisted Fatigue (May 12, 2008) [Fitzpatrick/Stevens Decl.]; Entergy Exh. E3-01, Joint Declaration of John R. Hoffman and Larry D. Lukens on NEC Contention 3 — Steam Dryer (May 9, 2008) [Hoffman/Lukens Decl.]; Entergy Exh. E4-01, Joint Declaration of Jeffrey S. Horowitz and James C. Fitzpatrick on NEC Contention 4 — Flow-Accelerated Corrosion (May 12, 2008) [Horowitz/Fitzpatrick Decl.]; Entergy Exhibits E2-02 to E2-37, E3-02 to E3-16, and E4-02 to E4-42; NRC Staff Initial Statement of Position on NEC Contentions 2A, 2B, 3, and 4 (May 13, 2008) [Staff Initial Statement]; NRC Staff Exh. 2, Affidavit of Kenneth C. Chang Concerning NEC Contentions 2A & 2B (Metal Fatigue) (May 12, 2008) [Chang Decl.]; NRC Staff Exh. 3, Affidavit of John R. Fair Concerning NEC Contentions 2A & 2B (Metal Fatigue) (May 13, 2008) [Fair Decl.]; NRC Staff Exh. 4, Affidavit of Kaihwa R. Hsu, Jonathan G. Rowley, and Thomas G. Scarbrough Concerning NEC Contention 3 (Steam Dryer) (May 13, 2008) [Hsu/Rowley/Scarbrough Decl.]; NRC Staff Exh. 5, Affidavit of Kaihwa R. Hsu and Jonathan G. Rowley Concerning NEC Contention 4 (Flow-Accelerated Corrosion) (May 13, 2008) [Hsu/Rowley Decl.]; Staff Exhibits 1, 6-23.

<sup>17</sup>NEC Rebuttal Statement of Position (June 2, 2008) [NEC Rebuttal Statement]; NEC Exh. NEC-JH\_63, Pre-Filed Rebuttal Testimony of Dr. Joram Hopenfeld Regarding NEC Contentions 2A, 2B, 3 and 4 (June 2, 2008) [Hopenfeld Rebuttal Decl.]; NEC Exh. NEC-RH\_04, Pre-Filed Rebuttal Testimony of Dr. Rudolf Hausler Regarding NEC Contention 4 (May 28, 2008) [Hausler Rebuttal Decl.]; NEC Exh. NEC-UW\_23, Declaration of Ulrich Witte (June 6, 2008) [Witte Rebuttal Decl.]; NEC Exhibits NEC-JH\_63 to NEC-JH\_72, NEC-RH\_04 to NEC-RH\_05, and NEC-UW\_24 to NEC-UW\_26; Entergy's Supplemental Statement of Position on [NEC] Contentions 2A/2B (June 2, 2008) [Entergy Rebuttal Statement]; Joint Supplemental Declaration of James C. Fitzpatrick and Gary L. Stevens on NEC Contention 2A/2B — Environmentally Assisted Fatigue (May 30, 2008) [Fitzpatrick/Stevens Rebuttal Decl.]; NRC Staff Rebuttal Testimony Concerning NEC Contention 4 (June 2, 2008); NRC Staff Rebuttal Testimony of Kaihwa R. Hsu Concerning NEC Contention 4 (June 2, 2008) [Hsu Rebuttal Decl.]; Staff Exhibits A-D.

<sup>18</sup>Entergy's Motion in Limine (June 12, 2008) [Entergy Motion 1]; NRC Staff's Motion in Limine to Strike Testimony and Exhibits Filed by [NEC] (June 12, 2008) [Staff Motion 1]; [NEC] Motion to Strike NRC Staff Rebuttal Testimony Concerning NEC Contention 4 (June 12, 2008) [NEC Motion to Strike]; Entergy's Motion in Limine to Exclude the Rebuttal Testimony of Ulrich Witte (June 23, 2008) [Entergy Motion 2]; NRC Staff's Motion in Limine to Strike Late-Filed Rebuttal Testimony and Exhibits of NEC Witness Ulrich Witte (June 23, 2008) [Staff Motion 2].

<sup>19</sup>Order (Rulings on Motions to Strike and Motions in Limine) (July 16, 2008) (unpublished) [MIL Order].

2008, the Board issued an order requesting that the parties brief two main issues.<sup>20</sup> The first issue related to Contentions 2A and 2B and concerned the timing of the performance and submission of time-limited aging analyses (TLAAs) under 10 C.F.R. §§ 54.21(c) and 54.29. Briefing Order at 3. This legal issue is discussed in Section III, below. The second issue related to Contention 4 and concerned the level of information that an aging management program (AMP) must contain in order to satisfy the legal requirements of 10 C.F.R. § 54.21(a)(3), (c)(1)(iii). *Id.* at 5. This issue is discussed in Section V, below.

## II. GENERAL LEGAL STANDARDS APPLICABLE TO LICENSE RENEWALS

An application to renew the operating license of a commercial nuclear power plant may be granted only if the Commission finds that the continued operation of the facility “will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public.” 42 U.S.C. § 2232(a). The regulations implementing this statutory requirement are set out in 10 C.F.R. Part 54, “Requirements for Renewal of Operating Licenses for Nuclear Power Plants.”<sup>21</sup>

When the license renewal regulations were issued, the Commission acknowledged that the NRC’s “ongoing processes” for regulating a nuclear power plant during its initial 40-year operating life “have not . . . addressed safety questions which, by their nature, become important principally during the period of extended operation beyond the initial 40-year license term.”<sup>22</sup> Thus, the Commission concluded that analysis and management of “age-related degradation . . . must be elevated [*sic*] before a renewed license is issued. . . . [and] will be critical to safety during the term of the renewed license.” *Id.* License renewal was not limited to age-related degradation, however, because the Commission noted that “there may be other safety issues that may arise in connection with renewal that . . . are not relevant to safety during the initial operating license term . . . but,

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<sup>20</sup> Order (Regarding the Briefing of Certain Legal Issues) (June 27, 2008) (unpublished) [Briefing Order].

<sup>21</sup> The NRC must also comply with the National Environmental Policy Act, 42 U.S.C. §§ 4321-4347 (NEPA) when evaluating a license renewal application. NRC’s NEPA regulations are set out in 10 C.F.R. Part 51. The NEPA regulations addressing license renewal include 10 C.F.R. §§ 51.45(c), 51.53(c), 51.71(d), 51.95(c), and Part 51, Subpart A, Appendix B-1. Although several NEPA contentions were raised at the outset of this adjudicatory proceeding, no NEPA contentions survived to be heard at the July 2008 evidentiary hearing. The three contentions in this proceeding are founded on the Atomic Energy Act (AEA) § 182 (42 U.S.C. § 2232(a)) and 10 C.F.R. Part 54.

<sup>22</sup> Final Rule: “Nuclear Power Plant License Renewal,” 56 Fed. Reg. 64,943, 64,946 (Dec. 13, 1991).

because of their plant-specific nature, must be addressed in renewals case by case.’’ *Id.* The Commission added that ‘‘the licensing basis for a nuclear power plant during the renewal term will consist of the current licensing basis [CLB] and new commitments to monitor, manage and correct age-related degradation unique to license renewal.’’ *Id.* The term ‘‘current licensing basis’’ or CLB is a ‘‘term of art comprehending the various Commission requirements applicable to a specific plant that are in effect at the time of the license renewal application.’’ *Turkey Point*, CLI-01-17, 54 NRC at 9. ‘‘CLB’’ is defined in 10 C.F.R. § 54.3(a) and ‘‘represents an ‘evolving set of requirements and commitments for a specific plant that are modified as necessary over the life of a plant to ensure continuation of an adequate level of safety.’’’<sup>23</sup>

The NRC Staff’s review of the ‘‘safety’’ related aspects of each license renewal application focuses on two main issues — the adequacy of the applicant’s AMPs and an evaluation of the applicant’s TLAAs.<sup>24</sup> The scope of each license renewal proceeding ‘‘encompasses a review of the plant structures and components that will require an aging management review for the period of extended operation and the plant’s systems, structures, and components that are subject to an evaluation of time-limited aging analyses.’’<sup>25</sup>

Accordingly, in license renewal cases, the NRC Staff’s safety evaluation reports in license renewal cases are divided into two main sections: ‘‘Aging Management Review Results’’ and ‘‘Time-Limited Aging Analyses.’’ *See* FSER §§ 3 and 4. ‘‘The license renewal review is intended to identify any additional actions that will be needed to maintain the functionality of the systems, structures and components in the period of extended operation.’’ 60 Fed. Reg. at 22,464.

The regulations dealing with AMPs and TLAAs are found in 10 C.F.R. §§ 54.21 and 54.29. Adequate AMPs are both a required element of the license renewal application and a central finding that NRC must make before it can issue a license renewal. ‘‘Each application must . . . demonstrate that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB for the period of extended operation.’’ 10 C.F.R. § 54.21(a)(3).

Likewise, adequate TLAAs are a required component of the license renewal application and a necessary prerequisite to license renewal. ‘‘Each application

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<sup>23</sup> *Id.* at 9 (quoting Final Rule: ‘‘Nuclear Power Plant License Renewal; Revisions,’’ 60 Fed. Reg. 22,461, 22,473 (May 8, 1995)).

<sup>24</sup> TLAAs are defined in 10 C.F.R. § 54.3 as license calculations and analyses that: (1) involve systems, structures, and components (SSCs) within the scope of a license renewal, (2) consider the effects of aging, (3) involve time-limited assumptions defined by the current operating term, (4) are relevant to safety, (5) involve conclusions or provide the basis for conclusions related to the capability of the SSC to perform its intended function, and (6) are contained or incorporated by reference in the CLB.

<sup>25</sup> *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-01-20, 54 NRC 211, 212 (2001).

must contain . . . [a]n evaluation of time-limited aging analyses.” 10 C.F.R. § 54.21(c). With regard to each TLAA, the application must “demonstrate” that: “(i) The analyses remain valid for the period of extended operation; (ii) The analyses have been projected to the end of the period of extended operation; or (iii) The effects of aging on the intended function(s) will be adequately managed for the period of extended operation.” 10 C.F.R. § 54.21(c)(1)(i)-(iii).

Both AMPs and TLAA’s are subject to the requirement that the Commission may not grant a license renewal unless it finds that

[a]ctions . . . have been or will be taken with respect to [the AMP or TLAA] such that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the CLB and that any changes made to the plant’s CLB in order to comply with this paragraph are in accord with the Act and the Commission’s regulations.

10 C.F.R. § 54.29(a).

Of the contentions admitted for litigation in this proceeding, Contentions 2A and 2B are TLAA contentions, challenging the adequacy of Entergy’s TLAAAs for metal fatigue, whereas Contentions 3 and 4 are AMP contentions, challenging the adequacy of Entergy’s AMPs for aging of the steam dryer and flow accelerated corrosion, respectively. *See* Entergy Initial Statement of Position at 4. In each instance, the Board must find, *inter alia*, that Entergy has met the “reasonable assurance” standard of 10 C.F.R. § 54.29(a). The phrase “reasonable assurance” is not defined,<sup>26</sup> but requires, at a minimum, that Entergy demonstrate compliance with all of NRC’s safety regulations.<sup>27</sup> “[T]he *sine qua non* of adequate protection to public health and safety is compliance with all applicable safety rules and regulations.” *Maine Yankee*, ALAB-161, 6 AEC at 1009. Entergy has the burden

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<sup>26</sup> A finding of “reasonable assurance that there will be adequate protection to the health and safety of the public” is based on judgment, not on the application of a mechanical verbal formula, a set of objective standards, or specific confidence interval. *See Union of Concerned Scientists v. NRC*, 880 F.2d 552, 558 (D.C. Cir. 1989) (explaining that “adequate protection” may be given content through case-by-case applications of technical judgment and that Congress neither defined, nor mandated that the Commission define, the term “adequate protection”). *See also* Revision of Backfitting Process for Power Reactors, 53 Fed. Reg. 20,603, 20,605 n.3 (June 6, 1988) (explaining that like “adequate protection,” the phrase “reasonable assurance” is a determination that the NRC bases upon full consideration of all relevant information).

<sup>27</sup> *Maine Yankee Atomic Power Co.* (Maine Yankee Atomic Power Station), ALAB-161, 6 AEC 1003, 1009 (1973). *See also AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-07-17, 66 NRC 327, 340 (2007).

of proving that it has met the reasonable assurance standard by a preponderance of the evidence.<sup>28</sup>

While compliance with NRC regulations is legally mandatory, compliance with NRC guidance documents is neither necessary, nor necessarily sufficient, to satisfy the legal requirements that each application must meet under the AEA and Part 54.<sup>29</sup> For example, NRC guidance documents that play an important part in license renewals, such as NUREG-1800, Rev. 1 “Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants” (Sept. 2005), and NUREG-1801, the “Generic Aging Lessons Learned (GALL) Report” (Sept. 2005), expressly acknowledge that they are not legally binding. “Legally binding regulatory requirements are stated only in laws; NRC regulations; licenses, including technical specifications; or orders, not in the NUREG series publications.”<sup>30</sup> Thus, although the parties have presented extensive evidence regarding Entergy’s alleged compliance or noncompliance with various guidance documents related to the three contentions, compliance or noncompliance with such guidance, even if proven, is simply evidence and does not relieve this Board of the duty to determine whether Entergy has satisfied the relevant legal and regulatory requirements.

It is also important to note that the license renewal process is not meant to duplicate ongoing programs that review safety at operating reactors. *Turkey Point*, CLI-01-17, 54 NRC at 7. In promulgating the Part 54 regulations, the Commission stated specifically that it did not intend for license renewal to include a full assessment of all regulations affecting a plant’s current operation. 56 Fed. Reg. at 64,945. In so stating, the Commission concluded that the NRC’s “program of oversight is sufficiently broad and rigorous to establish that the added discipline of a formal license renewal review against the full range of current safety requirements would not add significantly to safety.” *Id.* However, the CLB for the plant during the license renewal term is presumed to incorporate the

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<sup>28</sup> 10 C.F.R. § 2.325; *Oyster Creek*, LBP-07-17, 66 NRC at 340 (citing *Commonwealth Edison Co.* (Zion Station, Units 1 and 2), ALAB-616, 12 NRC 419, 421 (1980)). See also *Consolidated Edison Co. of New York* (Indian Point, Unit 3), CLI-75-14, 2 NRC 835, 839 n.8 (1975).

<sup>29</sup> See *International Uranium (USA) Corp.* (Request for Materials License Amendment), CLI-00-1, 51 NRC 9, 19 (2000) (NUREGs and Regulatory Guides “are routine agency policy pronouncements that do not carry the binding effect of regulations”); *Curators of the University of Missouri* (TRUMP-S Project), CLI-95-1, 41 NRC 71, 98 (1995) (“[I]t is well established . . . that NUREGs and Regulatory Guides, by their very nature, serve merely as guidance and cannot prescribe requirements”).

<sup>30</sup> NUREG-1800, “Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants,” Rev. 1 (Sept. 2005) at unnumbered introductory page 2 titled “Availability of Reference Materials in NRC Publications” [NUREG-1800 or SRP-LR]; NUREG-1801, “Generic Aging Lessons Learned (GALL) Report,” Vol. 1, Rev. 1 (Sept. 2005) at unnumbered introductory page 2 titled “Availability of Reference Materials in NRC Publications” [NUREG-1801 or GALL Report].

CLB for the current license, including all licensee commitments, plus any “new commitments to monitor, manage, and correct age-related degradation unique to license renewal.” *Id.* at 64,946.

### III. CONTENTIONS 2A AND 2B

#### A. Specific Background

##### 1. Specific Procedural History

As will be discussed more fully below, Contentions 2A and 2B, which deal with the effects of metal fatigue on reactor components, are TLAA contentions that have evolved from an original AMP contention. The original contention (Contention 2) challenged the adequacy of Entergy’s AMP for metal fatigue. Later, Entergy amended its LRA and, in response, NEC filed Contentions 2A and 2B, challenging the adequacy of Entergy’s TLAA calculations concerning metal fatigue. Contentions 2A and 2B were admitted and Contention 2 was placed in abeyance. This Partial Initial Decision does not deal with the original Contention 2.

When this proceeding started, Entergy’s LRA included calculations and analyses indicating that, if the VYNPS operated for an extra 20 years, then metal fatigue, i.e., “cumulative usage factor” (CUF), would *exceed* the regulatory limits for seven of the nine critical locations. LRA at 4.3-1, 4.3-6, and Table 4.3-3. The calculations included an “environmental adjustment factor” (Fen) to produce what is referred to as an “environmentally adjusted cumulative usage factor” or “CUFen” value.<sup>31</sup> The CUFen analyses are “time-limited aging analyses” within the meaning of 10 C.F.R. § 54.3(a). The CUFen TLAA’s in Entergy’s original LRA are referred to herein as the “Initial CUFen Analyses.”

Given the fact that the Initial CUFen Analyses generated metal fatigue values that exceeded regulatory limits, the LRA was required to include a program to manage metal fatigue (i.e., an AMP). The AMP stated that Entergy would manage metal fatigue during the 20-year period of extended operation (PEO) by implementing one of three options: (1) further refinement of the fatigue analyses, (2) management of fatigue at affected locations, or (3) repair or replacement of affected locations. LRA at 4.3-7; LBP-06-20, 64 NRC at 184.

NEC’s original “Contention 2” challenged the adequacy of the AMP, asserting that it was vague and incomplete, and was nothing more than a “plan to develop a plan.” The Board admitted Contention 2 on the ground that it raised a genuine

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<sup>31</sup> Section III.B.1 herein more fully explains the concept of CUFens.



issue as to whether Entergy's AMP "demonstrate[d] that the effects of aging will be adequately managed" as required by 10 C.F.R. § 54.21(a)(3).<sup>32</sup>

Thereafter, Entergy redid its metal fatigue calculations for the nine key locations. On August 2, 2007, Entergy issued the results of these refined calculations, referred to herein as the "CUFen Reanalyses." LBP-07-15, 66 NRC at 265. The CUFen Reanalyses indicated that metal fatigue at the nine locations would *not exceed* regulatory limits and thus that an AMP was *not required* under 10 C.F.R. § 54.21(c)(1)(iii).

On September 4, 2007, NEC filed a motion to file a timely new or amended contention, challenging Entergy's CUFen Reanalyses and claiming that these TLAA's were flawed and failed to meet the requirements of 10 C.F.R. § 54.21(c).<sup>33</sup> On November 7, 2007, the Board admitted this new contention, denominating it "Contention 2A." LBP-07-15, 66 NRC at 269. Contention 2A, as admitted, reads as follows:

[T]he analytical methods employed in Entergy's [environmentally corrected CUF or] CUFen Reanalysis were flawed by numerous uncertainties, unjustified assumptions, and insufficient conservatism, and produced unrealistically optimistic results. Entergy has not, by this flawed reanalysis, demonstrated that the reactor components assessed will not fail due to metal fatigue during the period of extended operation.

*Id.* at 267-68.

When we admitted Contention 2A we recognized that it was qualitatively different from Contention 2. Contention 2 challenged the AMP, whereas Contention 2A challenged the TLAA. We recognized that "if NEC Contention 2A is successful and Entergy's revised CUF analyses are not shown to be sufficient, then Entergy might return to relying on a fatigue management program as a way of satisfying the Part 54 regulations." *Id.* at 271. Under this scenario, Contention 2 would spring back to life. Accordingly, we expressly retained Contention 2 and held it in abeyance. *Id.*

As Contention 2A was being admitted, the NRC Staff also raised certain issues with regard to the CUFen Reanalyses. Specifically, the Staff was concerned that the simplified "Green's function"<sup>34</sup> methodology that Entergy used for the CUFen Reanalyses for three reactor locations (the feedwater, core spray, and

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<sup>32</sup> LBP-06-20, 64 NRC at 186. Original Contention 2 reads as follows: "Entergy's License Renewal Application does not include an adequate plan to monitor and manage the effects of aging [due to metal fatigue] on key reactor components that are subject to an aging management review, pursuant to 10 C.F.R. § 54.21(a) and an evaluation of time-limited aging analysis, pursuant to 10 C.F.R. § 54.21(c)." *Id.* at 183.

<sup>33</sup> See [NEC]'s Motion to File a Timely New or Amended Contention (Sept. 4, 2007).

<sup>34</sup> The Green's function issue was also inherent in Contention 2A. It is explained more fully in Section III.3.B.h.

recirculation nozzles) might not be a conservative method of calculating stress loads during plant transient operations.<sup>35</sup> On this basis, the NRC Staff rejected Entergy's CUFen Reanalysis for the feedwater, core spray, and recirculation nozzles.<sup>36</sup> In light of this situation, Entergy agreed to perform a confirmatory CUFen analysis, without using the simplified Green's function methodology, on one of the three nozzles, the feedwater nozzle, which was thought to be bounding. FSER, Staff Exh-01 at 4-40 to 4-41. This new TLAA of the feedwater nozzle is referred to herein as the "Confirmatory CUFen Analysis."

Entergy provided the Confirmatory CUFen Analysis to NEC on February 15, 2008, and NEC promptly filed a motion to amend Contention 2A to challenge this new TLAA.<sup>37</sup> NEC asserted that the Confirmatory CUFen Analysis did not validate the results of the CUFen Reanalyses on the grounds that it only addressed one of many deficiencies in the CUFen Reanalyses and only addressed the feedwater nozzle, which, in its view, is not bounding for the other components. *Id.* at 3.

On April 24, 2008, the Board admitted NEC's new or amended contention, which we deemed to be a subset of Contention 2A.<sup>38</sup> We noted that Contention 2A was still on the table and that the new contention, which we designated as Contention 2B, was simply "designed to prevent NEC from being foreclosed from challenging" the Confirmatory CUFen Analysis. *Id.*

Thus, after the admission of Contention 2B, the preparations for the evidentiary hearing focused on Contentions 2A and 2B, both of which challenged the adequacy of Entergy's TLAAs. *See* Entergy Initial Statement at 4. If the TLAAs were found to be adequate and predicted that metal fatigue during the 20-year PEO would stay within regulatory limits, then the adjudicatory proceeding would be closed. If the TLAAs were found to be inadequate, or predicted metal fatigue in excess of regulatory limits during the PEO, then the original Contention 2, dealing with the adequacy of Entergy's AMP for metal fatigue, would resurface.

The final significant point in the procedural history of Contentions 2A/B deals with the question of the *timing* of performing certain additional and necessary CUFen analyses, namely the reanalyses of the core spray (CS) and the reactor recirculation (RR) nozzles, the other two nozzles affected by the use of the simplified Green's function methodology. Even after the Confirmatory CUFen Analysis for the feedwater (FW) nozzle, the NRC Staff remained concerned about the CS and RR nozzles. *See* FSER at 4-43. Entergy sought to allay these concerns

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<sup>35</sup> Fitzpatrick/Stevens Decl. Post Tr. 763, at 18-20; Tr. at 925-27 (Stevens).

<sup>36</sup> FSER, Staff Exh-01 at 4-40 ("The staff finds there is not enough information to assure the validity of the Green's function . . . input").

<sup>37</sup> [NEC] Motion to File a Timely New or Amended Contention (Mar. 17, 2008).

<sup>38</sup> Order (Granting Motion to Amend NEC Contention 2A) (Apr. 24, 2008) at 2 (unpublished).

via its “Commitment 27” whereby it promised to “refine our current fatigue analyses to include the effects of reactor water environment and verify that the cumulative usage factors (CUFs) are less than 1.” *Id.* at A-8.

Based on this approach, the NRC Staff approved Entergy’s license renewal. But the Staff’s approval was expressly conditioned on Entergy’s Commitment 27 whereby it promised that, *after* the license was issued, it would perform confirmatory CUFen analyses on the core spray and the reactor recirculation nozzles. Specifically, the Staff included a proposed license condition (Condition 4) on this subject:

The fourth license condition requires that the licensee perform and submit to the NRC for review and approval, a ASME Code analysis for the reactor recirculation outlet nozzle and the core spray nozzle at least two years prior to the period of extended operation. These analyses should be documented in the FSAR as the analysis-of-record for these two nozzles.

*Id.* at 1-12.

The difficulty with the NRC Staff’s FSER position is that it rejected the same approach 6 months earlier. In August 2007, the Staff rejected proposed Commitment 27 on the ground that the confirmatory CUFen analyses for the core spray and reactor recirculation nozzles must be completed *before* the license renewal could be issued. At that time the Staff stated:

It is the NRC position that in order to meet the requirements of 10 C.F.R. § 54.21(c)(1), an applicant for license renewal must demonstrate in the LRA that the evaluation of time-limited aging analyses (TLAA) has been completed. The NRC does not accept a commitment to complete the evaluation of TLAA prior to the period of extended operation.<sup>39</sup>

NEC raised this issue as a part of its prehearing filings, arguing, *inter alia*, that if Entergy were permitted to postpone performing the necessary metal fatigue CUFen analyses until after the license renewal was issued, it “would defeat NEC’s due process rights in this proceeding and deny public review of Entergy’s TLAA,” NEC Initial Statement at 19, would be “inconsistent with [the] plain [regulatory] language and with standard rules of construction,” would render 10 C.F.R. § 54.21(c)(1)(ii) “mere surplusage,” and would “frustrate public scrutiny of the TLAA methodology.” NEC Rebuttal Statement at 4-6.

On June 27, 2008, the Board instructed the parties to brief the following issues:

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<sup>39</sup>NEC Exh. NEC-JH\_62, Enclosure 2, NRC Summary of Telephone Conference Call Held August 20, 2007, Between the U.S. Nuclear Regulatory Commission and Entergy Nuclear Operations, Inc., Concerning the Vermont Yankee Nuclear Power Station License Renewal Application (Oct. 25, 2007).

*Issue 1A:* Does a license condition that requires the performance of certain CUFen TLAAAs *after* the license renewal is issued comply with the law, particularly Part 54 and the requirement that the license application “contain . . . an evaluation of time-limited aging analyses” pursuant to 10 C.F.R. § 54.21(c)?

*Issue 1B:* Is it legally permissible under 10 C.F.R. § 54.29 to issue a license renewal even though certain of the TLAAAs have not been performed?<sup>40</sup>

The parties submitted initial briefs on these issues on July 9, 2008, and responsive briefs on July 15, 2008. We address these issues in Section III.C.1, below.

## ***2. Specific Legal Standards and Issues Applicable to TLAAAs***

The primary legal standard that applies to Contentions 2A and 2B reads as follows:

Each application must contain the following information:

- . . . .
- (c) An evaluation of the time-limited aging analyses.
    - (1) A list of time-limited aging analyses, as defined in § 54.3, must be provided. The applicant shall demonstrate that —
      - (i) The analyses remain valid for the period of extended operation;
      - (ii) The analyses have been projected to the end of the period of extended operation; or
      - (iii) The effects of aging on the intended function(s) will be adequately managed for the period of extended operation.

10 C.F.R. § 54.21(c).

In short, each license renewal application must contain three things, (1) an evaluation of TLAAAs, (2) a list of TLAAAs, and (3) a demonstration relating to TLAAAs. But the regulation fails to specify what is meant by the first requirement. There is no guidance as to what the “evaluation” must cover or contain. But, since one cannot evaluate a TLAA unless the TLAA exists, the evaluation requirement seems to presume the preexistence of the TLAAAs.

Likewise, the regulation does not specify clearly what will satisfy the third requirement, i.e., that the application contain a “demonstration.” Under 10 C.F.R. § 54.21(c)(1)(i)-(iii), the applicant has three options for meeting the demonstration requirement. With regard to option (i), the regulation calls for a demonstration that the TLAAAs “remain valid” for the PEO. There is no definition of what this means. An analysis might be deemed “valid” if it is performed in a *technically*

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<sup>40</sup> Order (Regarding the Briefing of Certain Legal Issues) (June 27, 2008) at 3 (unpublished).

*accurate* manner and covers the entire PEO. But it is clear that a technically accurate TLAA that shows that the component will fail during the PEO is not enough to satisfy 10 C.F.R. § 54.21(c)(1)(i).

Similarly, when 10 C.F.R. § 54.21(c)(1)(ii) asks for a demonstration that the TLAA has “been projected to the end of the PEO,” a technically accurate projection of the TLAA that predicts that the component will fail due to aging during the 20-year PEO will not suffice. It is clear that the subsection (i) and (ii) “demonstrations” require that the TLAA both (1) be performed in a technically accurate manner, *and* (2) produce a prediction that the component will *not* fail due to aging during the PEO.

The litigation concerning Contentions 2A and 2B focused on subsection 54.21(c)(1)(ii), presenting opposing evidence as to whether Entergy’s TLAA “projections” (i.e., the CUFen Reanalyses and Confirmatory CUFen Analyses) were performed in a technically accurate manner and whether the results of these TLAAAs are adequate and provide reasonable assurance that the reactor component will not fail due to metal fatigue during the PEO.

The third way an applicant can make the required demonstration under section 54.21(c)(1)(i)-(iii) must be read in the context of the first two. Under options (i) and (ii) the applicant can demonstrate compliance by performing calculations that predict the component in question will not fail, due to aging, during the PEO. In contrast, option (iii) allows the applicant to pursue a license renewal even if the TLAAAs predict that the component will fail during the PEO. In such a situation, a license renewal can still be granted if the applicant demonstrates that the effects of aging will be adequately managed during the PEO, i.e., the applicant demonstrates that it has an AMP and that the AMP is adequate. Under 10 C.F.R. § 54.21(c)(1)(iii), the applicant can use an AMP either when (1) the TLAAAs predict that the component in question will fail due to aging during the PEO or (2) the applicant foregoes the TLAAAs and assumes that aging is a problem. 60 Fed. Reg. at 22,480.

As we discuss in Section III.C, below, 10 C.F.R. § 54.21(c)(1)(i)-(iii) requires that the applicant make its demonstration in the application, which is necessarily *before* the license may be granted. The applicant has a choice: either perform an analysis-of-record that demonstrates that aging is not a problem, or demonstrate that it will manage aging, i.e., TLAA or AMP. The demonstration is a *condition precedent* to issuance of a license renewal. Section 54.21(c)(1) does not allow the applicant to postpone the demonstration and say: renew our license now, and we will do our predictive TLAA (analysis-of-record) later to determine whether an AMP is needed.

### 3. *Evidentiary Record*

#### a. *Identification of Witnesses*

The parties proposed a total of six witnesses to provide fact and/or opinion testimony with regard to Contentions 2A and 2B. However, one of NEC's witnesses, Mr. Ulrich K. Witte, was found not to be qualified to provide expert opinion on the points covered in his proffered testimony on Contentions 2A and 2B. MIL Order at 8. Therefore, his prefiled written testimony was stricken and Mr. Witte did not testify regarding these contentions. *Id.* In addition, one of the NRC Staff's witnesses, Dr. Kenneth C. Chang, was unable to testify at the evidentiary hearing due to medical conditions. Tr. at 720-22. The remaining four individuals testified in person at the evidentiary hearing and were found to be qualified to present their testimony on the matters they addressed.

Entergy presented two witnesses — Mr. James C. Fitzpatrick and Mr. Gary L. Stevens — who testified concerning Contentions 2A and 2B. On May 12, 2008, Entergy submitted its joint direct declaration for Mr. Fitzpatrick and Mr. Stevens, which was later submitted as an exhibit. Fitzpatrick/Stevens Decl. The Fitzpatrick/Stevens Decl. was later corrected, admitted into evidence, and incorporated into the transcript as if read. Tr. at 763. On May 30, 2008, Entergy submitted the joint rebuttal declaration of Mr. Fitzpatrick and Mr. Stevens, which was later submitted as an exhibit. Fitzpatrick/Stevens Rebuttal Decl. The Fitzpatrick/Stevens Rebuttal Decl. was later corrected, admitted into evidence, and incorporated into the transcript as if read.<sup>41</sup> Tr. at 763.

Mr. Fitzpatrick is a registered professional engineer and has both a Bachelor of Science degree and a Master of Science degree in civil engineering from Northeastern University. He has 30 years of technical and supervisory experience working in the nuclear industry, including a long stint working at or on the VYNPS (1986-2008) culminating as Entergy's "Senior Lead Engineer, Design Engineering."<sup>42</sup> In this capacity, Mr. Fitzpatrick provided support to Entergy with regard to metal fatigue and flow accelerated corrosion. Fitzpatrick/Stevens Decl. Post Tr. 763, at 1-2 (Fitzpatrick); Entergy Exh. E2-02, James C. Fitzpatrick Resume. He currently works for AREVA, NP, another company in the nuclear industry. Fitzpatrick/Stevens Decl. Post Tr. 763, at 1-2 (Fitzpatrick); Entergy Exh. E2-02, James C. Fitzpatrick Resume.

Mr. Stevens is a registered professional engineer and has a Bachelor of Science degree in mechanical engineering from San Jose State University and a Master

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<sup>41</sup> The testimony contained in these two declarations is cited herein as Fitzpatrick/Stevens Decl. Post Tr. 763, at xx (Fitzpatrick or Stevens) or Fitzpatrick/Stevens Rebuttal Decl. Post Tr. 763, at xx (Fitzpatrick or Stevens).

<sup>42</sup> Fitzpatrick/Stevens Decl. Post Tr. 763, at 1-2 (Fitzpatrick); Entergy Exh. E2-02, James C. Fitzpatrick Resume.

of Science degree in mechanical engineering from California Polytechnic State University.<sup>43</sup> He has technical and supervisory experience working for the nuclear industry, including 14 years at GE Nuclear Energy (1981-1995) and 13 years with Structural Integrity Associates, Inc. (SIA), where he is currently employed. Fitzpatrick/Stevens Decl. Post Tr. 763, at 7 (Stevens); Entergy Exh. E2-08, Gary L. Stevens Resume. Entergy retained SIA to perform the CUFen Reanalyses and Confirmatory CUFen Analyses and Mr. Stevens supervised the performance of these calculations. Fitzpatrick/Stevens Decl. Post Tr. 763, at 8 (Stevens).

The NRC Staff initially presented two of its employees as witnesses — Dr. Kenneth C. Chang and Mr. John R. Fair — on Contentions 2A and 2B. *See* Staff Initial Statement at 1. Dr. Chang was personally and substantially involved in the Staff's metal fatigue safety review of VYNPS, while Mr. Fair was not.

On May 12, 2008, the NRC Staff submitted an affidavit from Dr. Chang presenting testimony concerning the Staff's review of the metal fatigue issues at VYNPS.<sup>44</sup> This affidavit indicated that Dr. Chang was the NRC's Chief of Engineering Branch 1 in the Division of License Renewal of the Office of Nuclear Reactor Regulation (NRR) with "overall responsibility" for the safety review of AMPs and TLAAAs relating to metal fatigue. Chang Decl. at 1. Dr. Chang asserted that he is a known expert in areas of metal fatigue and fatigue monitoring and the NRC Staff individual who personally reviewed Entergy's metal fatigue submissions and wrote section 4.3.3, "Effects of Reactor Water Environment on Fatigue Life," of the FSER. *Id.* at 1-2.

Subsequently, Dr. Chang was unable to testify at the evidentiary hearing and the NRC Staff offered to withdraw his prefiled written affidavit. Tr. at 721 (Baty). NEC raised concerns, arguing that Dr. Chang, as the person who directed and led the Staff's metal fatigue review, was a crucial witness whose absence was problematic. Tr. at 722 (Tyler). The Board agreed that Dr. Chang was a key NRC Staff witness, but concluded that despite Dr. Chang's absence, the evidentiary hearing would proceed. Tr. at 1176. The Board admitted Dr. Chang's affidavit into evidence as an exhibit. Tr. at 1176.

As to the other NRC Staff witness, Mr. Fair's affidavit was also submitted by the Staff on May 13, 2008. Fair Decl. The Fair Decl. was corrected, admitted into evidence, and incorporated into the transcript as if read.<sup>45</sup> Tr. at 766-68.

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<sup>43</sup> Fitzpatrick/Stevens Decl. Post Tr. 763, at 7 (Stevens); Entergy Exh. E2-08, Gary L. Stevens Resume.

<sup>44</sup> Chang Decl. The NRC Staff submitted a letter correcting Dr. Chang's affidavit on May 22, 2008. Letter from Lloyd B. Subin, Counsel for NRC Staff, to Licensing Board (May 22, 2008). Both the May 13, 2008 affidavit and May 22, 2008 corrections were submitted as NRC Staff Exh. 2, Affidavit of Kenneth C. Chang Concerning NEC Contentions 2A & 2B (Metal Fatigue).

<sup>45</sup> This prefiled testimony is in the transcript and is cited herein as Fair Decl. Post Tr. 768, at xx.

Mr. Fair, although not specifically assigned to review Entergy's LRA for VYNPS and not involved in writing the FSER, possesses substantial experience (over 35 years) in the nuclear industry and significant expertise in fatigue evaluations and the ASME requirements.<sup>46</sup> In addition, Mr. Fair provided advice to the NRC Division of License Renewal concerning Entergy's LRA and provided support to the Staff during meetings with the NRC Advisory Committee on Reactor Safeguards (ACRS). Fair Decl. Post Tr. 768, at 1. Mr. Fair was also directly involved in preparation of an NRC regulatory issue summary that related to a problem (which arose in this case) in using the simplified Green's function methodology in calculating CUFens for metal fatigue.<sup>47</sup> Despite his lack of direct involvement in the VYNPS LRA and FSER, Mr. Fair's testimony was helpful to the Board.

On April 28, 2008, NEC submitted written direct testimony by Dr. Joram Hopenfeld in support of its position on Contentions 2A and 2B. Hopenfeld Decl. On June 2, 2008, NEC submitted written rebuttal testimony by Dr. Hopenfeld. Hopenfeld Rebuttal Decl. This prefiled testimony was admitted into evidence and incorporated into the transcript as if read.<sup>48</sup> Tr. at 778-79.<sup>49</sup>

Dr. Hopenfeld holds Bachelor of Science, Master of Science, and Doctor of Philosophy degrees in mechanical engineering from the University of California at Los Angeles. He has 45 years of experience in industry and government, including 18 years with the NRC, primarily in the areas of thermal hydraulics, materials, corrosion, radioactivity transport, instrumentation, steam generator testing, and accident analysis. Hopenfeld Decl. Post Tr. 779, at 1.

In summary, the evidentiary record on Contentions 2A and 2B includes the prefiled and live testimony at the evidentiary hearing by four witnesses — Mr. Fitzpatrick, Mr. Stevens, Mr. Fair, and Dr. Hopenfeld — and prefiled written testimony from a fifth witnesses — Dr. Chang.

#### *b. Relevant Staff Guidance Documents*

The evidence related to Contentions 2A and 2B includes a number of guidance documents that have been issued by the NRC Staff. These guidelines reflect the Staff's interpretations on various subjects related to license renewal and

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<sup>46</sup> Fair Decl. Post Tr. 768, at 1-2; *see also id.* at John R. Fair Statement of Professional Qualifications.

<sup>47</sup> NEC Exh. NEC-JH\_23, NRC Draft Regulatory Issue Summary 2008-10 Fatigue Analysis of Nuclear Power Plant Components (April 11, 2008) at 2 [Draft RIS].

<sup>48</sup> The testimony contained in these two declarations is cited herein as Hopenfeld Decl. Post Tr. 779, at xx or Hopenfeld Rebuttal Post Tr. 779, at xx.

<sup>49</sup> As previously stated, NEC also proffered certain prefiled written testimony of Mr. Ulrich Witte, but Entergy and the NRC Staff challenged Mr. Witte's expertise on the issues covered by his testimony, and the Board granted the motion to strike Mr. Witte's declarations. *See* MIL Order at 8.



metal fatigue, such as (1) how an applicant can satisfy the regulatory and legal requirements necessary to obtain a license renewal, and (2) how the Staff will undertake to ensure quality and uniformity in performing its review and evaluation of LRAs. Such guidance documents, as well as compliance or noncompliance with them, are part of the evidence to be weighed by the Board and are not legally binding or determinative. The guidance documents introduced as evidence herein, and most relevant to Contentions 2A and 2B, are as follows:

1. NUREG-1800, Rev. 1, “Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants” (Sept. 2005) (NRC Staff Exh. 19). This document provides guidance to the NRC Staff reviewers for performing safety reviews of LRAs under 10 C.F.R. Part 54. For example, section 4.3 of NUREG-1800 addresses “Metal Fatigue Analysis” TLAAAs in the context of license renewals and is particularly relevant to Contentions 2A and 2B.

2. NUREG-1801, “Generic Aging Lessons Learned (GALL) Report” (Sept. 2005) (NRC Staff Exh. 7; Entergy Exh. E2-05) (GALL Report). NUREG-1801 contains the Staff’s generic evaluation of existing power plant programs and documents the NRC Staff’s judgments as to where existing programs need to be augmented in order to protect the public during the period of extended operation covered in any license renewal. NUREG-1801 at 1. NUREG-1801 also articulates the NRC Staff guidance as to how applicants may perform TLAAAs or demonstrate that their AMPs will satisfy the Part 54 regulatory requirements. For example, section X.M1 of NUREG-1801 addresses “Metal Fatigue of Reactor Coolant Pressure Boundary” and lays out ten principles that the Staff believes ought to be reflected in a metal fatigue AMP.

3. NUREG/CR-5704, “Effects of LWR Coolant Environments on Fatigue Design Curves of Austenitic Stainless Steels (Apr. 1999) (NRC Staff Exh. 12; Entergy Exh. E2-07). NUREG/CR-5704 summarizes work done by an NRC contractor, Argonne National Laboratory (Argonne), on fatigue of austenitic stainless steels in simulated light water reactor (LWR) environments. It provides information and guidance as to how to adjust the ASME metal fatigue design curve calculations (i.e., the CUF) to reflect the effects associated with environmental conditions inside an LWR nuclear power plant (i.e., the Fen) so that the CUFen can be determined.

4. NUREG/CR-6583, “Effects of LWR Coolant Environments on Fatigue Design Curves of Carbon and Low-Alloy Steels” (Feb. 1998) (NRC Staff Exh. 11; Entergy Exh. E2-06). This guidance document is similar to NUREG/CR-5704, except that NUREG/CR-6583 summarizes work done by Argonne on fatigue of carbon and low-alloy steels in simulated LWR environments.

5. NUREG/CR-6909, “Effects of LWR Coolant Environments on the Fa-

tigue Life of Reactor Materials’’ (Feb. 2007) (Entergy Exh. E2-30). NUREG/CR-6909 is another Argonne report that updates and reviews metal fatigue data for carbon and low-alloy steels and austenitic stainless steels both in air environments and LWR environments. It also provides a critical review of the ASME Code metal fatigue design margins and assesses the possible conservatism in those design margins. NUREG/CR-6909 at xvi.

6. NUREG/CR-6260, ‘‘Application of NUREG/CR-5999 Interim Fatigue Curves to Selected Nuclear Power Plant Components’’ (Feb. 1995) (NRC Staff Exh. 6). This NUREG provides the results of studies of metal fatigue on various components and locations within a nuclear power plant. NUREG-1801 § X.M1 recommends that license renewal applicants use the guidance in NUREG/CR-6260 to identify the critical components and locations and then apply the appropriate environmental life correction factors (Fen) from NUREG/CR-6583 or -5704.

7. Regulatory Guide 1.207, ‘‘Guidelines for Evaluating Fatigue Analyses Incorporating the Life Reduction of Metal Components Due to the Effects of the Light-Water Reactor Environment for New Reactors’’ (Mar. 2007) (NRC Staff Exh. 13) [RG-1.207]. This document provides guidance for use in determining the acceptable fatigue life of ASME pressure boundary components in LWR environments. RG-1.207 endorses the use of NUREG/CR-6909, including its method of calculating LWR environmental effects on metal fatigue (Fen), its new stainless steel air design curve, and its statistical method (‘‘95/95 criterion’’) for assessing the fatigue design curves. When it issued this guidance however, the NRC Staff decided that it would only apply NUREG/CR-6909 to ‘‘new nuclear reactor construction permits or operating licenses.’’ RG-1.207 at 2-3. The Staff opined that the newer data and methods did not need to be applied to metal fatigue analyses in the current fleet of reactors because of ‘‘conservatism in quantifying other plant-related variables.’’ *Id.* at 2.

8. ‘‘Closeout of Generic Safety Issue 190, ‘Fatigue Evaluation of Metal Components for 60-Year Plant Life’’ Memorandum by Ashok C. Thadoni (NRR) to William D. Travers (EDO) (Dec. 26, 1999) (Entergy Exh. E2-03) [GSI-190 Memo]. This guidance document reflects the Staff’s conclusion that the effects of LWR environments (i.e., Fen) must be included in the calculation of metal fatigue when an applicant seeks a license renewal. ‘‘[T]he staff concludes that, consistent with existing requirements in 10 CFR 54.21, licensees should address the effects of the coolant environment on component fatigue life as aging management programs are formulated in support of license renewal.’’ GSI-190 Memo at 1.

9. ‘‘NRC Regulatory Issue Summary 2008-10 Fatigue Analysis of Nuclear Power Plant Components,’’ NRC Office of Nuclear Reactor Regulation (NRR) (Apr. 11, 2008) (NEC Exh. NEC-JH\_23) [RIS-08-10]. The RIS-08-10 is an alert that NRC recently issued to the holders of all nuclear power plant

licensees announcing NRC's "concern regarding the methodology used by some license renewal applicants to demonstrate the ability of nuclear power plant components to withstand the cyclic loads associated with plant transient operations for the period of extended operation." RIS-08-10 at 2. The concern involved the use of a "simplified input for applying the Green's function in which only one value of stress is used for the evaluation of the actual plant transients. . . . [whereas] [t]he detailed stress analysis requires consideration of six stress components." *Id.* The NRC Staff indicates that the use of this simplified input to the Green's function "could be nonconservative if not correctly applied." *Id.* at 1. Therefore the Staff requested that all recent license renewal applicants that used this simplified Green's function methodology redo these analyses ("perform confirmatory analyses"). *Id.* at 2.

## **B. Findings of Fact**

### ***1. Basic Concepts and Definitions***

Resolution of the issues raised by Contentions 2A and 2B (e.g., whether the analytical methods employed by Entergy's CUFen Reanalyses or Confirmatory CUFen Analyses were flawed, insufficiently conservative, and/or fail to demonstrate that the reactor components will not fail due to metal fatigue during the PEO) requires an overview of some of the basic and uncontested facts and concepts associated with metal fatigue, TLAAs, and the CUFens analytical methods.<sup>50</sup>

"Experience with operating nuclear plants worldwide reveals that many failures may be attributed to fatigue," such as metal fatigue. Entergy Exh. E2-06 at 2. Metal fatigue is an age-related degradation mechanism caused by mechanical and thermal stresses on metal components. The results of metal fatigue can be observed in the cracking of components subject to stress cycles of sufficient magnitude and duration.<sup>51</sup> During each stress or "loading cycle," some fraction of a component's fatigue life is consumed; the amount depends on the magnitude of the applied stress. Eventually, after a certain number of cycles or stresses, the component's total allowable fatigue life is fully expended. The component's CUF is a summation of individual usage factors. An individual usage factor is the

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<sup>50</sup>The "Technical Background" section of the Commission's recent decision in Oyster Creek provides a synopsis of the concepts of metal fatigue, CUF, CUFen, relevant regulations and Staff guidance, and the simplified Green's function methodology. *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-08-28, 68 NRC 658, 663-66 (2008).

<sup>51</sup>FSER at 4-22; NEC Exh. NEC-JH\_03 at 1; Fitzpatrick/Stevens Decl. Post Tr. 763, at 2 (Fitzpatrick).

number of actual cycles experienced for a particular stress level divided by the number of cycles at which failure is expected to occur for this stress level.<sup>52</sup>

Transients contribute to metal fatigue. A “transient” is a change in a nuclear reactor operating parameter, such as a change in temperature or pressure of the reactor coolant. Tr. at 822-26. Such changes can cause mechanical or thermal stress on a component and contribute to the consumption of that component’s allowable metal fatigue life. *Id.* According to Entergy, as of July 23, 2008, 663 transients have occurred at VYNPS since it began operation.<sup>53</sup>

The source of the requirement to perform metal fatigue CUFs for reactor components is found in the regulations as follows. Appendix A to 10 C.F.R. Part 50 establishes “General Design Criteria [GDC] for Nuclear Power Plants.” Appendix A–GDC 1 specifies that “[s]tructures, systems, and components important to safety shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed.” Appendix A–GDC 30 requires that components that are “part of the reactor coolant pressure boundary shall be designed, fabricated, erected, and tested to the highest quality standards practical.” Augmenting the GDCs is 10 C.F.R. § 50.55a “Codes and Standards,” which endorses the use of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (BPV) Code in assessing metal fatigue. In particular, 10 C.F.R. § 50.55a(c) states that “[c]omponents which are part of the reactor coolant pressure boundary must meet the requirements for Class I components in Section III of the ASME Boiler and Pressure Vessel Code.” *See also* NRC Staff Exh. 13 at 1.

The feedwater, reactor recirculation, and core spray nozzles on a BWR nuclear power reactor such as VYNPS are part of the “reactor coolant pressure boundary.” They must be designed, fabricated, erected, and tested to the “highest quality standards practical,” and must meet the Class I requirements of ASME BPV Code Section III. *See Oyster Creek*, CLI-08-28, 68 NRC at 663.

ASME Code Section III sets forth procedures for analyzing components for metal fatigue, provides “fatigue curves” for various materials, and requires that the CUF for any given location or Class I component not exceed 1.0 or “unity.”<sup>54</sup> The ASME Code fatigue design curves and CUFs are based on fatigue testing of polished metal, at room temperature, in an air environment.<sup>55</sup> This is problematic because the actual environment inside of a nuclear reactor is very different. LWR environments such as the VYNPS involve nonpolished metal, and water and steam at very high and changing temperatures and pressures, which shorten

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<sup>52</sup> NEC Exh. NEC-JH\_03 at 1; Fitzpatrick/Stevens Decl. Post Tr. 763, at 3-4 (Fitzpatrick).

<sup>53</sup> Entergy Exh. E2-39, Vermont Yankee Transient Counting Status: July 23, 2008 (July 23, 2008).

<sup>54</sup> NEC Exh. NEC-JH\_03 at 1-2; Fitzpatrick/Stevens Decl. Post Tr. 763, at 4 (Fitzpatrick).

<sup>55</sup> NRC Staff Exh. 13 at 2; NEC Exh. NEC-JH\_03 at 2; Fitzpatrick/Stevens Decl. Post Tr. 763, at 4-5 (Fitzpatrick).

the lifespan of metal components and can significantly increase metal fatigue beyond that predicted by the ASME (air/room temperature) fatigue curves.<sup>56</sup> “For components . . . exposed to reactor coolant water, the fatigue life, as measured by the allowable number of stress cycles, is reduced compared to the components’ fatigue life when exposed to an air environment.” Fitzpatrick/Stevens Decl. Post Tr. 763, at 4 (Fitzpatrick).

In order to account for the effects of the actual LWR coolant environment on metal fatigue, the ASME Code CUF factor (based on air, room temperature, and polished metal surfaces) is adjusted or multiplied by an environmental correction factor, or “Fen.”<sup>57</sup> This results in an environmentally adjusted CUF, i.e., a CUFen. The resulting CUFen still must not exceed unity. Fitzpatrick/Stevens Decl. Post Tr. 763, at 6 (Fitzpatrick).

In recognition of this, the NRC Staff concluded that, due to the increased probability of problems at plants operating beyond their original 40-year license term, applicants for license renewal should address the effects of the LWR coolant environment (Fen) on metal fatigue (CUF). Fitzpatrick/Stevens Decl. Post Tr. 763, at 5 (Fitzpatrick). Therefore, if a license renewal applicant seeks to demonstrate, per 10 C.F.R. § 54.21(c)(1)(ii), that its TLAA has been projected to the PEO, it must perform a CUFen calculation, not just a CUF calculation.<sup>58</sup> There are two types of applications or uses for CUFs and CUFens. One is a predictive mode and the other is a tracking or monitoring mode. Tr. at 1144-45 (Fair).

It is important to note that if and when a CUFen for a particular component exceeds unity, it does not necessarily mean that the component will fail at that moment. Tr. at 824-25 (Stevens); Tr. at 1130-31 (Hopenfeld). It merely means that the metal fatigue on that component has exceeded the ASME acceptance criterion. Tr. at 825, 838 (Stevens); Tr. at 1130 (Hopenfeld). For example, in NUREG/CR-6583 a CUF of unity means that there is a 1 to 5% probability that the component will experience a crack in the metal that is 3 millimeters deep. Tr. at 898, 900-01 (Fair). This is not necessarily a failure of the component. Tr. at 900-01 (Fair).

## 2. *Joint Stipulations*

Pursuant to the Board’s instructions, Entergy, the NRC Staff, and NEC

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<sup>56</sup> See Entergy Exh. E2-06 at xiii (“Recent fatigue strain vs. life (S-N) data obtained in the U.S. and Japan demonstrate that light-water reactor (LWR) environments can have potentially significant effects on the fatigue resistance of materials. Specimen lives in simulated LWR environments can be much shorter than those for corresponding tests in air”); NUREG/CR-5704 at ix; NUREG/CR-6909 at iii and xv; Tr. at 951-53 (Stevens).

<sup>57</sup> NEC Exh. NEC-JH\_03 at 1; Fitzpatrick/Stevens Decl. Post Tr. 763, at 5 (Fitzpatrick).

<sup>58</sup> See Fitzpatrick/Stevens Decl. Post Tr. 763, at 5 (Fitzpatrick); see also FSER at 4-32 to 4-33.

developed and submitted several joint stipulations with respect to Contentions 2A and 2B. These are as follows:

1. Section 4.3.3 of the License Renewal Application for VY (“Application”) presents Entergy’s initial assessment of the effects of the reactor coolant environment on fatigue life for nine plant-specific locations of six reactor components at VY selected in accordance NUREG/CR-6260 and the NRC Staff’s “GALL Report” [Initial CUFen Analyses].
2. The initial CUFens computed by Entergy for VY are tabulated in Table 4.3.3 of the Application. As that Table shows, seven of the nine locations had CUFens greater than unity, and therefore greater than the specified criterion of the ASME code.
3. To address these results, the Application states (Application, Section 4.3.3 at 4.3-7) that, prior to entering the period of extended operation, for each location that may exceed a CUF of 1.0 when considering environmental effects, VY will implement one of three possible courses of action, including “further refinement of the fatigue analyses to lower the predicted CUFs to less than 1.0.”
4. Entergy engaged SIA to perform refined analyses to calculate the CUFs, Fens, and CUFens for all nine locations of interest in accordance with the approach described in the GALL Report.
5. Final versions of fifteen refined calculations were issued in August and December 2007 [CUFen Reanalyses].
6. To resolve certain NRC Staff concerns, Entergy proposed, and the NRC Staff accepted, that Entergy perform a confirmatory CUFen analysis of the feedwater nozzle using methods that would be acceptable to the NRC [Confirmatory CUFen Analysis].
7. The Staff imposed a license condition requiring similar confirmatory analyses for two other nozzles, the recirculation outlet nozzle and the core spray nozzle. Those confirmatory analyses will become the “analyses of record” for those two locations. Entergy is to submit these analyses to the Staff no later than two years prior to the start of the period of extended operation, in March 2012.

Joint Stipulation (July 8, 2008) at unnumbered pages 1-2 [Joint Stipulation].

### **3. *Factual Findings on Key Contested Matters***

Having set forth the legal and regulatory requirements, procedural history, NRC Staff guidance, and basic factual framework relating to Contentions 2A and 2B, the Board now turns to the key issues raised by these contentions. NEC alleges that, with regard to aging due to metal fatigue, Entergy’s CUFen Reanalyses and

Confirmatory CUFen Analyses fail to comply with the requirements of 10 C.F.R. § 54.21(c). The following are NEC's main allegations:

a. *Outdated Equations*: Entergy used "outdated" statistical equations in NUREG/CR-5704 and -6583, instead of the more recent equations in NUREG/CR-6909 to calculate the Fen factors. NEC Exh. NEC-JH\_03 at 10-11.

b. *Dissolved Oxygen*: Entergy's Fen calculations do not adequately account for the dissolved oxygen (DO) chemistry of the LWR water. *Id.* at 16.

c. *Base Metal Cracking*: Entergy has not provided proof that the base metal cladding of the feedwater nozzle is not cracked. *Id.* at 15.

d. *Surface Finish*: Entergy's Fen calculations do not adequately account for the surface roughness of the components it evaluated. *Id.* at 11.

e. *Number of Transients*: The number of plant transients estimated to occur over the plant operating life and PEO is not appropriate and not sufficiently conservative. *Id.* at 16.

f. *Lack of Error Analysis*: "Entergy should have performed an error analysis to show the admissible range for each variable" in the CUFen analyses. *Id.* at 18.

g. *Heat Transfer Equations*: Entergy used inappropriate heat transfer equations and assumptions in calculating the Fen. *Id.* at 12.

h. *Simplified Green's Function Methodology*: Entergy's CUF calculations used the simplified Green's function methodology, resulting in inaccurate CUF and CUFen analyses. *Id.* at 17-18. The Confirmatory CUFen Analysis for the feedwater nozzle does not solve or bound the problem with regard to the core spray and reactor recirculation outlet nozzles. *Id.* at 18-19.

As a final note, in subsection (i) we review Dr. Hopenfeld's CUFen recalculations to see if they provide a better assessment of the metal fatigue at VYNPS.

Our factual findings on each of these contested issues are set forth in turn.

a. *Outdated Equations*

(i) EVIDENCE

NEC asserts that Entergy should have used the Fen parameters in NUREG/CR-6909 in its CUFen analyses because that NUREG is based on a larger database and its limits are more clearly stated than the Fen parameters in the older NUREG/CR-5704 and -6583. *Id.* at 10. NEC's expert, Dr. Hopenfeld, testified that Entergy

should use the bounding Fen values of 12 for stainless steel and 17 for carbon steel in NUREG/CR-6909 to calculate CUFens in order to account for the many factors that can affect fatigue life. Hopenfeld Rebuttal Decl. Post Tr. 779, at 4. Dr. Hopenfeld, however, does not recommend the use of NUREG/CR-6909 air design curves because they have not been officially accepted by the ASME. *Id.* at 7. Dr. Hopenfeld argues that the CUFen analyses should use a hybrid combination — the Fen factors from NUREG/CR-6909 and the air curves from the ASME Code — and that this will produce a more conservative CUFen. *See id.*

There is no dispute that the Fen factors in the CUFen Reanalyses and the Confirmatory CUFen Analysis were calculated in accordance with the older guidance documents: NUREG/CR-5704 for stainless steel and NUREG/CR-6583 for carbon and low-alloy steel. Entergy and the NRC Staff concede that NUREG/CR-6909 is based on a larger database and more recent and precise data than were used in the earlier NUREGs, at least with respect to stainless steel.<sup>59</sup> But Entergy asserts that it does not need to use NUREG/CR-6909 because the relevant Staff guidance does not require it to do so.<sup>60</sup>

Entergy and the NRC Staff also state that the older NUREGs are generally more conservative, and that if the newer NUREG/CR-6909 methodology were used it would generally result in less conservative results than the use of existing ASME Code (air) fatigue curves coupled with the methodology of NUREG/CR-5704 and -6583. Tr. at 795-98 (Fair); Entergy Exh. E2-31 at 96-97. Mr. Fair testified that NUREG/CR-6909 had generally less conservative air fatigue curves than the earlier NUREGs for carbon and low-alloy steels and the austenitic stainless steel. Fair Decl. Post Tr. 768, at 4-5. He stated that when Argonne performed the statistical analysis of the test data for metal fatigue in air for NUREG/CR-6909, it determined that the ASME curves for carbon and low-alloy steel were too conservative, and thus NUREG/CR-6909 adopted less conservative air curves. Tr. at 849-50. In addition, the new air curves in NUREG/CR-6909 are based on a less conservative statistical evaluation that is not used in the older NUREGs. Tr. at 790-91, 796-97 (Fair); NUREG/CR-6909 at xvi. Mr. Fair testified that NUREG/CR-6909 states that the ASME air curves (which are used in the older NUREGs) are overly conservative by a factor of 1.7. *See* Tr. at 850. In addition to such testimony, NUREG/CR-6909 itself states:

The results suggest that for both carbon and low-alloy steels and austenitic SSs, the current ASME Code requirements of a factor of 20 on cycles to account for the effects of material variability and data scatter, as well as size, surface finish, and

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<sup>59</sup> Tr. at 792 (Fair), 842 (Stevens); *see also* NUREG/CR-6909 at xv.

<sup>60</sup> Fitzpatrick/Stevens Decl. Post Tr. 763, at 26 (Stevens). *See also* NRC Staff Exh. 13 at 6; Tr. at 794-95 (Fair).



loading history, contain at least a factor of 1.7 conservatism. Thus, to reduce this conservatism, [new] fatigue design curves have been developed . . . .

NUREG/CR-6909 at 81. Mr. Fair added that NUREG/CR-6909 shows that the ASME Code design air curves for carbon steel and low-alloy steels in air are more conservative than those in NUREG/CR-6909. *See* Tr. at 898-99 (Fair); NUREG/CR-6909 at A.3 to A.4.

In addition, Mr. Stevens testified that he had recalculated the CUFens for all nine locations covered in the VYNPS LRA using the full methodology (curves and Fens) of NUREG/CR-6909 and found that all nine CUFens were lower than the method proposed by Dr. Hopenfeld (i.e., using a hybrid combination of the ASME air curves and the Fen factors from NUREG/CR-6909). Tr. at 798-802.

(ii) FINDINGS

The Board finds that NUREG/CR-6909 contains a larger database of values, more recent data, and is less conservative than the earlier NUREG/CR-5704 and -6583 that were issued by the same NRC contractor — Argonne. The Board also finds that the fact that the NRC Staff guidance indicates that NUREG/CR-5704 and -6583 are sufficient for purposes of license renewal applications is not dispositive of the issue. If the Board found that the use of the more accurate NUREG/CR-6909 was needed in order to provide reasonable assurance that VYNPS metal fatigue will be adequately managed during the PEO, then we would be authorized, and duty bound, to impose such a requirement.

However, the Board finds that Entergy and the NRC Staff have shown that Entergy's use of NUREG/CR-5704 and -6583 in the calculation of the CUFen Reanalyses and the Confirmatory CUFen Analyses is sufficient to provide the reasonable assurance required by 10 C.F.R. § 54.29(a), and that no more is required. The preponderance of the evidence indicates that in this case the use of these older NUREGs is reasonable and conservative and produces TLAA CUFen values that are more conservative than those produced by the calculation method espoused by Dr. Hopenfeld (i.e., a hybrid calculation using ASME air curves and NUREG/CR-6909 Fen equations). While NUREG/CR-6909 is more accurate in certain respects, in this situation its greater accuracy results in less conservatism than the application of NUREG/CR-5704 and -6583, not more.

*b. Dissolved Oxygen*

(i) EVIDENCE<sup>61</sup>

The concentration of DO in the LWR environment is one of the key parameters in calculating the metal fatigue life and the appropriate Fen values for use in the CUFens.<sup>62</sup> As a general rule, the concentration of DO in water varies inversely with the temperature of the water. Tr. at 992-93 (Hopenfeld). DO has a different effect on different types of steel — increased DO in the reactor feedwater increases the metal fatigue on carbon and low-alloy steels but decreases it on stainless steels. Tr. at 955 (Stevens), 983 (Hopenfeld).

Dr. Hopenfeld, on behalf of NEC, stated that Entergy's CUFen calculations failed to account for the fluctuations in DO concentrations during the PEO. NEC Exh. NEC-JH\_03 at 16-17. He testified that Entergy's use of an average DO value — based on 13 years of daily sampling plus one standard deviation, Tr. at 973-74 (Fitzpatrick) — is a steady-state assumption that does not account for the temperature changes that occur during transients. Tr. at 969-70, 974-76.

Dr. Hopenfeld also asserted that Entergy did not explain how the water chemistry data from the feedwater line or the electrochemical potential (ECP) measurements relate to the DO concentration at the component surface during transients. NEC Exh. NEC-JH\_03 at 16-17. He testified that the ECP is a more scientifically accurate thermodynamic parameter than DO. Tr. at 962-65.

Dr. Hopenfeld pointed to the statement in NUREG/CR-6909, Tr. at 977, that “A value of 0.4 ppm for carbon and low-alloy steels and 0.05 ppm for austenitic stainless steels can be used for the DO content to perform a conservative evaluation.” NUREG/CR-6909 at A.5. He was concerned that Entergy did not use these values. He also cited to page 4-18 of a 2005 EPRI guidance document (referred to as MRP-47) for the proposition that, at a temperature of 550 degrees Fahrenheit the Fen factor for DO should be about 80.<sup>63</sup> Tr. at 986.

Entergy's exhibits and witnesses explained how Entergy accounted for DO concentration in the metal fatigue Fen calculations. Entergy documents state that, in performing the Fen, Entergy used data from 13 years of daily measurements,

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<sup>61</sup> Dr. Hopenfeld's rebuttal testimony included a table identifying thirteen factors he asserted were of concern with regard to Entergy's calculation of metal fatigue. Hopenfeld Rebuttal Decl. Post Tr. 779, at 4-6. Dr. Hopenfeld testified that DO was one of the three most important concerns from this list. Tr. at 1012-13.

<sup>62</sup> NUREG/CR-6909 at xv (“The key parameters that influence fatigue life in these environments, e.g., temperature, dissolved-oxygen (DO) level in water, strain rate, strain (or stress) amplitude, and, for carbon and low-alloy steels, S content of the steel, have been identified”).

<sup>63</sup> NEC Exh. NEC-JH\_64, Materials Reliability Program Guidelines for Addressing Fatigue Environmental Effects in a License Renewal Application (MRP-47 Revision 1), Final Report, Electric Power Research Institute (EPRI) (Sept. 2005) [MRP-47]. Entergy Exh. E2-09, Attach. 2 at 1; Fitzpatrick/Stevens Decl. Post Tr. 763, at 32-33 (Stevens); Tr. at 1031 (Fitzpatrick).

including excursions, of DO from the feedwater line. Entergy Exh. E2-09, Attach. 2 at 1-2. For the feedwater piping, Entergy's Fen calculations used a DO value of 50 ppb (i.e., 0.05 ppm), representing the mean of the measured data plus one standard deviation. *Id.*; Tr. at 974 (Fitzpatrick). For all other locations, Entergy's witnesses stated that they used the EPRI guidance document MRP-47 (also known as the EPRI BWRVIA Model) to determine DO values.<sup>64</sup> In addition, Mr. Stevens testified that the VYNPS uses "hydrogen water chemistry," which is a method to bring reactor water chemistry under control and to reduce the DO concentration. Tr. at 954-55 (Stevens).

With regard to EPRI's MRP-47 (NEC Exh. NEC-JH\_64), Mr. Stevens pointed out that he was the principal author of that document, Tr. at 987, and that the graph referred to by Dr. Hopenfeld on page 4-18 of MRP-47 covers conditions that do not exist at VYNPS. Tr. at 987-89. With regard to Dr. Hopenfeld's argument that Entergy should have used the DO values of 0.4 ppm for carbon and low-alloy steels and 0.05 ppm for austenitic stainless steels specified in NUREG/CR-6909, Mr. Fitzpatrick pointed out that the NUREG statement was not prescriptive. Tr. at 997-98 (Fitzpatrick). Mr. Fair clarified that NUREG/CR-6909 calls for the use of the DO values of 0.4 ppm and 0.05 ppm only as default values, when the applicant does not have data as to the actual DO values. Tr. at 998 (Fair). Dr. Hopenfeld agreed. Tr. at 999 (Hopenfeld). In this case, Entergy used data from 13 years of measured DO values. Entergy Exh. E2-09, Attach. 2 at 1-2.

As to the use of DO versus ECP, Mr. Fair acknowledged that although this issue had not been completely settled in the industry, there are very little data on ECP in nuclear reactors and the data are all based on DO. Tr. at 959-60 (Fair). In this context, Dr. Hopenfeld conceded that this "is not a major concern" but it is "important to understand" the difference between ECP and DO when calculating Fen and its uncertainties. Tr. at 960-61. He agreed that the ECP factor can be represented by the DO concentration with regard to metal fatigue. Tr. at 964. He also acknowledged that he knew of no practical way that ECP could be measured in a nuclear power plant. Tr. at 965. But, he said, the use of DO as a substitute for ECP raises uncertainty. Tr. at 966.

As to Dr. Hopenfeld's assertion that Entergy's DO values fail to account for fluctuations that occur during transients, Entergy presented various rebuttal evidence. First, Mr. Fitzpatrick testified that plant data indicate that DO concentration does not vary significantly during transients. Tr. at 974, 991. In addition, the transients where increased DO was observed (startup and shutdown) are very small contributors to metal fatigue. Tr. at 990 (Fitzpatrick), 1006 (Stevens); Chang Decl. at 12. Mr. Fitzpatrick rejected Dr. Hopenfeld's assertion that "plain

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<sup>64</sup> Entergy Exh. E2-09, Attach. 2 at 1; Fitzpatrick/Stevens Decl. Post Tr. 763, at 32-33 (Stevens); Tr. at 1031 (Fitzpatrick).

physics'' would indicate that DO concentrations in the feedwater must increase dramatically when the water temperature drops, Tr. at 992 (Hopenfeld), explaining that since the feedwater is pressurized, the drop in temperature does not cause a concomitant increase in DO. Tr. at 1034-35 (Fitzpatrick). Mr. Fitzpatrick also noted that if a transient is very rapid, there is a concurrent increase in strain rate that may cancel the effect of the increased DO. Tr. at 1003, 1035. Finally, with regard to fluctuations, Mr. Stevens, the author of MRP-47, pointed out that it recommends that bulk DO levels should be time-averaged before they are used as inputs to the CUFen, and that is the approach that Entergy followed. Tr. at 1004-05 (Stevens).

(ii) FINDINGS

The Board finds that Entergy has shown, by a preponderance of the evidence, that its CUFen calculations reasonably account for the effect of dissolved oxygen on metal fatigue at the VYNPS. The use of actual DO data from the feedwater system, as well as the use of industry guidance DO values in other systems, was reasonable and appropriate. The hypothetical use of ECP values instead of DO, while perhaps academically interesting, is not viable (given the lack of ECP data), nor necessary (given the fact that DO is a reasonable surrogate for ECP and even NEC's witness acknowledged that it is not a major issue). Further, NEC's concerns regarding the fluctuation of DO values during transients are misguided in this situation, where Entergy used actual DO data and otherwise demonstrated that its approach to this phenomenon is sound.

c. *Base Metal Cracking*

(i) EVIDENCE<sup>65</sup>

In the 1970s the feedwater nozzles in a number of boiling water reactor (BWR) nuclear power plants developed cracks due to metal fatigue because of differences in the thermal properties of the cladding and base metal. NEC Exh. NEC-JH\_03 at 15. While the cladding was removed in some of these plants, *id.*; Tr. at 1040 (Hopenfeld), at the VYNPS the cladding was retained. Tr. at 1040-41 (Fitzpatrick). NEC's witness, Dr. Hopenfeld, stated that Entergy has not provided any proof that the base metal on the feedwater nozzle is not cracked, and therefore Entergy must assume that it is cracked. NEC Exh. NEC-JH\_03 at 16. He testified that cracks in the cladding *could* provide sites for accelerated corrosion and thus accelerated failure under cyclic loads. Tr. at 1054. Dr. Hopenfeld acknowledged,

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<sup>65</sup> Dr. Hopenfeld testified that base metal cracking was one of the three most important concerns from his list of thirteen factors. Tr. at 1012-13.

however, that there was no evidence that there actually are any cracks in the VYNPS feedwater nozzles, but asserted that it is a possibility that needs to be considered. Tr. at 1064-65.

Entergy's witnesses testified to Entergy's program concerning potential cracking of the base metal on feedwater nozzles. When the concern first arose many years ago, the feedwater nozzles at VYNPS were inspected, eight cracks were detected, and they were ground down. Tr. at 1051 (Fitzpatrick). Penetrant testing of the cladding was periodically conducted. Tr. at 1051 (Fitzpatrick). Subsequently ultrasonic testing (UT) has been instituted and regularly conducted. Tr. at 1051 (Fitzpatrick). The UT inspection technique is the industry standard for detecting such cracks, and will detect cracks as small as 3/16 of an inch deep. Tr. at 1051-52 (Fitzpatrick). No such cracks have been detected on the VYNPS feedwater nozzles for the past 20 years. Tr. at 1051-52 (Fitzpatrick). Currently, Entergy does a 100% UT on all four feedwater nozzles every four refueling cycles. Tr. at 1052 (Fitzpatrick). The most recent UT inspection was conducted during the 2007 refueling outage and showed no evidence of cracks in the base metal of the nozzle. Entergy Exh. E2-33, Excerpts from 2007 GE VY Feedwater Nozzle Inspection Report.

Mr. Stevens stated that Entergy's UT inspection program postulates that a crack might develop in the cladding and is designed to detect such an event before it becomes a problem. Tr. at 1062-63. He indicated that the inspection program follows the [ASME Code] Section XI program. Tr. at 1062-63. He added that if any indication of a crack were detected, it would be repaired in accordance with [ASME Code] Section III. Tr. at 1062-63.

(ii) FINDINGS

The Board finds that Entergy has shown that it has appropriately considered the possibility of cracking in the cladding inside the feedwater nozzles. Regular and state-of-the-art UT inspections have revealed no such cracks in the last 20 years. Entergy is obligated to continue those inspections during the PEO in accord with its existing in-service inspection program and is obliged to take corrective action if a crack is identified.

*d. Surface Finish*

(i) EVIDENCE<sup>66</sup>

Dr. Hopfenfeld testified on behalf of NEC that Entergy's Fen calculations

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<sup>66</sup> Dr. Hopfenfeld testified that surface finish was one of the three most important concerns from his list of thirteen factors. Tr. at 1012-14.

failed to account adequately for the surface roughness of the components in the VYNPS reactor. NEC Exh. NEC-JH\_03 at 11. He pointed to Table 12 at page 76 of NUREG/CR-6909 which states that the ASME Code Section III calls for an adjustment factor of four to the ASME fatigue curve (for smooth metal) to account for surface roughness. Tr. at 1070-71. He testified that this shows that roughness in the surface finish of reactor components is a “pretty heavy” and “very important” factor. Tr. at 1071. Dr. Hopenfeld opined that since many of the VYNPS components are low-alloy or carbon steel and have been exposed to the LWR environment for a long time, their metal surfaces are likely corroded and they might have pits and ridges. Tr. at 1073-74.

Entergy and the NRC Staff brought forth several facts in rebuttal. First, Mr. Stevens testified that Entergy indeed complied with the ASME Code and adjusted the air fatigue curve by a factor of four to account for surface roughness. Tr. at 1080. Mr. Fair noted that Table 12 is an example where NUREG/CR-6909 is less conservative than the ASME Code method. Tr. at 1079. This is in part because the ASME Code adjusted its air curve by a factor of four, whereas the NUREG/CR-6909 adjustments were between two and three and one-half. *See* NUREG/CR-6909 at 76.

(ii) FINDINGS

The Board finds that Entergy has adequately accounted for the effects of surface finish in calculating metal fatigue in the structures and components of concern in the VYNPS. Entergy used the more conservative factor of four in adjusting the ASME Code air design curves. NEC has failed to provide evidence that indicates that Entergy did not properly address the issue of surface roughness.

*e. Number of Transients*

(i) EVIDENCE

Dr. Hopenfeld challenged Entergy’s “apparent assumption that the number of transients the plant would experience varies linearly with time” because, he asserted, the “failure frequency of pressure vessels (and mechanical and electrical components) is statistically very high later in life due to aging of the plant.” NEC Exh. NEC-JH\_03 at 16. Dr. Hopenfeld said that Entergy provided no justification for its linear projection, and pointed out (as an illustration of the invalidity of such a projection) that a linear extrapolation of the two unanticipated transients that VYNPS experienced in August 2007 would predict 912 such transients during the PEO. *Id.* He opined that the number of transients used by Entergy in its CUFen calculations should be increased by a factor of at least 1.2 to account for the 20% uprate that was recently granted to VYNPS. *Id.*

Entergy’s witnesses testified that they did not do a simple linear extrapolation.

Fitzpatrick/Stevens Decl. Post Tr. 763, at 31 (Fitzpatrick). Instead, we were told that the number of transients used in the CUFen analyses represents a combination of the original VYNPS design basis transients, additional, more detailed, design conditions from a later type of boiling water reactor (a “BWR 4”), and the number of transients actually experienced by VYNPS in its first 35 years of operation. *Id.* at 31-32 (Fitzpatrick). Mr. Fitzpatrick stated that although the original design specification for VYNPS predicted that it would experience 200 startup/shutdown transients over the 40-year life span of the plant, in actuality, the VYNPS experienced approximately 93 such transients in its first 35 years of operation. *Id.*; Tr. at 860. A straight-line projection of 93 startup/shutdown transients over 35 years would predict approximately 160 such transients over the entire 60-year life span (initial 40 years plus PEO of 20 years). Fitzpatrick/Stevens Decl. Post Tr. 763, at 31-32 (Fitzpatrick); Tr. at 860. To be conservative, the LRA assumes 300 startup/shutdown transients over 60 years. Fitzpatrick/Stevens Decl. Post Tr. 763, at 31-32 (Fitzpatrick). Mr. Fitzpatrick stated that the ratio of 300 (projection used in the LRA) to 160 (straight-line projection) is 1.875, which exceeds the 1.2 safety factor suggested by Dr. Hopenfeld.<sup>67</sup>

At the Board’s request, Tr. at 1161-62, Entergy provided a list of all transients (not just startup/shutdown transients) that have occurred at the VYNPS since it began operation that might impact metal fatigue. Entergy Exh. E2-39; Tr. at 1460-61. This list, which is organized by transient type, compares the actual number of transients to-date to the number of transients assumed in Entergy’s CUFen analyses to the end of the PEO.<sup>68</sup> The total number of transients experienced to-date (663) is dramatically lower than the number that Entergy used in its CUFen projections (13,806). *See* Entergy Exh. E2-39.

Testimony was also heard on the topic of the “bathtub curve.” Tr. at 862 (Hopenfeld). The bathtub curve is a well-known engineering concept, whereby equipment can experience a relatively high failure rate in its initial operational phase; then it enters a long period of stable operations with a low failure rate, and then, toward the end of its operational life, the equipment experiences a higher failure rate. Tr. at 867-68 (Hopenfeld). Dr. Hopenfeld was concerned that the current low numbers of transients at VYNPS reflect the stable period of the bathtub curve and that the facility could experience higher numbers of transients as it ages. *See* Tr. at 862, 866-69. Mr. Stevens stated that there is no field evidence to support a bathtub curve effect at VYNPS. Tr. at 870-71. He stated that the frequency of startup-shutdown cycles/transients has dropped from once every 12 months at the beginning, to 18 to 24 months now. Tr. at 871. Mr. Stevens testified

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<sup>67</sup> Fitzpatrick/Stevens Decl. Post Tr. 763, at 31-32 (Fitzpatrick); Fitzpatrick/Stevens Rebuttal Decl. Post Tr. 763, at 7-9; Tr. at 859-61.

<sup>68</sup> Entergy Exh. E2-39; *see also* Entergy Exh E2-11, SIA Calculation Package, VY-16Q-302R0, at 18, Table 5; Tr. at 1166-68 (Stevens).

that extensive experience with the entire fleet of U.S. nuclear reactors shows that, due to learning-curve effects, current transients and trips are much less frequent than in the early days, making an even linear extrapolation from the design basis very conservative. Tr. at 871-72. In addition, Entergy's witnesses pointed out that Entergy will be monitoring the number of transients that actually occur against the number assumed in the predictive CUFen analyses, and if the number of actual transients begins to approach the predicted numbers, corrective action will be taken. Tr. at 872 (Stevens), 873-74 (Fitzpatrick).

Entergy's witnesses also testified that their calculations assumed that all transients were at the more severe level of a "design basis transient," as opposed to the lesser severity of the various transients actually experienced at VYNPS. Fitzpatrick/Stevens Rebuttal Decl. Post Tr. 763, at 7-8 (Fitzpatrick). Mr. Stevens testified that when his company, SIA, performed the CUFens for Entergy, they used the transient definitions specified by the plant's designer, which are very conservative because they assume that the changes in temperature and flow occur abruptly. Tr. at 852-53. In addition, Mr. Stevens stated that Entergy/SIA's CUFen calculations accounted for the recent 20% power uprate at VYNPS assuming that all of the transients actually experienced at VYNPS, even those that took place in the decades *before* the uprate was implemented, occurred at the uprated level (i.e., assumed that they were more severe than they actually were). Tr. at 856, 869-70 (Stevens). The evidence indicated that the actual transients experienced by VYNPS have been much less than those assumed in the design basis, Tr. at 852-53 (Stevens), and the plant has never experienced a thermal transient more severe than design basis. Tr. at 1170 (Fitzpatrick).

(ii) FINDINGS

The Board finds that Entergy has been conservative with regard to the number of transients used in its CUFen analyses for metal fatigue. Entergy has not simply done a linear projection as to the number of transients to be expected in the PEO. In addition, we find that Entergy's CUFens are based on increased severity levels that adequately account for the recent 20% power uprate at the VYNPS. The projected number of transients is based on design basis events, actual experience at VYNPS, and industry experience. Even if a bathtub curve appears later in the operational life of the facility, this will be detected and addressed by Entergy's continued tracking of transients. Thus, with regard to the number of transients, the Board finds that Entergy's TLAA calculations are adequate and provide the degree of assurance required by 10 C.F.R. § 54.29(a).



f. *Lack of Error Analysis*

(i) EVIDENCE

Dr. Hopenfeld argued that Entergy should have validated its CUFen analyses by performing an error analysis to show the admissible range for each variable. NEC Exh. NEC-JH\_03 at 18. He asserted that “data scatter in fatigue studies often exceeds an order of magnitude” and therefore when Entergy reports a “CUFen of 0.74 for the RHR Class 1 piping” without providing an error band, this “imparts little confidence that fatigue failure will not occur.” *Id.* Dr. Hopenfeld also asserted that one cannot assume that an estimate is conservative, unless one can quantify the level of conservatism. Tr. at 864.

The NRC Staff and Entergy witnesses posited that an error analysis is not needed. Dr. Chang stated:

Error analysis is not necessary because conservatism is built into design fatigue curves for carbon steel/stainless steel in the light water environment. As stated in NUREG/CR-6583 and NUREG/CR-5704, these design fatigue curves have been adjusted for uncertainties that are associated with material and loading conditions. Fen values were maximized as practicable consistent with plant conditions. In addition the [Fatigue Monitoring Program] and the Water Chemistry Program will track the transients and chemistry conditions in the analyses to ensure their validity as it relates to transient cycles and Fen values.

Chang Decl. at 10 (corrected page). Mr. Stevens testified to the same effect, saying that it is unnecessary to perform an error analysis “given that bounding input parameters (such as temperature, pressure, and heat transfer coefficients) were selected so as to maximize stresses.” Fitzpatrick/Stevens Decl. Post Tr. 763, at 34. He stated that the alternative, using nominal or mean input values in the calculations and then putting an error band on these results, would only produce lower stress predictions and therefore lower CUFen results. *Id.* Upon questioning, Mr. Stevens acknowledged that not all of the values used in the equations were necessarily bounding (e.g., some of the air curves have a 1% to 5% chance of not being bounding) but stated that the curves and values have been demonstrated to be very conservative in many studies. Tr. at 911-12 (Stevens). He stated, “If I can demonstrate that my number is very, very conservative and I have an error of two orders of magnitude in the lower direction, then I think just my answer being bounding and conservative” is sufficient. Tr. at 913 (Stevens).

(ii) FINDINGS

The Board finds that the lack of an error analysis for each of the variables in the CUFen analyses does not render them inadequate.

*g. Heat Transfer Equations*

(i) EVIDENCE

Heat transfer equations are formulas for predicting the amount of heat that will be transferred between two materials, such as the transfer of heat between flowing water and the metal pipe that contains it. The amount of heat transfer that occurs is a significant factor in calculating thermal stress and metal fatigue and is dependent on factors such as the velocity of the flow. *See* Tr. at 1104-05 (Hopenfeld), 1105-07 (Stevens).

NEC's expert, Dr. Hopenfeld, asserted that Entergy's CUFen Reanalyses and Confirmatory CUFen Analysis are flawed because Entergy selected inappropriate heat transfer equations. NEC Exh. NEC-JH\_03 at 12-15; Tr. at 1096 (Hopenfeld). First, Dr. Hopenfeld stated that Entergy used a heat transfer equation that is applicable to fully developed turbulent flow that would only occur in a long straight pipe. NEC Exh. NEC-JH\_03 at 12-13. If flow is not fully developed, there may be localized variations in its velocity, resulting in different amounts of heat transfer, and thus different amounts of metal fatigue. Hopenfeld Rebuttal Decl. Post Tr. 779, at 13. Instead, according to Dr. Hopenfeld, Entergy's heat transfer equation assumes fully developed flow and thus a constant and uniform heat transfer. NEC Exh. NEC-JH\_03 at 12-13. Dr. Hopenfeld testified that it is unlikely that the flow in the VYNPS feedwater nozzle is fully developed because the upstream pipe has a straight section only 48 inches in length and a diameter of 9.7 inches, and this, according to an excerpt from a textbook,<sup>69</sup> Dr. Hopenfeld says, is not sufficient for fully developed flow. *Id.*; Hopenfeld Rebuttal Decl. Post Tr. 779, at 13; Tr. at 1120-21 (Hopenfeld).

Mr. Stevens asserted that the 48 inches of upstream pipe is more than sufficient for fully developed flow to occur. Fitzpatrick/Stevens Decl. Post Tr. 763, at 29. He rejected Dr. Hopenfeld's interpretation of Figure 8-9 from the Eckert textbook on two grounds. First, Mr. Stevens pointed out that Figure 8-9 applies to situations where a "sharp tube entrance" is upstream of the point of concern, whereas in VYNPS, there is only a pipe elbow upstream of the feedwater nozzle. Tr. at 1124. Second, he noted that Figure 8-9 clearly shows that the higher the velocity of the flow, the shorter the distance needed in order for flow to become fully developed. Tr. at 1125. Mr. Stevens testified that the flow velocity in the section of pipe immediately upstream of the feedwater nozzle at VYNPS is high — well off the Figure 8-9 chart — and thus it is appropriate and conservative to use heat transfer equations based on fully developed flow. Tr. at 1125-26.

Dr. Hopenfeld also stated that the CUFens erroneously assume a uniform heat transfer circumferentially around the various components, such as nozzles. Tr. at

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<sup>69</sup>NEC Exh. NEC-JH\_29, E.R.G. Eckert, *Heat and Mass Transfer* 212, Fig. 8-9 (2d ed. 1959).

1109-11. He stated that since such components are not axisymmetric, the flow velocity may be higher at one part of the nozzle than at another part, making the amount of heat transfer, stress, and metal fatigue different at these different locations. *See* Tr. at 1108-11. Mr. Stevens agreed that higher velocities would produce higher heat transfer, but asserted that since Entergy had used the higher heat transfer value for the entire nozzle, the variation was not a problem and their calculations were conservative.<sup>70</sup> Tr. at 1111-13.

NEC alleged that Entergy misused the heat transfer equations in several other ways. Dr. Hopenfeld stated that the equations must be corrected to account for the ratio of viscosities at the “bulk and wall temperatures during each transient.” NEC Exh. NEC-JH\_03 at 13. He stated that “one must assume that the connecting pipe is at some angle with respect to the nozzle and therefore the axisymmetrical [*sic*] assumption is not valid.” *Id.* at 14. He is concerned that the heat transfer equations might not adequately represent the situation where flow changes from forced convection to natural convection. *Id.* Dr. Hopenfeld also stated that one of the heat transfer equations is only applicable to laminar flow and defines an average heat transfer coefficient, rather than using the more appropriate local heat transfer coefficient. *Id.* at 15. Mr. Stevens, in his testimony, responded at some length to each of these assertions, demonstrating how his calculations addressed each of NEC’s concerns. *See* Fitzpatrick/Stevens Decl. Post Tr. 763, at 29-31.

(ii) FINDINGS

The Board finds that, with the exception of the Green’s function issues discussed in Section III.C.3.h, below, Entergy has shown that it has appropriately applied heat transfer equations in its calculation of the effects of the VYNPS environment on the metal fatigue CUFens. Dr. Hopenfeld’s concern that it was inappropriate to assume that the flow at the feedwater nozzles is fully developed has not been substantiated and instead has been fairly rebutted by the evidence presented by Mr. Stevens and Mr. Fitzpatrick. Nor is there fair indication that Dr. Hopenfeld’s other concerns are warranted.

*h. Simplified Green’s Function Methodology*

(i) EVIDENCE<sup>71</sup>

When Entergy performed its CUFen Reanalyses, NEC challenged them as

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<sup>70</sup>The heat transfer equation issues related to the use of simplified Green’s function methodology are discussed in Section III.C.3.h.

<sup>71</sup>The issue of the Green’s function also arose, albeit in a substantially different procedural posture, in the Commission’s recent decision in *Oyster Creek*. In the instant case, the Green’s function issue

(Continued)

inadequate (Contention 2A), in part because Entergy used the simplified Green's function methodology.<sup>72</sup> Subsequently, the NRC Staff raised questions about the same issue. The FSER provides some of the details concerning the interchange between the Staff and Entergy relating to the Green's function. *See* FSER at 4-38 to 4-43. As a consequence, Entergy performed the Confirmatory CUFen Analysis on the feedwater (FW) nozzle, eliminating the use of the simplified Green's function methodology with regard to this one component. NEC then filed Contention 2B asserting that the Confirmatory CUFen Analysis did not resolve the problem.

Much of the evidence concerning the simplified use of the Green's function is not in dispute. Entergy's CUFen Reanalyses used a simplified approach, by incorporating a single stress term, in applying the Green's function to calculate the CUF for the VYNPS core spray, reactor recirculation, and feedwater nozzles.<sup>73</sup> *See* Fitzpatrick/Stevens Decl. Post Tr. 763, at 19 (Stevens).

The NRC Staff concluded that the Green's function was not acceptable:

The applicant's implementation of the Green's function input to the software assumes that shear stresses are negligible. This implementation is a simplified NB-3200 analysis for regular piping . . . . It is numerically adequate at the safe end when non-axisymmetric loadings are not applicable. This implementation *may not be valid for those locations with geometric discontinuity or non-axisymmetric load cases* (e.g., thermal stratifications), which may cause significant shear stresses. Moreover, it is difficult to determine the threshold for when shear stresses are negligible. Therefore, the applicant's implementation for calculating the stress intensity *cannot be validated*. The staff concluded that the way the software calculates the stress intensity is *inconsistent with the ASME Code*. Therefore, the staff could not conclude the [CUFen Reanalyses] calculation is valid.

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arose long before the evidentiary hearing, via an admitted contention, and has been litigated, and decided, on the merits of the facts, evidence, and law. In contrast, in *Oyster Creek*, the Green's function issue arose long after the close of the evidentiary record, and the issuance of the Board's decision. In *Oyster Creek* the Commission affirmed the Board's ruling that the petitioners failed to meet the burden of showing that the adjudicatory proceeding should be *reopened* under 10 C.F.R. § 2.326(a). *Oyster Creek*, CLI-08-28, 68 NRC at 670-71. *Oyster Creek* does not reach the merits of the issue presented in this case.

<sup>72</sup> The Green's function methodology is an analytical technique used to solve a family of mathematical equations derived to model and predict certain observed physical behavior. *See, e.g.*, P.M. Morse & H. Feshbach, *Methods of Theoretical Physics* (1953). In Entergy's LRA, it was used to calculate the stress intensity from fluid flow in evaluating the cyclic effects of transients on metal fatigue for various reactor components. Consistent with historic industry practice, Entergy simplified this technique to the calculation of a single stress component by assuming shear stresses are negligible. Herein, this approach is called the "simplified Green's function methodology."

<sup>73</sup> The other six of the nine critical locations were not affected by the Green's function problem. Tr. at 928-29 (Stevens).

FSER at 4-38 to 4-39 (emphasis added). Stated another way, “[t]he staff concluded that the way the software calculates the stress intensity through a simplified 1-dimensional (‘1-D’) stress input to Green’s function may not be valid because it simplifies the six stress components discussed in the ASME Code rules into one component of stress.” Chang Decl. at 3. The ASME Code calls for stresses to be analyzed using six stress components, thus addressing differences in stress that may occur due to the different loadings or geometry. The CUFen Reanalyses, however, used a simplified Green’s function methodology by assuming shear stresses are negligible, and thereby reducing the loading to a single stress component. Tr. at 927-29 (Stevens); NEC Exh. NEC-JH\_23 at 2. While this approach may work for a component that has symmetrical loadings around its axis, the NRC Staff did not think it was appropriate for “non-axisymmetric load cases.” FSER at 4-38. Accordingly, the Staff asked Entergy for additional information and investigated the matter further. FSER at 4-38 to 4-40.

As a result, Entergy performed the Confirmatory CUFen Analysis on one component — the FW nozzle — eliminating the simplified one-dimensional input to the Green’s function and instead using the ASME Code, Section III, Subsection NB-3200 methodology to calculate the stress intensities. Entergy acknowledged that the Confirmatory CUFen Analysis “computed six component stress histories for each transient using the ANSYS finite element computer code, whereas the [CUFen Reanalyses] used a Green’s function approach based on a simplified single stress component.” Fitzpatrick/Stevens Decl. Post Tr. 763, at 19-20 (Stevens).

Unfortunately, Entergy’s initial Confirmatory CUFen Analysis on the FW nozzle did more than just eliminate the use of the simplified Green’s function methodology. Entergy also changed the Fen value in the CUFen analysis. *Id.* at 20. By introducing this second variable (the new Fen value), Entergy obscured the impact of eliminating the oversimplified Green’s function. Tr. at 925, 947 (Fair). Thus, in order to produce a true comparison of CUFen results (i.e., CUFens with and without the simplified Green’s function methodology) the NRC Staff required Entergy to rerun the Confirmatory CUFen Analysis *without* changing the Fen value. Tr. at 1139 (Fair).

This true comparison of CUFens showed that the elimination of the simplified Green’s function methodology resulted in a *40% increase* in the predicted metal fatigue on the FW nozzle. FSER at 4-43. Specifically, the CUFen Reanalyses resulted in a CUFen of 0.639, whereas the Confirmatory CUFen Analysis produced the 40% higher CUFen of 0.893. FSER at 4-42; Fitzpatrick/Stevens Decl. Post

Tr. 763, at 21-22. While the new prediction (0.893) is still below the regulatory requirement (1.000), it is significantly closer to the limit.<sup>74</sup>

The NRC Staff stated: “This indicates that the results of the Green’s function application using the specific software *could underestimate the CUF, and therefore cannot be the analysis-of-record.*” FSER at 4-42 to 4-43 (emphasis added). The Staff rejected the CUFen Reanalyses for the FW, CS, and RR nozzles on the ground that these analyses employed a simplified Green’s function methodology, “cannot be validated,” and are “inconsistent with the ASME Code,” *Id.* at 4-38 to 4-39. The necessary consequence, according to the NRC Staff, is that Entergy must recalculate the CUFens for the FW, CS, and RR nozzles, without using the simplified Green’s function methodology. *Id.* at 4-43.

With regard to the FW nozzle, the recalculation has already been done. All parties agree that the Confirmatory CUFen Analysis for the FW nozzle, producing a CUFen value of 0.893, satisfactorily eliminated the simplified Green’s function methodology. FSER at 4-43; Tr. at 934, 936 (Hopenfeld); Fitzpatrick/Stevens Decl. Post 763, at 21-22 (Stevens).

The situation is different for the CS and RR nozzles. Here, the only calculations in evidence are the CUFen Reanalyses, which include the use of the simplified Green’s function methodology. Entergy took the position that the FW nozzle is bounding, and argued that since the Confirmatory CUFen for the FW nozzle is below unity, there is no need to redo the TLAA calculations for the CS and RR nozzles. Fitzpatrick/Stevens Decl. Post 763, at 23 (Fitzpatrick). The Staff disagreed, stating that the CUFen Reanalyses cannot serve as the analyses-of-record for the CS and RR outlet nozzles, and that these calculations need to be redone without using the simplified Green’s function methodology:

The staff reviewed [the Confirmatory CUFen Analysis] and found that for this analysis of the FW nozzle, the stress intensities and the CUFs were calculated in accordance with the ASME Code requirements and the CUF met the Code limit. However, it also showed that *the previous analysis was not bounding for the feedwater nozzle* using all the same inputs, including Fen values. Therefore, the staff requested that Entergy define this analysis as the “analysis-of-record” for the FW nozzle. . . . [T]he FW nozzle is Vermont Yankee’s most FAC-susceptible nozzle. Nevertheless, because the CUF value from the analysis-of-record does not bound the CUF value from [the CUFen Reanalyses], the staff *questioned whether the CUF values for CS and RR outlet nozzles . . . which also used the simplified 1-D stress input, are bounding.* Thus, the staff imposed a license condition requiring

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<sup>74</sup>The elimination of the simplified Green’s function methodology caused a 40% increase in the CUF. The CUF value was 0.064 in the CUFen Reanalyses and 0.089 in the Confirmatory CUFen Analysis. Fitzpatrick/Stevens Decl. Post Tr. 763, at 21-22. The Fen value (10.05) was constant; therefore the 40% increase in the CUF resulted in a 40% increase in the CUFen.

Vermont Yankee to perform ASME Code NB-3200 analysis for CS and RR outlet nozzles without using simplified stress inputs.

Chang Decl. at 5. As Mr. Fair testified, “Although the feedwater nozzle analysis is acceptable [the Staff] couldn’t make a judgment that the other two nozzles had the same level of conservatism in them that would come out and give a lower result.” Tr. at 946. Thus, the NRC Staff proposed the following license condition:

The fourth license condition requires that the licensee perform and submit to the NRC for review and approval, a ASME Code analysis for the reactor recirculation outlet nozzle and the core spray nozzle at least two years prior to the period of extended operation. These analyses should be documented in the FSAR as the analysis-of-record for these two nozzles.

FSER at 1-12. Thus proposed license condition 4, which is a reversal of the Staff’s August 20, 2007 position,<sup>75</sup> would allow Entergy to perform the correct CUFen analyses on the CS and RR outlet nozzles *after* the renewed license is issued.

We now turn briefly to evidence concerning *how* the fourth license condition would be implemented, i.e., the mechanics of how the Staff and Entergy contemplate that the confirmatory CUFen analyses must be performed on the CS and RR nozzles. Mr. Stevens testified that performing the confirmatory CUFen analyses on the CS and RR outlet nozzles would take approximately 9 person-weeks of time, per nozzle. Tr. at 920. It is not a straightforward mechanical calculation. “There’s quite a bit involved [including] building a finite element model . . . running 20 [different types of] transients through that finite element model [and] the quality assurance process.” Tr. at 919 (Stevens). Technical and scientific judgments are involved in performing the CUFen analysis. Tr. at 919-20 (Stevens).

Mr. Fair testified that, even though the Staff has proposed a license condition requiring that Entergy perform confirmatory CUFen analyses on the CS and RR outlet nozzles, “we didn’t specify how they are going to do it.” Tr. at 1140. Given the absence of any such instructions, the Board turned to Entergy Commitment 27 as a possible guide as to *how* the confirmatory CUFen analyses must be done on the CS and RR nozzles. Commitment 27 reads, in full, as follows:

At least 2 years prior to entering the period of extended operation, for the locations identified in NUREG/CR-6260 for BWRs of the VY vintage, the VY will *refine*

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<sup>75</sup>NEC Exh. NEC-JH.62, Enclosure 2, NRC Summary of Telephone Conference Call Held August 20, 2007, Between the U.S. Nuclear Regulatory Commission and Entergy Nuclear Operations, Inc., Concerning the Vermont Yankee Nuclear Power Station License Renewal Application (Oct. 25, 2007).

our current fatigue analyses to include the effects of reactor water environment and verify that the cumulative usage factors (CUFs) are less than 1. This includes applying the *appropriate* Fen factors to valid CUFs determined in accordance with *one of the following*:

1. For locations, including NUREG/CR-6260 locations, with existing fatigue analyses *valid* for the period of extended operation, use the existing CUF to determine the environmentally adjusted CUF.
2. More limiting VY-specific locations with a valid CUF *may* be added in addition to the NUREG/CR-6260 locations.
3. *Representative* CUF values from other plants, *adjusted to or enveloping* the VY plant-specific external loads *may* be used *if demonstrated* applicable to VY.
4. An analysis using an NRC-approved version of the ASME code or NRC-approved alternative (e.g., NRC-approved code case) *may* be performed to determine a valid CUF.

During the period of extended operation, VY *may* also use one of the following *options* for fatigue management if ongoing monitoring indicates a potential for a condition outside the analysis bounds noted above:

1. Update and/or refine the affected analyses described above.
2. Implement an inspection program that has been *reviewed and approved* by the NRC (e.g., periodic nondestructive examination of the affected locations at inspection intervals *to be determined* by a method acceptable to NRC).
3. Repair or replace the affected locations before exceeding a CUF of 1.0.

FSER at A-8 to A-10 (emphasis added).

Each of the fourteen underlined words or phrases in Commitment 27 leaves a significant element or issue to the discretion, option, or technical judgment of Entergy and the NRC Staff. For example, as Mr. Fair agreed, Entergy gets to decide (1) whether a Fen is “appropriate” to use, (2) whether a more limiting VY-specific location may be added, (3) whether the CUF values from other plants are “representative” and may be used, and (3) whether to perform an alternative NRC-approved approach. Tr. at 1154-56. He agreed that, subject to NRC objection, Entergy gets to decide these issues. Tr. at 1157. He also acknowledged that, while the Entergy-NRC process would be in public, the public would have no right to participate in, or challenge, these discretionary judgment decisions. Tr. at 1157.

(ii) FINDINGS

With regard to the Green’s function issue raised by NEC, the Board generally agrees with the NRC Staff, and makes the following findings:



1. The Board finds that because the CUFen Reanalyses for the feedwater, core spray, and reactor recirculation outlet nozzles used a simplified Green's function methodology, they are inconsistent with the ASME Code, cannot be validated, could underestimate the nature and extent of metal fatigue at the VYNPS (i.e., underestimate the CUF and CUFen analyses), cannot be the analysis-of-record, and do not satisfy the requirements of 10 C.F.R. §§ 54.21(c)(1) or 54.29(a).

2. The Board finds that the Confirmatory CUFen Analysis for the feedwater nozzle, which produced the result of 0.893, is satisfactory and complies with the regulatory requirements.

3. The Board finds that Entergy has failed to show that the Confirmatory CUFen Analysis for the feedwater nozzle proves that the metal fatigue on the core spray and reactor recirculation outlet nozzles during the period of extended operation (i.e., the CUFens) will necessarily be below the regulatory requirement of unity, i.e., that it is bounding.

4. The Board finds that Entergy must perform the metal fatigue analyses on the core spray and reactor recirculation nozzles (i.e., the CUFens) in compliance with the ASME Code requirements and without using the simplified Green's function methodology in order to satisfy the ASME Code requirements and 10 C.F.R. §§ 54.21(c)(1) and 54.29(a).

5. The Board finds that performance of the confirmatory CUFens on the core spray and reactor recirculation nozzles as specified in the preceding sentence involves a considerable amount of technical and scientific judgment and is not a minor or ministerial task.

6. The Board finds that the NRC Staff's proposed license condition 4, whereby Entergy would be required to perform confirmatory CUFen analyses on the core spray and reactor recirculation outlet nozzles, does not specify *how* these complex computations and judgments should be made.

7. The Board finds that Entergy's Commitment 27, which might be used to govern or apply to the Entergy's duty to perform the confirmatory CUFens on the core spray and reactor recirculation nozzles, gives Entergy many options and discretionary decisions (subject to later NRC Staff review) in addition to the technical and scientific judgment specified in finding 5, above.

*i. Dr. Hopenfeld's CUFen Recalculations*

(i) EVIDENCE

As a final factual matter, we turn to the CUFen recalculations that Dr. Hopenfeld performed and submitted for each of the nine locations covered by Entergy's CUFens. NEC Exh. JH\_03 at 19-20. In all but one case, Dr. Hopenfeld's CUFens exceed the regulatory standard of unity, usually by a large margin. For example, Dr. Hopenfeld calculated a CUFen of 13.77 for the RR outlet nozzle,

12.75 for the FW nozzle, and 10.37 for the RR inlet nozzle. *Id.* at 20. Dr. Hopenfeld stated that his recalculations were based on the CUF values that Entergy used in its original application (LRA Table 4.3-3) multiplied by the Fen values of NUREG/CR-6909. *Id.* at 19.

Mr. Stevens and Dr. Chang did not agree with Dr. Hopenfeld's recalculations. First, Mr. Stevens pointed out that the CUF values in the original LRA were generic values taken from NUREG/CR-6260 for B.31.1 piping that were not VYNPS specific. Fitzpatrick/Stevens Decl. Post Tr. 763, at 36. He asserted that the use of generic values is no longer justified because Entergy's CUFen Reanalyses and Confirmatory CUFen Analyses provide CUFs based on actual VYNPS data and conditions. *Id.* Dr. Chang agreed. Chang Decl. at 11.

Dr. Chang rejected Dr. Hopenfeld's use of the Fen values from NUREG/CR-6909, stating that he inappropriately used only the worst-case Fen values (17 for carbon steel and 12 for stainless steel) from NUREG/CR-6909 without supporting or establishing that such worst-case environmental loading conditions were actually present at VYNPS. *Id.* at 10. Dr. Hopenfeld offered no reason for selecting the factors of 17 and 12 except that they were provided in the NUREG. Tr. at 1134.

Dr. Chang, Mr. Stevens, and Mr. Fair all pointed out that it was improper to selectively use only the Fen values from NUREG/CR-6909 because those values were designed to be used in the context of NUREG/CR-6909, which also revised the air curves and changed the statistical confidence levels for computing CUFen values.<sup>76</sup>

(ii) FINDINGS

The Board finds that Dr. Hopenfeld's CUFen recalculations are unsound. The recalculations use ASME default values for the CUF calculation, despite the fact that actual values and conditions are known and available. The recalculations inappropriately use an isolated portion of the NUREG/CR-6909 approach, without applying the other necessary components of that NUREG. And the recalculations use the worst-case Fen values from NUREG/CR-6909 without valid justification. As was elicited in testimony during the hearing, Dr. Hopenfeld's recalculations predict that the regulatory requirement (i.e., unity) would have been exceeded within 4.63 years after the VYNPS commenced operations, and it is obvious to the Board that this did not occur. Tr. at 1129-30.

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<sup>76</sup> Chang Decl. at 10-11; Fitzpatrick/Stevens Decl. Post Tr. 763, at 27-28, 36; Fair Decl. Post Tr. 768, at 4-5.

## C. Legal Analysis and Conclusions

### 1. *Timing of Metal Fatigue Aging Analysis*

Having concluded that Entergy's metal fatigue analyses on the core spray and reactor recirculation outlet nozzles do not comply with the ASME Code and do not provide reasonable assurance as required by 10 C.F.R. §§ 54.21(c)(1) and 54.29(a), respectively, the key question is as follows: Is it legally permissible and technically appropriate to issue the license now, and allow Entergy to postpone the necessary metal fatigue analyses until later?

Our answer is — no. As we explain below, awarding Entergy a license now, and allowing it to postpone the performance of the necessary “analysis-of-record” TLAA, is inconsistent with the language, structure, and intent of the Part 54 regulations, is inconsistent with NRC precedent,<sup>77</sup> and would violate the Intervenor's right under section 189(a) of the Atomic Energy Act to have a hearing on an issue material to the licensing decision.<sup>78</sup> To defer determining such a significant safety issue until after the license has already been issued would impermissibly remove it from the opportunity to be reviewed in the hearing process.

As an initial matter, we find that an accurate calculation as to whether components such as the core spray and reactor recirculation outlet nozzles are likely to fail during the PEO is a critical part of the license renewal proceeding. These components are part of the “reactor coolant pressure boundary” and are subject to the “highest quality standards practical.” 10 C.F.R. Part 50, Appendix A, GDC 30. Accordingly, the CUF must be calculated correctly, and in accordance with the ASME Code. This was not done for the CS and RR nozzles. In addition, given the undisputed fact that the LWR environment (e.g., water, high temperature, high pressure, transients, nonsmooth metal surfaces) can cause a substantial acceleration of metal fatigue, the Board concludes that the CUF *must* be adjusted to account for such environmental factors (i.e., the CUF must be adjusted with the Fen) in order to provide reasonable assurance that metal fatigue failure will not occur. An LRA analysis of metal fatigue that ignored the known and substantial effects of the LWR environment (the Fen) would be insufficient, both as a technical matter and as a legal matter under 10 C.F.R. § 54.21(c)(1)(i), (ii) or § 54.29(a).

The language, structure, and intent of Part 54 make clear that a license renewal applicant cannot postpone performance of the analysis-of-record (i.e., the predictive TLAA that determines whether an AMP is needed) until after the

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<sup>77</sup> *Consolidated Edison Co. of New York* (Indian Point, Unit 2), CLI-74-23, 7 AEC 947, 950-52 (1974) (“the mechanism of post-hearing resolution must not be employed to obviate the basic findings prerequisite to an operating license”).

<sup>78</sup> *Union of Concerned Scientists v. NRC*, 735 F.2d 1437 (D.C. Cir. 1984).

license is issued. Section 54.21 states that the license renewal application must contain an “evaluation” of TLAAAs. 10 C.F.R. § 54.21(c)(1). The rule “explicitly requires that (1) Applicants perform an evaluation of time-limited aging issues . . . and (2) the adequate resolution of TLAA issues as part of the standards for issuance of a renewed license.” 60 Fed. Reg. at 22,479. The regulation establishes two basic alternatives. The applicant must demonstrate either that aging will not cause the component to fail during the PEO under 10 C.F.R. § 54.21(c)(1)(i) or (ii), or that the effects of aging will be adequately managed during the PEO under 10 C.F.R. § 54.21(c)(1)(iii). The first option — demonstrating that aging will not cause the component to fail — is done via a predictive “time-limited aging analysis.” This becomes the “analysis-of-record” and obviates the need for an AMP. The second option is available if an applicant “cannot or chooses not to” do such a TLAA and requires the applicant to demonstrate that it will adequately manage aging during the PEO, i.e., submit an adequate AMP. 60 Fed. Reg. at 22,480.

In this context, the Board agrees with the NRC Staff’s original position:

It is the NRC position that in order to meet the requirements of 10 C.F.R. § 54.21(c)(1), an applicant for license renewal must demonstrate in the LRA that the evaluation of [TLAAAs] has been completed. The NRC does not accept a commitment to complete the evaluation of TLAA prior to the period of extended operations.<sup>79</sup>

In contrast, the NRC Staff now argues that Entergy’s proposal is entirely legal and permissible. The Staff justifies this reversal of position on the sole ground that Entergy changed the label on its “commitment to complete the evaluation of TLAA,” now calling it an AMP under 10 C.F.R. § 54.21(c)(iii) rather than a delayed TLAA under 10 C.F.R. § 54.21(c)(1)(ii). The Staff stated:

[O]n September 17, 2007 (NRC Staff Exh. 22), Entergy changed its course again. In Amendment 31, Entergy stated that an assessment of the impact of the reactor water environment on critical components will be part of its fatigue monitoring program (“FMP”) . . . and thus the effects of aging will be *adequately managed* in accordance with 10 C.F.R. § 54.21(c)(1)(iii). . . . Therefore, the Staff did not change its interpretation of § 54.21(c)(1). Instead, Entergy temporarily indicated that it would rely on § 54.21(c)(1)(ii), before ultimately relying upon § 54.21(c)(1)(iii).<sup>80</sup>

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<sup>79</sup> NEC Exh. NEC-JH\_62, Enclosure 2, NRC Summary of Telephone Conference Call Held August 20, 2007, Between the U.S. Nuclear Regulatory Commission and Entergy Nuclear Operations, Inc., Concerning the Vermont Yankee Nuclear Power Station License Renewal Application (Oct. 25, 2007).

<sup>80</sup> NRC Staff’s Brief In Response to Board Order (July 9, 2008) at 3-4 (emphasis added) [Staff Response].

This is an example of form over substance. Entergy relabeled its TLAA as an AMP and the Staff now deems it compliant.

The Board rejects the proposition that compliance can be achieved by repackaging and postponing a TLAA analysis-of-record and calling it an AMP. First, such an interpretation would collapse 10 C.F.R. § 54.21(c)(1)(ii) into subsection (iii), subsuming the former into the latter. If an applicant could demonstrate compliance *now* by *promising* to demonstrate compliance *later* (i.e., satisfy the TLAA analysis-of-record requirement by agreeing to perform it later), there would be no reason or incentive for an applicant to perform the TLAA now. Indeed, there would be many reasons (e.g., costs, avoidance of the hearing process) to postpone the TLAA demonstration until later. The new interpretation promoted by Entergy and endorsed by the Staff would render 10 C.F.R. § 54.21(c)(1)(ii) superfluous, thus violating a cardinal rule of statutory and regulatory interpretation.<sup>81</sup>

Second, such an interpretation would violate the structure and intent of 10 C.F.R. § 54.21(c)(1), which requires that the demonstration be in the application, i.e., *prior* to the issuance of the license renewal. As discussed earlier, the applicant must *either* demonstrate that aging will not be a problem (by submitting a TLAA) *or* demonstrate that aging will be properly managed (by submitting an AMP). One or the other must be *demonstrated* before the license can be granted. Entergy is asking for an entirely different thing: license first and demonstration later. This approach avoids the whole point of the license renewal process, which is to demonstrate that aging will not be a problem or that it will be properly managed. Such an approach improperly postpones the key license renewal decision until after the license is issued, and thus does not comply with 10 C.F.R. § 54.21(c)(1)(ii) *or* (iii).

As a third matter, the NRC Staff's new position — that Entergy's commitment to perform the TLAA's later is an AMP — is inconsistent with the entire FSER. The FSER discusses Entergy's metal fatigue CUFs solely as TLAA's.<sup>82</sup> Likewise, the FSER discusses the metal fatigue Fens as part of the TLAA's.<sup>83</sup> The Staff never discussed the metal fatigue CUFs in the AMP section of the FSER.<sup>84</sup> Presumably, if the Staff really believed that Entergy's proposal to perform the CUFs later was an AMP, it would have discussed the matter in the AMP section of the FSER.

Fourth, since 10 C.F.R. § 54.29(a) specifies that a license renewal may not be issued absent a finding that “there is reasonable assurance that the activities authorized . . . will continue to be conducted” safely, the Board concludes that

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<sup>81</sup> See *Kungys v. United States*, 485 U.S. 759, 778 (1988) (It is a “cardinal rule of statutory interpretation that no provision should be construed to be entirely redundant”).

<sup>82</sup> See FSER at 4-22 to 4-43 (“Time-Limited Aging Analyses”).

<sup>83</sup> See *id.* at 4-32 to 4-43 (“Effects of Reactor Water Environment on Fatigue Life”).

<sup>84</sup> See *id.* at 3-1 to 3-507 (“Aging Management Review Results”).

an AMP that consists primarily of a promise to perform a TLAA later (and, if the TLAA comes out greater than unity, to adopt a full AMP later) does not satisfy this regulatory requirement. Postponing the key demonstration does not meet the reasonable assurance test. This result is not changed by the fact that 10 C.F.R. § 54.29(a) speaks in terms of actions that “have been or will be taken.” The future tense phrase “will be taken” is simply a recognition that the AMPs described in the LRA are necessarily implemented during the PEO, i.e., in the future, not an authorization to perform TLAA analyses-of-record in the future.

In this respect, the Board sees a clear distinction between *predictive* TLAAAs that are performed as the “analysis-of-record,” and *tracking* TLAAAs. There is nothing in the regulations to prevent a licensee from recalculating TLAAAs after the license renewal is granted in order to track how the operational CUFs compare to those predicted as TLAAAs. Indeed, it is probably good practice. However, *if* a TLAA is to serve as the “analysis-of-record” that (1) predicts that aging will NOT be a problem during the PEO and (2) establishes that an AMP is not required, *then* the TLAA must be done *prior* to the grant of the license. The predictive analysis-of-record that serves to excuse the licensee from the need to have any further AMP cannot be postponed until after the license is issued.<sup>85</sup> Thus, with regard to the predictive TLAAAs, we agree with the Board in the recent *Indian Point* proceeding when it ruled:

Entergy’s proposal to perform the modified calculations [CUFens] in the future, albeit in accordance with specified guidance, is unacceptable because these calculations are not a component of an AMP, but are the fundamental fatigue analyses for time-limited aging that 10 C.F.R. § 54.21(c) requires to be included in the LRA.<sup>86</sup>

As a fifth consideration, it is our conclusion that the Staff’s interpretation — which would postpone consideration of important and material nuclear safety issues until *after* the license is issued — improperly abridges NEC’s hearing rights under section 189(a) of the Atomic Energy Act.<sup>87</sup> Under the AEA, petitioners have a right to an adjudicatory hearing on any material public safety-related issue.<sup>88</sup> The

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<sup>85</sup> The Board also notes that an applicant is not required to do a predictive TLAA “analysis-of-record” at all. “If an applicant cannot or chooses not to justify or extend an existing [TLAA],” 60 Fed. Reg. at 22,480 (emphasis added), then it can still satisfy the regulation by demonstrating that the effects of aging will be adequately managed for the PEO. 10 C.F.R. § 54.21(c)(1)(iii). But, if an applicant seeks to use a predictive TLAA as the “analysis-of-record” that serves to avoid the need for an AMP, then the analysis must be “of record” before the license is issued, not afterward.

<sup>86</sup> *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-08-13, 68 NRC 43, 138 (2008).

<sup>87</sup> 42 U.S.C. § 2239(a)(1)(A) (“the Commission shall grant a hearing upon the request of any person whose interests may be affected”).

<sup>88</sup> *See Union of Concerned Scientists*, 735 F.2d at 1446.

determination as to whether Entergy has adequately demonstrated that the CS and RR outlet nozzles on the reactor coolant pressure boundary will not fail during the period of extended operation is a significant safety determination that is material to whether the license renewal should be granted under 10 C.F.R. §§ 54.21(c)(1) and 54.29(a). The interpretation espoused by Entergy would abridge NEC's hearing rights because it would defer the metal fatigue TLAA demonstration until after the close of the ASLB proceeding and thus eliminate the ability of the intervenor to challenge the applicant's metal fatigue methodology and implementation.<sup>89</sup>

This litigation has amply demonstrated that the proper performance of accurate metal fatigue analyses on the CS and RR outlet nozzles is not a minor or ministerial action that may be left for the applicant and NRC Staff for post-hearing resolution. Entergy's own witness testified that it would take 9 person weeks, per nozzle, to perform the confirmatory CUFen analyses, stating that it involves technical and scientific judgment, the construction of a complex finite element model, running twenty different kinds of transients through the model, and performing quality assurance. Tr. at 919-21 (Stevens). It is not a mechanical repetition of the Confirmatory CUFen Analysis on the FW nozzle. Even if it were, the fourth license condition proposed by the NRC Staff is utterly silent as to *how* the confirmatory CUFens on the CS and RR outlet nozzles are to be performed. And even if Entergy Commitment 27 governs the method of performance of these confirmatory CUFens, it (1) does not eliminate the above-referenced technical and scientific judgment calls inherent in a CUFen calculation, and (2) allows Entergy to make numerous other post-hearing decisions and discretionary judgments in the calculation of the TLAAs. While "certain minor matters may be left to the staff for post-hearing resolution,"<sup>90</sup> this is plainly not such a situation. The proper performance of the confirmatory CUFens on the CS and RR outlet nozzles, and the validity of the methodologies used, raises complex issues material to the licensing decision that must be subject to the salutary effect of public participation and the opportunity for a hearing.

The demonstration required by 10 C.F.R. § 54.21(c)(1)(i)-(iii) and the reasonable assurance criterion of 10 C.F.R. § 54.29(a) are conditions precedent to the issuance of a license renewal. The performance of satisfactory confirmatory CUFens on the CS and RR outlet nozzles cannot be consigned to some post-hearing interaction between the NRC Staff and Entergy where there is no

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<sup>89</sup> 10 C.F.R. § 2.206 is not a substitute for participation in an adjudication. *Washington Public Power Supply System* (WPPSS Nuclear Project No. 3), ALAB-747, 18 NRC 1167, 1175 (1983).

<sup>90</sup> *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-788, 20 NRC 1102, 1159 (1984).

opportunity for NEC or the public to challenge the sufficiency of the methods and judgments that went into the calculation and/or to request a hearing.<sup>91</sup>

[T]he mechanism of post-hearing resolution must not be employed to obviate the basic findings prerequisite to an operating license — including a reasonable assurance that the facility can be operated without endangering the health and safety of the public. In short, the “post-hearing” approach should be employed sparingly and only in clear cases. In doubtful cases, the matter should be resolved in the adversary framework prior to issuance of licenses, reopening [the record] if necessary.

*Indian Point, CLI-74-23, 7 AEC at 951-52.*

As a final matter, we turn to the argument, raised by Entergy and the NRC Staff just prior to the evidentiary hearing, that the metal fatigue *CUFens are not TLAAs* and therefore the license renewal can be issued without them. Entergy pointed to the definition of “TLAA” as calculations that “are contained . . . in the CLB,” under 10 C.F.R. § 54.3, and said that since Fens are not contained in Entergy’s pre-LRA CLB, they cannot be required as a prerequisite to license renewal.<sup>92</sup> On July 15, 2008, the NRC Staff, despite having consistently characterized the CUFen analyses as TLAAs for years,<sup>93</sup> agreed with Entergy’s new argument, stating that NEC has a “misunderstanding of the definition of TLAA and a mistaken belief that CUFen analyses are TLAAs.” NRC Staff Reply Brief (July 15, 2008) at 4. Astoundingly, the NRC Staff now argues that Fens are not part of the CLB and therefore “[c]ompletion of CUFen analyses after issuance of a renewed license is not contrary to the Commission’s regulations because CUFen analyses are not TLAAs as defined in § 54.3.” *Id.*

We reject this argument on several grounds. First, as a matter of regulatory interpretation, it is clear that the CLB and TLAAs change and evolve. The plant’s

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<sup>91</sup> Longstanding NRC precedent confirms that key safety issues must be resolved in the hearing, not post-hearing by the Staff and applicant. *See Louisiana Power and Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 NRC 1076, 1103 (1983); *accord, Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-298, 2 NRC 730, 736-37 (1975); *Washington Public Power Supply System* (Hanford No. 2 Nuclear Power Plant), ALAB-113, 6 AEC 251, 252 (1973); *Commonwealth Edison Co.* (Byron Nuclear Power Station, Units 1 and 2), LBP-84-2, 19 NRC 36, 210 (1984), *rev’d on other grounds*, ALAB-793, 20 NRC 1591, 1627 (1984); *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-836, 23 NRC 479, 494 (1986); *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-461, 7 NRC 313, 318 (1978).

<sup>92</sup> Entergy’s Answer to Licensing Board Questions (July 9, 2008) at 2-3 [Entergy Response].

<sup>93</sup> The NRC Staff discussed the CUFens in section 4 of the FSER — “Time-Limited Aging Analyses.” As recently as July 8, 2008, the Staff consistently referred to the CUFens as TLAAs. *See* NRC Staff’s Brief in Response to Board Order (July 8, 2008) at 5 (“Issuance of a renewed license with a condition requiring performance of certain TLAA CUFens prior” to the PEO is permissible).



original licensing basis is not a static set of requirements that never changes during its 40- or 60-year operating life. The definition of “CLB” recognizes that it will change over the course of a power plant’s existence.<sup>94</sup> Likewise, license renewals cannot be issued unless there is reasonable assurance that licensed activities will be conducted in accordance with “any *changes made to the plant’s CLB* in order to comply with this paragraph.” 10 C.F.R. § 54.29(a) (emphasis added). “The *CLB represents the evolving set of requirements* and commitments for a specific plant that are modified as necessary over the life of a plant to ensure continuation of an adequate level of safety.” 60 Fed. Reg. at 22,473; *Turkey Point*, CLI-01-17, 54 NRC at 9 (emphasis added). We reject the suggestion that TLAAAs are frozen at some instant prior to the LRA. We conclude that, in the context of a license renewal, the term “time-limited aging analysis” appropriately incorporates *both* the metal fatigue analysis previously embedded in the applicant’s licensing basis (e.g., the CUF), *and* the environmental adjustment factors (Fen) that current science and NRC policy (GSI-190 Memo) have determined are clearly necessary to accurately assess whether the component is likely to fail due to metal fatigue during the PEO. To purport to adequately assess a component’s susceptibility to metal fatigue (and grant a 20-year license renewal) without considering the substantial, known adverse effects of the LWR environment would be folly.

Second, the argument that CUFens are not TLAAAs flies in the face of the NRC Staff’s entire analysis of the CUFens as TLAAAs. The Staff spent thousands of words in the FSER discussing the CUFens as TLAAAs. Even the Applicant acknowledged Contentions 2A and 2B were TLAA challenges. *See* Entergy Initial Statement of Position at 4.

Third, even if we posit that the *Fens* are not part of the TLAAAs, in this case it is the *CUFs* that are defective. Entergy inappropriately used a simplified Green’s function methodology in calculating the CUFs for CS and RR outlets. No one contends that the CUF is not a TLAA. Thus, Entergy’s argument, that the Fen is not part of the TLAA, is irrelevant, because the defective part — the CUF — is indisputably part of the TLAA.

Finally, as stated, the Board concludes that it is essential that the prediction/assessment of the likelihood that the core spray and reactor recirculation outlet nozzles will fail due to metal fatigue during the PEO must include the calculation of both the CUF factor (in air at room temperature), and the environmental adjustment for the Fen factor. The NRC Staff guidance document GSI-190 specifies that the environmental effects of the LWR must be included in the CUF calculations when a license renewal is being considered, and on this point, we agree. We conclude that a promise to perform a CUFen analysis later is

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<sup>94</sup> *See* 10 C.F.R. § 54.3 (CLB includes “all modifications and additions to such commitments over the life of the license”).

not a sufficient demonstration, and it does not provide the reasonable assurance required under 10 C.F.R. § 54.29.

## **2. Summary, Conclusions, and Consequences**

To summarize: the Board finds that Entergy has shown, by a preponderance of the evidence, that its CUFen analyses comply with 10 C.F.R. §§ 54.21(c)(1) and 54.29(a) in all respects, except one. The exception is the CUFen Reanalyses for the core spray nozzle and the reactor recirculation outlet nozzle. The defect in the core spray and reactor recirculation nozzle CUFens is the use of a simplified Green's function methodology that renders them inconsistent with the ASME Code, unable to be validated, and liable to underestimate the nature and extent of metal fatigue at the VYNPS. The current core spray and reactor recirculation nozzles CUFen calculations cannot be the analysis-of-record for these components. In addition, the Board finds that Entergy has failed to show that the Confirmatory CUFen Analysis for the feedwater nozzle necessarily bounds the metal fatigue analyses for the core spray and reactor recirculation nozzles during the period of extended operation.

The Board also concludes that, as a legal and technical matter, the license renewal cannot be authorized or issued until Entergy either (1) properly recalculates the CS and RR outlet nozzle CUFens such that they demonstrate that these important components will not fail during the PEO (i.e., that the calculations produce a value less than unity), or (2) submits an AMP that demonstrates that aging of these components will be adequately managed during the PEO. Such recalculations (or an adequate AMP) cannot be consigned to some post-hearing activity, because they are a condition precedent to the license, involve complex scientific and technical judgments and discretion, and are not merely ministerial. Thus, the NRC Staff's proposed license condition 4 and Entergy's Commitment 27 do not suffice. Such recalculations (or an adequate AMP) are a prerequisite to issuance of the license renewal.

The consequence is that the license renewal may be issued only if the above preconditions are met, i.e., our authorization of any license renewal is contingent on these preconditions. Assuming Entergy still wishes to pursue this license renewal, it must (1) recalculate the CUFen analyses for the CS and RR outlet nozzles, in accordance with the ASME Code, NUREG-6583 and -5704, and all other regulatory guidance, (2) resubmit these results to the NRC Staff and serve them on the other parties herein, and (3) either demonstrate that the TLAAAs are less than unity or submit an adequate AMP for these components. At that point we presume (but do not and cannot order) that the NRC Staff will evaluate Entergy's submissions. Presumably NEC will do the same.

If the CUFen analyses are (1) done in accordance with the above-stated guidance and the basic approach used in the Confirmatory CUFen Analysis

for the FW nozzle, (2) contain no significantly different scientific or technical judgments, and (3) demonstrate values less than unity, then this adjudicatory proceeding terminates. If not, NEC may file a new or amended contention challenging the adequacy of the CUFen calculation,<sup>95</sup> or, if Entergy chooses to proceed under the AMP route, NEC may revitalize dormant Contention 2 (as to the adequacy of Entergy's AMP). In light of these possible eventualities, our ruling today can only be a Partial Initial Decision, and this ASLB proceeding will remain open until 45 days after Entergy performs the confirmatory CUFen analyses on the CS and RR nozzles, the NRC Staff approves them, *and* Entergy serves NEC and Vermont with full written results of such analyses. If no motion involving any such new, amended, or revitalized contention is filed by the 45th day, the adjudicatory proceeding on these matters shall be terminated.

#### IV. CONTENTION 3

##### A. Specific Background

###### 1. Specific Procedural History

NEC Contention 3 is a safety contention that deals with the aging management program for the Vermont Yankee steam dryer. The contention reads as follows:

Entergy's License Renewal Application does not include an adequate plan to monitor and manage aging of the steam dryer during the period of extended operation.

LBP-06-20, 64 NRC at 187.

Contention 3 was submitted with NEC's original petition. NEC Petition at 17. In essence, it asserts that Entergy's AMP for the steam dryer fails to "demonstrate that . . . the effects of aging on the intended function will be adequately managed for the period of extended operation" as required by 10 C.F.R. § 54.21(a)(3). *Id.* In its petition NEC argued that Entergy's AMP for the steam dryer was inadequate to detect crack propagation and growth because it was "not based on actual measurement of crack initiation and growth, but instead rel[ied] on theoretical calculations of computer models — the Computational Fluid Dynamic [CFD] Model and the Acoustic Circuit [ACM] Model." *Id.* NEC asserted that the predictions generated by these models must be confirmed by "hands-on" assessment. *Id.* This is particularly important, NEC urged, because the VYNPS

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<sup>95</sup> NEC may not, however, use any such challenge as an opportunity to rehash or renew any technical challenges that have already been raised and resolved in this proceeding (e.g., dissolved oxygen, outdated equations, etc.), but rather must specifically state how the new analyses are not consistent with the legal requirement and the calculations performed for the feedwater nozzle.

had recently been granted a 20% extended power uprate (EPU) that had increased the stresses on the steam dryer and increased the possibility that parts would break off and cause safety hazards. *Id.* at 18.

Entergy opposed admission of this contention, arguing that NEC had ignored information in the docket that showed that the VYNPS steam dryer AMP included visual inspections and monitoring of certain plant parameters in addition to the computer code predictions contested by NEC. Entergy Answer to NEC at 26-30. Entergy asserted that NEC was obliged to consider that information, which was originally submitted as part of the EPU proceeding before a different Board, and argued that Contention 3 was merely an effort to revive a contention that had been dismissed in the EPU proceeding. *Id.* at 26.

The NRC Staff admitted that Contention 3 was within the scope of a license renewal proceeding to the extent that it challenged the adequacy of the two computer models but argued that it was nevertheless inadmissible because the opinions offered by NEC's expert witness were "conclusory." Staff Answer to NEC at 12.

The Board found Contention 3 to be admissible. LBP-06-20, 64 NRC at 190. The existence of the EPU steam dryer inspection and monitoring program was not dispositive, we ruled, because the EPU program only continued until 2012, whereas the license renewal period would continue until 2032. *Id.* at 189. When Contention 3 was admitted, the Board did not know what steam dryer monitoring and inspection program would be implemented during the period of extended operations, or whether it would demonstrate that the aging of the steam dryer would be adequately managed until 2032.<sup>96</sup> *Id.*

On April 19, 2007, Entergy filed a motion for summary disposition of Contention 3.<sup>97</sup> In support of its motion Entergy stated that the CFD and ACM models, which it had used in connection with the EPU application to develop inputs to estimate the stresses on the steam dryer for comparison with the American Society of Mechanical Engineers (ASME) fatigue endurance limits, would not be used as part of the AMP for the steam dryer during the license renewal period.<sup>98</sup>

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<sup>96</sup> Subsequently, Entergy filed a motion for leave to file a motion for reconsideration of Contention 3. Entergy's Motion for Reconsideration of the Board's Decision to Admit [NEC]'s Contention 3 (Oct. 2, 2006). The Board denied this motion. Memorandum and Order (Denying Entergy Motion for Leave to File Motion for Reconsideration of NEC Contention 3) (Dec. 13, 2006) at 4 (unpublished).

<sup>97</sup> Entergy's Motion for Summary Disposition of [NEC]'s Contention 3 (Steam Dryer) (Apr. 19, 2007) [Entergy MSD of Contention 3].

<sup>98</sup> *Id.* at 6, 11-12. *See also* Declaration of John R. Hoffman in Support of Entergy's Motion for Summary Disposition of NEC Contention 3 (Apr. 18, 2007) at 8. ("The aging management plan for the license renewal period, consisting of the monitoring and inspection activities described above, does not depend on, or use, the CFD and ACM computer codes or the [finite element method] conducted using those codes").

NEC opposed Entergy's motion, claiming that the facts concerning Entergy's use of the ACM and CFD models and the validity of these models were still in genuine dispute, and that an AMP consisting solely of visual inspection and parameter monitoring would not be sufficient to ensure the dryer's structural integrity.<sup>99</sup>

The Board granted Entergy's motion in part and denied it in part. The Board granted the motion for summary disposition "(1) as it relates to the specific use and benchmarking of the CFD and ACM computer models in monitoring potential steam dryer cracking, and (2) as it relates to NEC's inferences that the steam dryer is not continuously monitored as part of the aging management program for the license renewal period."<sup>100</sup> Our decision was based on Entergy's unequivocal representations that the CFD and ACM models would not be used or relied upon in the AMP and that the steam dryer would be continuously monitored during the period of extended operations. *Id.* at 10-11. The Board denied the motion as to the remainder of Contention 3 in regards to the adequacy of Entergy's AMP for the steam dryer. *Id.* at 12.

## 2. *Specific Legal Standards and Issues*

In contrast to Contentions 2A and 2B, Contention 3 is an AMP contention. Specifically, it alleges that Entergy's application does not include an adequate steam dryer AMP.

As discussed above, 10 C.F.R. §§ 54.21(a)(3), (c)(1)(iii), and 54.29(a) provide the applicable legal standards for the approval of Vermont Yankee's AMP for the steam dryer. The scope of Part 54 is determined by 10 C.F.R. § 54.4, which identifies the plant systems, structures, and components that are within the scope of the regulation. These include safety-related systems, structures, and components, as well as "[a]ll nonsafety-related systems, structures, and components whose failure could prevent" safety-related systems, structures, and components from performing their safety-related functions. 10 C.F.R. § 54.4(a)(2). The steam dryer is not a safety-related structure. Hoffman/Lukens Decl. at 5. However, as noted in the Joint Stipulations and NEC exhibits, its failure could cause loose parts, which may interfere with the operation of safety-related components.<sup>101</sup> Thus, the steam dryer is within the scope of Part 54.

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<sup>99</sup> New England Coalition, Inc.'s (NEC) Opposition to Entergy's Motion for Summary Disposition of NEC's Contention 3 (Steam Dryer) (May 10, 2007) at 3-5 [NEC Answer to Entergy MSD].

<sup>100</sup> Memorandum and Order (Ruling on Motion for Summary Disposition of NEC Contention 3) (Sept. 11, 2007) at 3 (unpublished).

<sup>101</sup> Joint Stipulation at unnumbered page 1; NEC Exh. NEC-JH\_54 at 3; NEC Exh. NEC-JH\_56 at 3.

Pursuant to 10 C.F.R. § 54.21(a)(3), (c)(1)(iii), Entergy must demonstrate that its AMP for the steam dryer is adequate to manage the effects of aging so that the functionality of the safety-related systems, structures, and components will be maintained during the period of extended operation (PEO). In addition, pursuant to 10 C.F.R. § 54.29(a), the Board must find there is “reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the CLB.” Accordingly, Entergy is required to establish an AMP that provides “reasonable assurance” that the Vermont Yankee steam dryer will not fail so as to prevent the functioning of the safety-related systems, structures, and components during the PEO. Entergy must demonstrate that its steam dryer AMP is adequate, and that it satisfies the “reasonable assurance” standard by a preponderance of the evidence. *Zion Station*, ALAB-616, 12 NRC at 421.

### **3. Evidentiary Record**

#### *a. Identification of Witnesses*

During the evidentiary hearing on Contention 3, a total of six witnesses provided fact and/or opinion testimony on behalf of Entergy, the Staff, and NEC. All of the witnesses were found to be qualified to present their testimony on the matters they addressed. As previously stated, written direct testimony was submitted for all of the parties’ witnesses, and written rebuttal testimony was submitted by Dr. Joram Hopenfeld for NEC. All of the witnesses also provided oral testimony in response to questioning by the Licensing Board.

Entergy presented two witnesses in support of its LRA. They were: (1) Mr. John R. Hoffman, P.E., a mechanical and nuclear engineer with over 37 years of experience in the nuclear power industry; and (2) Mr. Larry D. Lukens, a nuclear engineer with a background in applying industry codes to operations at VYNPS. On May 12, 2008, Entergy submitted its joint direct declaration for Mr. Hoffman and Mr. Lukens, which was later submitted as an exhibit. Hoffman/Lukens Decl. The Hoffman/Lukens Decl. was later corrected, admitted into evidence, and incorporated into the transcript as if read.<sup>102</sup> Tr. at 1187.

Mr. Hoffman received a Bachelor of Engineering degree in Mechanical Engineering from the Cooper Union for the Advancement of Science and Art and a Master of Science degree in Nuclear Engineering from the University of Lowell. Entergy Exh. E3-02, Resume of John R. Hoffman, P.E. Mr. Lukens received a Bachelor of Science degree in Nuclear Engineering from the University of Wisconsin. He is also a Licensed Reactor Operator. Entergy Exh. E3-03, Resume of Larry D. Lukens.

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<sup>102</sup>The testimony in this declaration is cited herein as Hoffman/Lukens Decl Post Tr. 1187, at xx (Hoffman or Lukens).

The NRC Staff presented three witnesses to provide testimony on Contention 3. They were: (1) Mr. Kaihwa R. Hsu, a mechanical engineer with over 26 years of experience in the nuclear power industry; (2) Mr. Jonathan G. Rowley, a Project Manager with over 14 years of experience in materials science and engineering and over 3 years of experience in nuclear reactor regulation; and (3) Mr. Thomas G. Scarbrough, a mechanical engineer with over 30 years of technical experience in nuclear engineering. On May 13, 2008, the NRC Staff submitted an affidavit from Messrs. Hsu, Rowley, and Scarbrough, which was later submitted as an exhibit. Hsu/Rowley/Scarbrough Decl. The Hsu/Rowley/Scarbrough Decl. was corrected, admitted into evidence, and incorporated into the transcript as if read.<sup>103</sup> Tr. at 1190.

Mr. Hsu received a Bachelor of Science degree in Civil Engineering from Chung Yuan Christian College and a Master of Science degree in Civil Engineering specializing in Structural Mechanics from the University of South Carolina.<sup>104</sup> Mr. Rowley received a Bachelor of Science degree in Materials Science and Engineering from Virginia Polytechnic Institute and State University and a Master of Science degree in Materials Science and Engineering from the University of Texas at Arlington.<sup>105</sup> Mr. Scarbrough received a Bachelor of Arts degree in Physics from Rollins College, a Bachelor of Nuclear Engineering degree from Georgia Institute of Technology, and a Master of Science degree in Mechanical Engineering from the University of Maryland.<sup>106</sup>

NEC presented a single witness, Dr. Joram Hopenfeld, in support of NEC Contention 3. The prefiled declarations of Dr. Hopenfeld that were submitted by NEC in association with Contentions 2A and 2B and that are discussed and referenced in Section III.A.3.a, above, also include his direct and rebuttal written testimony on Contention 3. Likewise, Dr. Hopenfeld's credentials were discussed in that section.

*b. Identification of Exhibits*

Entergy submitted sixteen exhibits relevant to Contention 3, numbered E3-01 to E3-16. These included, *inter alia*, the Joint Declaration of Entergy's experts and their resumes; documents regarding modifications to the steam dryer monitoring and inspection programs, and various procedures for monitoring of plant parameters and moisture carryover; GE SIL-644 and other documents concerning the steam dryer inspection program; the qualification requirements

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<sup>103</sup> The testimony in this declaration is cited herein as the Hsu/Rowley/Scarbrough Decl. Post Tr. 1190, at xx (Hsu, Rowley, or Scarbrough).

<sup>104</sup> NRC Staff Exh. 4, Statement of Professional Qualifications of Kaihwa R. Hsu.

<sup>105</sup> NRC Staff Exh. 4, Statement of Professional Qualifications of Jonathan G. Rowley.

<sup>106</sup> NRC Staff Exh. 4, Statement of Professional Qualifications of Thomas G. Scarbrough.

for personnel; and summaries of inspections of the steam dryer and the results of the inspections. These exhibits were admitted into the record. Tr. at 1187-88.

The NRC Staff submitted four exhibits relevant to Contention 3, numbered NRC Staff Exhibits 4, 14, 15, and 19. These include its witnesses' affidavit concerning NEC Contention 3; the VYNPS license amendment from the power uprate; a cover letter on the report on the results of steam dryer monitoring; and relevant sections of NUREG-1800. These exhibits were admitted into the record. Tr. at 1190-91.

NEC submitted eight exhibits in support of Contention 3, numbered NEC Exhibits NEC-JH\_54-61. These include Dr. Hopenfeld's direct testimony and report evaluating Entergy's AMP for the steam dryer; certain sections of the license application; amendments to the application; the NRC Staff's FSER; and other documents referenced in the report. In its rebuttal testimony (NEC Exh. 2), NEC submitted an additional two exhibits, numbered NEC Exhibits NEC-JH\_68-69. These include an evaluation of the steam dryer inspection indications performed by Entergy and an article on monitoring nuclear power plant components for degradation. These exhibits were admitted into the record. Tr. at 778-80.

*c. Relevant Staff Guidance Documents*

1. NUREG-1800, Rev. 1 "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants" (Sept. 2005) (NRC Staff Exh. 19). NUREG-1800 recommends that applicants for license renewal with approved EPU's commit to perform "an operating experience review and its impact on aging management programs for systems, structures, and components before entering the period of extended operation." NUREG-1800 at 3.0-2.

2. NUREG-1801, "Generic Aging Lessons Learned (GALL) Report" (Sept. 2005) (NRC Staff Exh. 7; Entergy Exh. E3-08) (GALL Report). NUREG-1801 calls for a plant-specific aging management program to be developed. NUREG-1801 at IV B1-6.

**B. Findings of Fact**

***1. Joint Stipulations***

Entergy, the NRC Staff, and NEC have submitted the following seven joint stipulations with respect to Contention 3:

- (1) In 2002, steam dryer cracking and damage to components and supports for the main steam and feedwater lines were observed at the Quad Cities Unit 2 nuclear



power plant. Loose parts were shed by the dryer due to metal fatigue failure of the dryer caused by flow-induced vibration.

(2) The Quad Cities 2 experience raised a concern that a loss of physical integrity of the dryer could result in the release and migration of loose dryer sections or parts to other components and could thus have adverse impact on safety-related equipment.

(3) The existence of cracks on the surface of a steam dryer needs to be identified and evaluated before the cracks progress to the point where they could cause a loss of physical integrity of the dryer, resulting in loose parts.

(4) In Section 3.1.2.2.11 of the License Renewal Application, Entergy addresses aging management of the VY steam dryer as follows:

Cracking due to flow-induced vibration in the stainless steel steam dryers is managed by the BWR Vessel Internals Program. The BWR Vessel Internals Program currently incorporates the guidance of GE-SIL-644, Revision 1. VYNPS will evaluate BWRVIP-139 once it is approved by the staff and either include its recommendations in the VYNPS BWR Vessel Internals Program or inform the staff of VYNPS's exception to that document.

(5) GE-SIL-644 recommends that BWR licensees institute a program for the long term monitoring and inspection of their steam dryers. It provides inspection and monitoring guidelines.

(6) The monitoring component of the proposed VY steam dryer management program consists of assessing the status of the steam dryer by the plant's operators and VY's technical staff through the continuous monitoring of certain plant parameters.

(7) With respect to dryer inspections during plant refueling outages, the details of the visual inspection program to be implemented are set forth in the section of GE-SIL-644 devoted to BWR-3 steam dryers, which is Appendix C, pp. 15-16. The dryer inspections are to be performed in accordance with the VY BWRVIP Program Plan, VY-RPT-06-00006 (Exhibits E3-12) and GE-SIL-644, Revision 1.

Joint Stipulation at unnumbered pages 1-2.

## ***2. Factual Findings on Key Contested Matters***

The potential for fatigue cracking of steam dryers in boiling water reactors (BWR) such as VYNPS to cause problems became apparent as a result of an incident at the Quad Cities Unit 2 nuclear power plant mentioned in the Stipulations. Joint Stipulation at unnumbered page 1. Although the steam dryer is not a safety-related component, cracking of a dryer could cause a release of loose parts that could have an adverse impact on safety-related equipment by becoming lodged in places that might impede the function of other reactor components that do perform safety-related functions. *Id.*

The issue before this Board is the allegation by NEC that Entergy's LRA does not include an adequate AMP plan to monitor and manage aging of the steam dryer during the PEO. LBP-06-20, 64 NRC at 187. A more narrow statement of NEC's concern is whether Entergy has proposed a program to manage aging of the VYNPS steam dryer that will provide reasonable assurance that the steam dryer will be maintained in accordance with the CLB during the PEO. NEC Initial Statement at 20. Three specific subissues are presented by NEC in its Statement of Initial Position: (1) the sufficiency of Entergy's assessment program for steam dryer monitoring data; (2) the qualifications of the personnel who will evaluate this information; and (3) whether the AMP should include stress analysis for comparison to fatigue limits as a component of the plan. *Id.*

*a. Overview of Entergy's Steam Dryer AMP*

The purpose of the SDMP is to detect steam dryer failures and to shut down the reactor promptly so as to minimize the challenge to the safety-related components and therefore to reduce risk to public safety. Tr. at 1404 (Hoffman). Dr. Hopenfeld asserted that a public safety hazard would result if parts of the steam dryer broke loose and were transported by flow or gravity to other areas of the reactor. Hopenfeld Decl. Post Tr. 779, at 8.

Under the LRA, Entergy's proposed AMP for the steam dryer is split into two branches, one that would go into effect immediately (i.e., if and when the LRA is granted) and another that will spring into effect later, if certain contingencies occur. Specifically, the LRA references these two branches as follows:

Cracking due to flow-induced vibration in the stainless steel steam dryers is managed by the BWR Vessel Internals Program. The BWR Vessel Internals Program currently incorporates the guidance of GE-SIL-644, Revision 1. VYNPS will evaluate BWRVIP-139 once it is approved by the staff and either include its recommendations in the VYNPS BWR Vessel Internals Program or inform the staff of VYNPS's exception to that document.

LRA § 3.1.2.2.11; Joint Stipulation at unnumbered page 2.

In the first branch of the steam dryer AMP, Entergy will continue to follow its existing BWR Vessel Internals Program (BWRVIP). Mr. Hoffman testified that this BWRVIP stems initially from the modifications that Entergy made to the steam dryer in anticipation of an extended power uprate (EPU) to VYNPS in order "to improve its capability to withstand the higher flow induced vibration loadings that could result from operation of the plant at EPU levels." Hoffman/Lukens Decl. Post Tr. 1187, at 7. He added that these changes, as described in Supplement 8 to Entergy's EPU Application, were performed to improve the structural strength of the steam dryer. *Id.* (citing Entergy Exh. E3-04). Mr. Hoffman stated that,

as a part of the EPU, Entergy implemented its Steam Dryer Monitoring Plan (SDMP), Exhibit E3-05 herein. *Id.* at 7-8. The SDMP, according to Mr. Hoffman, was also described in Supplement 33 of the EPU Application. *Id.* at 7. He stated that the SDMP was approved by the NRC Staff and included as a license condition to the EPU License Amendment. *Id.* Thus, the first branch of Entergy's proposed steam dryer AMP is Entergy's current SDMP, which is referred to in LRA § 3.1.2.2.11 and the Joint Stipulations as the "BWRVIP." As stated in that section of the LRA, the BWRVIP/SDMP incorporates the guidance of General Electric's Services Information Letter (SIL) No. 644 (GE-SIL-644). LRA § 3.1.2.2.11.

The SDMP and GE-SIL-644 consist of two main elements — continuous monitoring and visual inspections. First, the SDMP requires Entergy to monitor, on a continuous basis, certain plant operational parameters (such as main steam line flow, reactor vessel water level, and steam dome pressure) supplemented with periodic measurements of moisture carryover that would be symptomatic of a loss of steam dryer structural integrity.<sup>107</sup> The second component of the SDMP requires Entergy to conduct visual inspections of the steam dryer at specified intervals when VYNPS is undergoing refueling outages (RFOs).<sup>108</sup> Mr. Hoffman testified that under the existing license, which expires in 2012, Entergy is required to conduct visual inspections of the steam dryer during the RFOs in fall 2005, spring 2007, fall 2008, and spring 2010. Hoffman/Lukens Decl. Post Tr. 1187, at 8. As a part of the LRA, Entergy has committed to "continue inspections in accordance with" the SDMP during the PEO. FSER at A-12 (Commitment 37). *See also* Hoffman/Lukens Decl. Post Tr. 1187, at 8.

The second branch of Entergy's proposed steam dryer AMP will come into effect only *if* certain future events occur, and focuses on a nascent EPRI guidance document entitled BWRVIP-139 (which is a revised version of the current BWRVIP and which also incorporates GE-SIL-644). Tr. at 1235-36 (Scarborough). BWRVIP-139, and an even newer iteration BWRVIP-139A, are currently undergoing NRC Staff review for possible NRC approval. Tr. at 1194-95 (Rowley), 1235-37 (Scarborough). Under the LRA, Entergy "will evaluate BWRVIP-139 once it is approved by the staff [and] either include its recommendations in [the steam dryer AMP] or inform the staff of [Entergy's] exception to that document." Joint Stipulation at unnumbered page 2. According to Mr. Scarborough, BWRVIP-139 provides detailed steam dryer information, which includes:

- (1) [D]iscussion of steam dryer configurations for different plants, (2) summary

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<sup>107</sup> Hoffman/Lukens Decl. Post Tr. 1187, at 8; Exh. E3-05 at 3; GE-SIL-644 at 7 and Appendix D (Monitoring Guidelines).

<sup>108</sup> Hoffman/Lukens Decl. Post Tr. 1187, at 8; Exh. E3-05 at 7; GE-SIL-644 at 6-7 and Appendix C (Inspection Guidelines).

of steam dryer operating experience, (3) discussion of susceptibility for fatigue cracking and intergranular stress corrosion cracking, (4) discussion of failure modes and effects of cracking in steam dryer components, (5) discussion of relative stresses in different steam dryer components, (6) inspection recommendations for different steam dryer designs, (7) examples of evaluation approaches for steam dryer cracking, and (8) operational guidance for monitoring moisture carryover.

Hsu/Rowley/Scarborough Decl. Post. Tr. 1190, at 5-6.

According to the LRA and Mr. Lukens, if the NRC Staff approves BWRVIP-139, Entergy will evaluate the document and either accept its recommendations or inform the NRC Staff of any of its exceptions to the document. LRA § 3.1.2.2.11; Tr. at 1221. However, if the NRC Staff does not approve of BWRVIP-139 prior to the PEO, Entergy has committed to continue inspections in accordance with the SDMP, Revision 3. FSER at 3-56, Appendix A, Commitment 37. BWRVIP-139, according to Mr. Lukens, was issued by EPRI and submitted to the NRC Staff in 2005. Tr. at 1216-17. He asserted that the document is proprietary and to his knowledge, is not available to the public. Tr. at 1216. According to Mr. Scarborough, the NRC Staff should make a decision on whether to approve the document some time in fall 2008. Tr. at 1217.

In the following sections we will consider NEC's principal arguments and challenges in support of Contention 3.

*b. Need to Predict or Measure Stress Loads on Dryer*

(i) EVIDENCE

Dr. Hopenfeld states that Entergy's steam dryer AMP must include some means of estimating and predicting stress loads on the steam dryer for comparison to ASME fatigue limits. Hopenfeld Decl. Post Tr. 779, at 8. He asserts that mere "visual inspection and monitoring of plant parameters," i.e., only the collection of data, is insufficient and that it must be complemented by some mechanism for using that data to predict or estimate whether and when the steam dryer will fail. *Id.* at 9. Mr. Hoffman responds to NEC's assertion by declaring that the AMP need not include any predictive mechanism because the parameter monitoring component, supplemented by the periodic visual inspections during refueling outages, is sufficient to diagnose whether significant dryer cracking has occurred before such cracking results in dryer failure. Hoffman/Lukens Decl. Post Tr. 1187, at 9. In this context, dryer failure is defined as a loss of physical integrity of the dryer such that loose dryer sections or parts are released to the reactor steam space and potentially migrate to other components. Hoffman Decl. Post Tr. 1187, at 6.

Dr. Hopenfeld testified further that he believes that it was a mistake to remove

the instrumentation for the determination of the loads on the dryer, referring to strain gauges that, for purposes of the EPU, were placed in the main steam lines to obtain data on pressure fluctuations within the main steam flow. Hopenfeld Steam Dryer Report at 8. The data were used as inputs to calculate pressure loads on the steam dryer and to calculate the resulting stress in steam dryer components. *Id.* at 4. Later, Dr. Hopenfeld stated that the only way to demonstrate that you will not have a dryer failure is to do predictive calculations, or by instrumenting the dryer. Tr. at 1351. Mr. Lukens addressed the practicality of providing strain gauges on the dryer itself. Tr. at 1380-83. He concluded that the welding of strain gauges to the dryer could cause stresses where none existed before, that it would be difficult to get the electrical wires out of the reactor vessel, and that this instrumentation itself could be a source of loose parts. Tr. at 1380-81.

Mr. Hoffman testified that Entergy performed extensive stress analysis prior to the recent EPU, and that the predicted loads on the dryer were shown to be below the endurance limit. Hoffman Decl. Post Tr. 1187, at 33-34. As a result, he stated that the design analysis was not time-limited and thus does not need to be revisited at the license renewal stage, where only time-limited aging analyses need to be evaluated. *Id.* at 34. Further, he stated that the loadings on the dryer derived from plant geometries (pipe lengths, diameters, flows, pipe connections, etc.) that have not changed since the uprate was implemented. *Id.* Therefore, according to Mr. Hoffman, there is no reason for further analytical efforts to provide continued instrumentation to measure loadings. *Id.* at 34.

(ii) FINDINGS

While the adequacy of the stress analyses performed by Entergy prior to the 2006 EPU is not a subject for consideration by this Board, we can infer from the fact that the EPU was granted that these analyses were considered adequate at the time they were performed. Because no further power uprates have been requested for the PEO, we expect reactor geometries and operating conditions to remain unchanged for this period. Since the 2006 EPU analyses yielded predicted loads below the endurance limit, we find that the design analysis is not time-limited and thus does not need to be revisited during the PEO. For these reasons, the stress analyses remain applicable throughout the PEO, and we find it to be unnecessary to repeat them, particularly since the results would not change. Therefore, we reject the assertion by Dr. Hopenfeld that some means must be provided for predicting the stress loads on the steam dryer.

We now turn to Dr. Hopenfeld's allegation that it was a mistake to remove the instrumentation from the main steam lines and his assertion that the dryer itself should be instrumented. We will deal first with the issue of the removal of the instrumentation from the main steam lines. We find that this instrumentation was installed as a temporary measure as part of the EPU to measure pressure

fluctuations during the uprate period that might provide a source for acoustical waves to produce high-frequency pressure loadings on the steam dryer components. These loadings, in turn, could lead to high-cycle fatigue and ultimately to failure of the steam dryer. The Board has no testimony indicating that the measurements obtained from these instruments provide any direct indication of stresses on the steam dryer. Instead, we find that these measurements only serve to provide input data for the computer analyses discussed above. We are persuaded by the testimony of Mr. Hoffman that there have been no changes in plant operating conditions that would cause these measurements to differ from the values that were obtained during the EPU. We do not see a need to repeat this analysis. Because the calculations have been completed, there is no longer any use for the data that would be obtained from the pressure instrumentation. We therefore reject the contention of Dr. Hopenfeld that it was a mistake to remove the instrumentation from the main steam lines and conclude that there is no longer any necessity to continue to monitor acoustical pressure fluctuations in the main steam lines.

We next consider Dr. Hopenfeld's claim that strain gauges should be placed directly on the steam dryer. He asserts that such gauges would be of tremendous use because they would answer the question of where the stresses are compared to the endurance limit. Dr. Hopenfeld has made no suggestion about how such strain gauges might be attached to the dryer and how the signals might be transmitted outside the pressure vessel. Tr. at 1384. However, we are persuaded by Mr. Lukens' testimony that there is no practicable way of providing this instrumentation and that, even if it were possible to do so, it would likely lead to an increased danger of loose parts in the system. Tr. at 1380-81. While we agree with Dr. Hopenfeld that the data from strain gauges attached directly to the dryer might be of significant value, we find that there is no practical method for carrying out these measurements. We therefore reject Dr. Hopenfeld's claim that this instrumentation must be installed at VYNPS.

*c. Parameter Monitoring Component of Steam Dryer AMP*

(i) EVIDENCE

We next turn to the issue of the adequacy of the parameter monitoring component of Entergy's SDMP. This consists of continuous monitoring of certain reactor parameters, supplemented by periodic measurements of the moisture carryover. The visual inspection component of the SDMP is discussed in the next section.

Dr. Hopenfeld testified that fatigue cracking from high-cycle, flow-induced vibrations cannot be monitored and that monitoring moisture carryover is not reliable as an indicator of potential dryer disintegration. Tr. at 1243. In his Steam

Dryer Report, Dr. Hopenfeld quotes GE-SIL-644, Entergy Exh. E3-09, as stating the limitations of parameter monitoring as follows: “monitoring steam moisture content and other reactor parameters does not consistently predict imminent dryer failure nor will it preclude the generation of loose parts.”<sup>109</sup>

Mr. Hoffman, speaking for Entergy, testified that they have a procedure, ON-3178 (Entergy Exh. E3-07), that calls for immediate power reductions and eventual shutdown of the reactor if changes are detected in certain monitored parameters that might indicate steam dryer cracking that could lead to the increased risk of loose dryer parts in the system. Tr. at 1270. According to this procedure, if unexplained changes occur in main steam line flow, reactor vessel water level, or steam dome pressure, the VYNPS operators must take a sample to determine the amount of moisture carryover from the steam dryer. Entergy Exh. E3-07 at 2. The procedure then specifies a sequence of actions, including an engineering evaluation of potential steam dryer damage leading to plant shutdown, depending upon the amount of moisture carryover in the main steam lines. *Id.* at 2-4. Finally, according to Mr. Hoffman, “it is very unlikely that any damage to the dryer would not also result in a decrease in efficiency of the steam dryer (and thus result in an increase in moisture carryover and a change in one or more of the monitored parameters). Hoffman/Lukens Decl. Post Tr. 1187, at 29.

With regard to the ability of the SDMP parameter monitoring program to detect cracking and degradation of the steam dryer before loose parts actually begin falling off of the steam dryer, Mr. Hoffman contended that the monitoring program can detect developing cracks that allow some bypass flow out of the dryer. Tr. at 1296-1300. Mr. Hoffman also made the point that the visual inspection program shows that flaws develop very slowly, so they would not progress to the point of failure in the very short time it would take to shut the plant down. Tr. at 1303. Mr. Hsu also testified that the monitoring program would give early warning before a piece comes off the dryer. Tr. at 1321-22. In responding to subsequent questions, however, Mr. Hoffman declined to give an opinion on how large a crack could be detected by the parameter monitoring program. Tr. at 1336-37.

(ii) FINDINGS

The evidence from the Quad Cities incidents of 2002 and 2003, in which the reactor twice continued in operation for more than a month with loose parts from a fractured steam dryer with no consequences to the public, undermines Dr. Hopenfeld’s assertion of a public safety hazard in these circumstances. Tr. at 1261-62 (Hoffman). That said, continued operation with dryer parts loose in the system carries increased risk and is a situation that should be avoided. The Board has examined the parameter monitoring component of Entergy’s SDMP

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<sup>109</sup> Hopenfeld Steam Dryer Report at 7-8 (quoting Entergy Exh. E3-09 at 6).

and concludes that it provides adequate assurance that Entergy will halt operations of the VYNPS in a timely manner if the steam dryer begins to generate loose pieces. We believe that the parameters that are monitored on a continuing basis will provide reasonable warning should the dryer actually fail. We find that Entergy is aware of the risks of continued operation with a failed steam dryer and that the parameter monitoring component of the steam dryer AMP is an adequate program for detecting this situation and taking immediate steps to shut the plant down in a timely manner.

Regarding the issue of the ability of this program to detect cracking before the dryer fails, the Board is inclined to agree with Dr. Hopenfeld. We are doubtful that the parameter monitoring program, supplemented by occasional moisture carryover measurements, provides a reliable indicator of the presence of cracks in the steam dryer. We are persuaded, however, as discussed above, that this program can detect severe degradation or actual failure of the dryer, providing Entergy with the information necessary to allow for a timely shutdown of the reactor and thereby providing adequate protection to the public from the risks of continued operation with loose dryer parts in the reactor system.

*d. Visual Inspection Component of SDMP*

(i) EVIDENCE

Dr. Hopenfeld, testifying for NEC, stated that Entergy's proposed program of periodic visual inspection, together with the parameter monitoring and uninformed by knowledge of stress loads on the dryer, will not provide reasonable assurance that the structural integrity of the steam dryer will be maintained so that generation of loose parts during normal operation, transients, and accident events is prevented. Hopenfeld Decl. Post Tr. 779, at 9. We considered the issue of predicting the stress loads on the dryer in Section IV.B.3.b and dealt with the parameter monitoring program in Section IV.B.3.c. In this section, we examine the ability of the visual inspection program to detect fatigue cracking and thereby provide assurance that dryer integrity will be maintained. NEC has not provided any specific criticisms of the VYNPS steam dryer visual inspection program, with the single exception that the inspections are limited to exposed, accessible areas of the dryer. Hopenfeld Steam Dryer Report at 3-4.

Mr. Hoffman testified that under Entergy's existing SDMP, it is performing a program of visual inspections of the steam dryer at each of the first three RFOs following the 2006 EPU. Hoffman/Lukens Decl. Post Tr. 1187, at 7-8. He stated that one of these inspections (spring 2007) has already been performed and that another two inspections are scheduled for fall 2008 and spring 2010, with a partial inspection scheduled for fall 2011. *Id.* at 8. Mr. Hoffman added that Entergy has committed to continue performing inspections of the steam dryer during the



PEO and that these inspections will be consistent with the guidance given in GE-SIL-644. Hoffman/Lukens Decl. Post Tr. 1187, at 8.

Mr. Hoffman stated that these visual inspections of the steam dryer consist of two types of nondestructive examinations of accessible internal and external welds and plates in the steam dryer that are potentially susceptible to crack formation. Hoffman/Lukens Decl. Post Tr. 1187, at 16. Mr. Hoffman asserted that one type of inspection, a VT-1 examination, determines the condition of a part, component, or surface, including cracks, wear, corrosion, erosion, or physical damage on the surfaces of the part or component, and is capable of achieving a resolution to discern a 0.044-inch imperfection on the dryer surface. *Id.* He stated that a second type, a VT-3 examination, is intended to determine the general mechanical and structural condition of components, such as the verification of clearances, settings, physical displacements, loose or missing parts, debris, corrosion, wear, erosion, or the loss of integrity at bolted or welded connections. *Id.* at 17. He stated that the VT-3 visual examination is capable of achieving a resolution sufficient to discern a 0.105-inch anomaly. *Id.* He testified that the technicians who perform these nondestructive examinations and who review these examinations are qualified in accordance with the ASME Code. *Id.*

Mr. Lukens, testifying for Entergy, reports that during the first comprehensive examination of the steam dryer in 2004, done in anticipation of the EPU, twenty “indications” were found by visual inspection, two of which were deemed necessary to repair. Hoffman/Lukens Decl. Post Tr. 1187, at 26; Tr. at 1360. He stated that an “indication” is an imperfection or discontinuity that is detected by nondestructive examination, and not all indications are cracks. Hoffman/Lukens Decl. Post Tr. 1187, at 20. Mr. Lukens explained that “indications” in the steam dryer are evaluated to determine whether they represent potential cracks or are just surface imperfections. *Id.* at 21. He informed us that these two indications, that were indeed “cracks” and thus needed repair, were ground out and rewelded. *Id.* at 26; Tr. at 1360. He testified that since the 2004 inspection, Entergy has not identified any steam dryer cracks that are consistent with fatigue,<sup>110</sup> and that this conclusion was supported by the fact that the identified indications have not grown during subsequent operating cycles. Hoffman/Lukens Decl. Post Tr. 1187, at 26. NEC has not challenged the ability of Entergy’s inspection program to detect cracks in sections of the steam dryer that are accessible for inspection. Mr. Lukens assures us that the areas of the dryer that are most susceptible to failure are the outer surfaces that are easily accessible for inspection. Tr. at 1369.

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<sup>110</sup> Mr. Lukens noted that cracks in BWR steam dryers are one of the following three types: fatigue cracks, intergranular stress corrosion cracks (IGSCC), and stress relief cracks. Hoffman/Lukens Decl. Post Tr. 1187, at 21. He testified that cracks in the steam dryer are typically stress relief cracks and self-arrest when the stress is relieved, whereas IGSCC cracks are short and tight and usually grow in subsequent cycles. *Id.*

Mr. Lukens testified that sixty-six indications were found during the steam dryer inspection in the fall 2005 RFO. Hoffman/Lukens Decl. Post Tr. 1187, at 23. He added that the steam dryer visual inspections conducted during the spring 2007 RFO, following approximately 1 year of full-power operation at the EPU level, identified forty-seven of the same sixty-six indications. *Id.* at 24. In addition, the 2007 inspection identified nineteen new indications, again producing a total of sixty-six indications for 2007. *Id.* at 27. He stated that these indications were evaluated by qualified structural engineers experienced in evaluating indications in BWR steam dryers, and each of the indications was accepted to “use as-is,” requiring no modification or repair to be made to the steam dryer. *Id.* He said that no growth was noted in the previously identified indications. *Id.*

We next turn to the evidence concerning the nature and extent of Entergy’s commitment to continue the existing SDMP’s visual inspections during the 20-year PEO. On the one hand, the existing SDMP states that visual inspections “shall continue until the completion of one full operating cycle at EPU [and] if an unacceptable structural flaw is detected” then visual inspections shall “extend another full operating cycle” until the inspection program detects “no new flaws/flaw growth.” Entergy Exh. E3-05 at 8. Stated otherwise, under the SDMP, Entergy can *halt* the visual inspection program after a full operating cycle where no new flaws or flaw growth are detected.

On the other hand, the SDMP also states that the visual inspections “will meet the recommendations of SIL-644.” Entergy Exh. E3-05 at 7. GE-SIL 644 recommends that the operator (1) “repeat the visual inspection of all susceptible locations . . . during each subsequent refueling outage,” (2) “continue the inspections at each refueling outage until at least two full operating cycles,” and (3) after two full operating cycles . . . repeat the visual inspection of all susceptible locations . . . at least once every two refueling outages.” Exh E3-06 at 7.

Meanwhile as part of the LRA process, Entergy has committed to “continue inspections in accordance with the [SDMP].” FSER at A-12 (Commitment 37). But, as shown above, this commitment is ambiguous because under the SDMP, visual inspections *may be discontinued* after an operating cycle with no cracks, whereas under GE-SIL-644, visual inspections must be conducted at every RFO for two operating cycles and thereafter *must continue* at least once every two RFOs.

The Entergy and Staff witnesses testified that the latter interpretation is correct, i.e., that Entergy’s commitment, in its steam dryer AMP, means that it must continue visual inspections during the entire PEO. Tr. at 1210-11 (Lukens); Tr. 1206, 1212 (Rowley).

(ii) FINDINGS

While the parameter monitoring program discussed in IV.B.3.c, above, is

limited in its ability to detect cracks in the steam dryer, the visual inspection component of the SDMP and steam dryer AMP has this capability, but only at RFOs when the steam dryer is accessible for inspection. Visual inspections at VYNPS have identified a large number of indications, and several cracks, so we have reasonable confidence in their ability to identify existing cracks prior to actual failure of the dryer. We will deal with the possibility that a crack can initiate and propagate to failure within the 18- or 36-month period between inspections in the next section. The Board concludes that the visual inspection program is capable of alerting Entergy to the initiation or growth of cracks in the steam dryer that might result in the release of debris or pieces that could interfere with the functioning of the VYNPS safety-related structures, systems, or components.

With regard to the nature and extent of Entergy's commitment to continue to conduct visual inspections during the PEO, we find that the language of the SDMP, Commitment 37, and GE-SIL-644 is equivocal and unclear. On the one hand, the specific language of the SDMP would allow the discontinuation of visual inspections after one full cycle with a clean bill of health. On the other hand, GE-SIL-644 recommends that visual inspections be continued (albeit less frequently) indefinitely. Entergy and the NRC Staff assure us that the latter interpretation is correct. However, in light of the ambiguity, and the fact that the testimony during the July 21-24, 2008 evidentiary hearing is not likely to be readily remembered during the entire PEO, the Board requires that any renewal license include an express condition that visual inspections of the steam dryer will continue during the PEO in accordance with the frequency specified in GE-SIL-644 at page 7. We articulate this condition in the legal conclusions below.

*e. Potential for High-Cycle Fatigue Failure*

(i) EVIDENCE

Dr. Hopenfeld asserted that the 2006 EPU increased steam velocity at VYNPS “and thereby increased the potential for creation of fluctuating pressure loading that could damage the steam dryer.” Hopenfeld Decl. Post Tr. 779, at 9. Mr. Hoffman testified for Entergy that dryer failures are caused by high-cycle fatigue cracking and that failure will either occur shortly after a change is made to reactor operating conditions or not occur at all, presumably because the stresses are below the endurance limit for the dryer. Hoffman/Lukens Decl. Post Tr. 1187, at 33. Because the VYNPS has operated for more than 2 years at an uprated power level, Mr. Hoffman maintained that Entergy can eliminate high-cycle fatigue as a cause for cracking. *Id.* at 28. Dr. Hopenfeld did not agree with this thesis. Tr. at 1316, 1325-26. He believes that failures can occur after 18 months or more following a change in operating conditions. However, he could not provide the Board with a

time period beyond which he believed high-cycle fatigue could be eliminated as a cause for cracking, see e.g., Tr. at 1316, 1326-27, 1385, and was unable to cite any example of a fatigue failure occurring beyond 18 months. Tr. at 1328. Mr. Scarbrough provided the example of the Quad Cities reactors, which first failed about 90 days following a power uprate, and then failed again about a year later. Tr. at 1328.

Dr. Hopenfeld's assertion that power uprates can cause dryer failures is supported by the evidence of the Quad Cities incidents, which led to the issuance of GE-SIL-644 calling for a program of parameter monitoring, visual inspection, and repair for BWR steam dryers. Entergy Exh. E3-06 at 6. Pursuant to the recommendations of this guidance, Entergy inspected the VYNPS steam dryer and made significant improvements to it in preparation for the 2006 power uprate. Hoffman/Lukens Dec. Post Tr. 1187, at 7. Entergy has committed to continue to follow the guidance provided in this document. Entergy Exh. E3-05 at 7.

(ii) FINDINGS

It is not clear from the testimony given by these witnesses whether Entergy's thesis — that fatigue cracking will either occur rapidly following a power uprate or not at all — is correct. Dr. Hopenfeld took a position contrary to that of Entergy, believing that operation for a period of years with no evidence of fatigue cracking of the steam dryer gives no assurance that a crack cannot initiate and propagate to failure within the 18-month interval between inspections, or presumably within the 36-month interval that will be in effect for most of the PEO. However, VYNPS has operated for more than 2 years at uprated power with no indication of high-cycle fatigue-induced cracking of the steam dryer. This fact is consistent with the analyses of the steam dryer done in preparation for the 2006 EPU, and supports the proposition that the dryer is below the endurance limit for fatigue cracking. The analytical evidence, together with the failure to observe any signs of fatigue cracking in the visual inspections that have occurred following the power uprate, give strong support for Entergy's position. We find that if high-cycle fatigue cracking occurs in the VYNPS steam dryer, the cracking, or its precursor "indications," will likely be detected by the periodic visual inspections that are made at RFOs occurring every 18 or 36 months during the PEO.

*f. Loss-of-Coolant Accidents*

(i) EVIDENCE

Dr. Hopenfeld, testifying for NEC, has stated that he believes "that operation of the steam dryer as currently intended by the Applicant is in violation of General Design Criteria (GDC) 1 and Draft GDC-40 and -42 insofar as they require that protection must be provided against the dynamic effects of loss of coolant

accidents [LOCAs].” Hopenfeld Decl. Post Tr. 779, at 9. This issue is clarified by Dr. Hopenfeld’s testimony in which he stated that he believed that a LOCA can cause a failure of the steam dryer. Tr. at 1250. In further testimony, however, he was unable to articulate either why he believed the dryer would fail during a LOCA or how a failure of the steam dryer during the LOCA would exacerbate the consequences of the accident. Tr. at 1251, 1255-56, 1258-59. Mr. Scarbrough, speaking for the NRC Staff, testified that he knew of no requirement to consider a failure of the steam dryer in association with a loss-of-coolant accident. Tr. at 1252. He further testified that he does not know of a scenario by which a loose part from the dryer could interfere with the injection of cooling water flow following a LOCA. Tr. at 1253. Entergy’s witness, Mr. Hoffman, testified that he believed that the monitoring system at VYNPS would detect dryer degradation before any loose parts are generated, and Entergy would be able to respond before a loose part is generated. Tr. at 1296-97.

(ii) FINDINGS

The Board finds that there is insufficient evidence to indicate that the failure of the steam dryer in association with a LOCA is a matter of concern for the PEO. We are persuaded that the likelihood of a LOCA occurring immediately following failure of the steam dryer and before the reactor has been shut down is exceedingly remote. If the events are postulated to occur in the reverse order (i.e., a LOCA causing failure of the steam dryer), we do not find any plausible mechanism for the loose parts that have been shed from the dryer to impede the flow of cooling water into the reactor or to otherwise worsen the progress of such an accident.

*g. Qualifications of Personnel*

(i) EVIDENCE

A further allegation by NEC regarding the existing SDMP is that Entergy has not provided information on the qualifications of the personnel evaluating the monitoring data. NEC Initial Statement at 20. NEC introduced no evidence to support this assertion. Mr. Hoffman testified for Entergy that the personnel involved in determining the significance of SDMP measured parameters are required to be qualified in the application of the operability determination procedure EN-OP-0104 (Entergy Exh. E3-11). Hoffman/Lukens Decl. Post Tr. 1187, at 14. Mr. Hoffman further stated that a prerequisite for procedure qualification is the requirement that the individuals be enrolled in the “Engineering Support Personnel” training program and that their capability to perform independent engineering work be assessed by their supervisor. *Id.* This is part of Entergy’s

training program, which includes an annual assessment of individual training needs by the engineer and his or her supervisor. *Id.*

(ii) FINDINGS

NEC has not supported its allegation by responding to the information provided by Entergy regarding their program for personnel qualification. We note that NEC has not contested the actual qualifications of the personnel but instead has simply criticized Entergy for a failure to provide information. The Board has reviewed the evidence submitted by Entergy and finds (1) that it contains an adequate description of the training program and (2) the personnel involved in the parameter monitoring program appear to be properly qualified to administer this component of the SDMP.

*h. Second Branch of Steam Dryer AMP — BWRVIP-139*

(i) EVIDENCE

As discussed in Section IV.B.3.a, above, Entergy's proposed steam dryer AMP has two branches. The first calls for the continuation of Entergy's existing SDMP into the PEO, whereas the second branch specifies that a new AMP, the BWRVIP-139, will apply if and when certain future contingencies occur. LRA § 3.1.2.2.11; Joint Stipulation at unnumbered page 2. The NRC Staff's decision to approve Entergy's steam dryer AMP is expressly based on both branches and actually emphasizes the contingent BWRVIP-139 branch:

The staff finds that since the applicant committed to implement BWRVIP-139, if approved by the staff prior to the period of extended operation, this aging effect or mechanism will be adequately managed as recommended by the GALL Report. If the staff does not issue an SER approving the use of BWRVIP-139, steam dryer inspections will continue in accordance with the steam dryer monitoring plan, Revision 3. The steam dryer monitoring plan would also assure that this aging effect or mechanism will be adequately managed.

FSER at 3.175.

The evidence indicates that the second branch of Entergy's steam dryer AMP, the BWRVIP-139 branch, is subject to several contingencies. First, it is contingent on whether NRC approves BWRVIP-139. Tr. at 1194 (Rowley), 1215 (Lukens), 1219 (Scarborough). It is uncertain whether this approval must come, as specified in the above-quoted section of the LRA and in Commitment 37, "prior to the [PEO]," or not. Second, it is contingent on an iterative process between EPRI and the NRC Staff, whereby industry is already revising BWRVIP-139 and has submitted a new version — BWRVIP-139A — to the Staff. Tr. at 1236 (Hsu),

1219 (Scarborough). Third, it is contingent on Entergy's decision whether to accept the NRC-approved BWRVIP-139 or to take "exceptions" to it. Tr. at 1219 (Scarborough); FSER at 3-57 and 3-174. Fourth, it is contingent on the NRC Staff approving any Entergy exceptions to BWRVIP-139. Tr. at 1219 (Scarborough); FSER at 3-174 ("Exceptions, if any, will be subject to review and approval by the staff").

A second aspect of the BWRVIP-139 is that it is unknown, unavailable, and not in the evidentiary record. BWRVIP-139 is an industry document that is "proprietary" and not available to the public. Tr. at 1216 (Lukens). Nor have the NEC or the State of Vermont seen it. Tr. at 1216 (Lukens). This Board has not seen it and it is not in evidence herein. Tr. at 1217 (Lukens). While the NRC Staff indicates that the process whereby the foregoing four contingencies may occur are public, this will not afford NEC, Vermont, or the public the opportunity to participate in or challenge the currently unfinished and unknown BWRVIP-139.

(ii) FINDINGS

In grappling with Contention 3, which challenges the adequacy of Entergy's steam dryer AMP, this Board has attempted to discern what the AMP is. However, the second branch of the steam dryer AMP, the BWRVIP-139 branch, is highly contingent, unknown to the Intervenor, and not in evidence. Accordingly, we cannot and do not base our decision upon it. Instead, our findings on Entergy's steam dryer AMP are based entirely on the first branch of the AMP, the commitment to continue the existing SDMP into the PEO.

In the event that the NRC Staff approves BWRVIP-139, Entergy accepts it, and the other specified contingencies occur, then nothing in this decision precludes NEC, Vermont, or any other possible intervenor from challenging this change in the VYNPS license.

**C. Conclusions of Law**

Section 54.21(a)(3) and section 54.21(c)(1)(iii) require Entergy's AMP for the steam dryer to "demonstrate that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB during the period of extended operation." Meanwhile, section 54.29(a) does not permit the NRC to issue a renewed license until Entergy provides reasonable assurance that failure of the steam dryer will not interfere with the continued operation of safety-related components and that the activities that the renewed license authorizes will continue to be conducted in accordance with the CLB. It is the burden of the Applicant to show that the AMP for the VYNPS steam dryer meets these criteria, and it must do so by a preponderance of the evidence.

It is our conclusion that, with the proviso noted below, Entergy has shown,

by a preponderance of the evidence, that the first branch of its steam dryer AMP (using the current SDMP based on GE-SIL-644) meets these legal requirements. We find that, based on the visual inspection component of the AMP, VYNPS will enter the period of extended operation with a steam dryer that has operated for a period of about 6 years at uprated power levels with no indication of fatigue cracking. Although it is not possible to state with certainty that a reactor component such as the steam dryer will never suffer a fatigue failure — regardless of how much analysis and how many inspections are performed — we are convinced the likelihood of steam dryer failure for the VYNPS is acceptably small. Furthermore, we are reassured that should dryer failure occur the continuous parameter monitoring component of the AMP provides an acceptable mechanism for detecting this failure and rapidly shutting down the plant. Therefore, we find that Entergy’s steam dryer AMP is adequate to manage aging during the PEO. For the foregoing reasons, we conclude that Entergy has demonstrated by a preponderance of the evidence that the AMP for the steam dryer does provide reasonable assurance that it will continue to perform its intended function through the renewal period.

Our legal conclusion is subject to the mandatory proviso that the renewed license include the following express condition: “Notwithstanding any other provision, Entergy shall continue to perform and implement the continuous parameter monitoring, moisture content monitoring, and visual inspections specified in the AMP, at the intervals specified in GE-SIL-644 Revision 2. These shall continue for the full term of the PEO unless this provision of the license is duly amended.”

And, as a final matter, the Board notes again that in evaluating the AMP presented by Entergy, our decision is based entirely on the Steam Dryer Monitoring Plan and the visual inspection program for VYNPS and GE-SIL-644, Revision 2, which is incorporated therein. It is not based on BWRVIP-139.

## V. CONTENTION 4

### A. Specific Background

#### 1. *Specific Procedural History*

Contention 4 is a safety contention that deals with flow accelerated corrosion (FAC) in the plant piping. The contention reads as follows:

Entergy’s License Renewal Application does not include an adequate plan to monitor and manage aging of plant piping due to flow-accelerated corrosion during the period of extended operation.

LBP-06-20, 64 NRC at 192.



Contention 4 was submitted in NEC's original Petition. NEC Petition at 18. In essence, it asserts that Entergy's AMP for FAC of plant piping fails to "demonstrate that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB for the period of extended operation" as required by 10 C.F.R. § 54.21(a)(3). NEC took particular exception to Entergy's use of a computer program called "CHECWORKS" to determine the scope and frequency of inspections of pipes and components that are subject to FAC. NEC Petition at 18-19. NEC argued that CHECWORKS could not be used to make accurate predictions because the program needed to be benchmarked to new plant conditions following the extended power uprate (EPU). *Id.* at 19. The petition stated that "Entergy cannot assure the public that the minimum wall thickness of carbon steel piping and valve components will not be reduced by FAC to below . . . code limits during the [PEO]." *Id.*

Entergy opposed admission of this contention, arguing that NEC's concerns about CHECWORKS had no basis, and that CHECWORKS was only one of many factors used in planning future inspections. Entergy Answer to NEC at 32. The NRC Staff also opposed the admission of Contention 4, arguing that CHECWORKS was benchmarked with data from many plants and that Entergy's use of CHECWORKS in a comprehensive FAC management program is entirely appropriate. Staff Answer to NEC at 14.

The Board found Contention 4 to be admissible, saying that "[i]t raises a challenge to Entergy's plans for aging management of plant components subject to FAC, and it supports that challenge adequately." LBP-06-20, 64 NRC at 194. At that time the Board noted that, although FAC was also discussed during the NRC Staff's review of Entergy's EPU application, there was no evidence of binding commitments to continue existing programs into the license renewal period. *Id.* at 195. Even if such a commitment were made, however, the Board noted that NEC's contention raised the issue of "whether a program similar to the current one will be adequate to address the amount of corrosion that may occur during the 20 years of extended operation." *Id.*

On June 5, 2007, Entergy filed a motion for summary disposition of Contention 4.<sup>111</sup> Entergy argued that summary disposition was appropriate because Contention 4 is "limited to [the] assertion that the FAC program . . . is defective because it relies on the use of CHECWORKS and that code needs to be 'benchmarked' against ten to fifteen years of inspection data," *Id.* at 2-3, whereas, Entergy says, the CHECWORKS code did not need such benchmarking. Therefore, Entergy reasoned, "no genuine issue as to any material fact exists" under 10 C.F.R. § 2.710(d)(2). *Id.* at 1.

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<sup>111</sup>Entergy's Motion for Summary Disposition of [NEC]'s Contention 4 (Flow Accelerated Corrosion) (June 5, 2007).

According to Entergy, the CHECWORKS code relied on laboratory data and FAC data from many plants, and therefore it could be used effectively even when plant parameters change significantly following an EPU. *Id.* at 8-9. Furthermore, Entergy said, inspection data from three scheduled refueling outages under EPU conditions are to be used to improve the CHECWORKS database before the license renewal term begins in 2012. *Id.* at 9.

NEC disagreed, stating that the declarations of Entergy's expert witnesses in support of the motion were controverted by NEC's two expert witnesses, who disagreed with Entergy "on substantial and technically credible grounds."<sup>112</sup> For example, NEC stated that its experts did not agree with Entergy's experts with respect to the following two issues:

- (1) Whether data collected under the current VYNPS FAC program during three post-EPU refueling outages scheduled prior to the expiration of the current VYNPS license will be sufficient to benchmark CHECWORKS to VYNPS post-EPU conditions; and
- (2) Whether the current VYNPS FAC program appropriately implements industry guidance, and will constitute an adequate aging management plan with respect to FAC.

*Id.*

The Board denied Entergy's motion, observing that "Entergy has failed to demonstrate the absence of a 'genuine issue of material fact' and that the pleadings instead reveal a 'battle of the experts' of precisely the type that requires denial of the motion for summary disposition and resolution at an evidentiary hearing."<sup>113</sup> The Board ruled that, "[t]he pleadings on their face demonstrate that sharp differences of expert opinion continue to exist in this matter, and we do not see that Entergy has met its burden of demonstrating that no factual disputes exist." Board Ruling on MSD of Contention 4 at 7.

## 2. *Specific Legal Standards and Issues*

Contention 4, similar to Contention 3, is an aging management program (AMP) contention. Specifically, it alleges that Entergy's application does not include an adequate AMP for plant piping subjected to FAC during the PEO. As discussed above, sections 54.21(a)(3), 54.21(c)(1)(iii), and 54.29(a) provide the applicable legal standards for the approval of Vermont Yankee's AMP for plant piping due

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<sup>112</sup>[NEC]'s Opposition to Entergy's Motion for Summary Disposition of NEC's Contention 4 (Flow-Accelerated Corrosion) (July 15, 2007) at 3 [NEC Answer to Entergy MSD of Contention 4].

<sup>113</sup>Memorandum and Order (Ruling on Motion for Summary Disposition of NEC Contention 4) (Aug. 10, 2007) at 6-7 (unpublished) [Board Ruling on MSD of Contention 4].

to FAC. Pursuant to 10 C.F.R. § 54.21(a)(3), (c)(1)(iii), Entergy must establish an AMP that is adequate to provide reasonable assurance that the intended function of the piping subject to FAC will be maintained in accordance with the CLB for the PEO. Entergy must demonstrate that its AMP for piping subject to FAC is adequate, and that it satisfies the “reasonable assurance” standard by a preponderance of the evidence. *Zion Station*, ALAB-616, 12 NRC at 421.

In addition, the Board asked the parties to submit briefs on the following legal issue relevant to Contention 4:

Does a renewal application that contains a short written description of an aging management program that lacks content or details but instead states that it is “comparable to” and “based on” the relevant section of NUREG-1801 or EPRI NSAC-202L, “demonstrate that the effects of aging will be adequately managed” as required by 10 C.F.R. §§ 54.21(a)(3) and 54.21(c)(1)(iii).

Briefing Order at 5. The parties each submitted responses to our question with both Entergy, Entergy Response at 9-12, and the NRC Staff, Staff Response at 10, arguing, in separate filings, that it is appropriate, and NEC asserting that a more detailed description is required. [NEC] Supplemental Prehearing Brief (July 9, 2008) at 9-10. The Board finds that simply saying that an AMP is “based on,” “consistent with,” or “comparable to” a NUREG or other document is not adequate. *See* discussion *infra* Section V.B.2.b(ii). However, in this instance we find that Entergy has provided more information than a simple reference to another document.

### **3. Evidentiary Record**

#### **a. Identification of Witnesses**

During the evidentiary hearing on Contention 4, a total of seven witnesses provided fact and/or opinion testimony on behalf of Entergy, the NRC Staff, and NEC. All of the witnesses were found to be qualified to present their testimony on the matters they addressed, with the exceptions noted below. As previously stated, written direct testimony was submitted for all of the parties’ witnesses and written rebuttal testimony was submitted by Mr. Kaihwa Hsu, Dr. Joram Hopenfeld, Dr. Rudolf Hausler, and Mr. Ulrich Witte. All of the witnesses also provided oral testimony in response to questioning by the Board.

Entergy presented two witnesses in support of its LRA. They were: (1) Dr. Jeffrey S. Horowitz, an independent consultant in the nuclear and mechanical engineering fields, who was the principal creator of the CHECWORKS computer code (and its predecessors CHEC and CHECMATE); and (2) Mr. James C. Fitzpatrick, a civil engineer, who provided support for the Vermont Yankee

license renewal project in the areas of FAC and metal fatigue. On May 13, 2008, Entergy submitted its joint direct declaration of Dr. Horowitz and Mr. Fitzpatrick which was later submitted as an exhibit. Horowitz/Fitzpatrick Decl. The Horowitz/Fitzpatrick Decl. was later corrected, admitted into evidence, and incorporated into the transcript as if read.<sup>114</sup>

Dr. Horowitz received a Bachelor of Science degree in Mechanical Engineering from the New Jersey Institute of Technology and Master of Science and Doctor of Science degrees in Mechanical Engineering from the Massachusetts Institute of Technology. Entergy Exh. E4-02, Resume of Jeffrey S. Horowitz at 2. Dr. Horowitz has over 36 years of professional experience in the field of nuclear energy, including 22 specializing in FAC and nuclear safety analysis. Horowitz/Fitzpatrick Decl. at 1. During this time, one of his main clients has been the Electric Power Research Institute (EPRI), for which he has created the CHECWORKS program. *Id.* at 1-2; Entergy Exh. E4-02 at 2. Mr. Fitzpatrick's qualifications are discussed in Section III.A.3.a, *supra*.

The NRC Staff presented two witnesses in support of its position on Contention 4. They were: (1) Mr. Kaihwa R. Hsu, a senior mechanical engineer formerly of the Division of License Renewal in the NRC's Office of Nuclear Reactor Regulation; and (2) Mr. Jonathan G. Rowley, a materials scientist, who is lead project manager for the safety review of the VYNPS license renewal application. On May 13, 2008, the Staff submitted a joint affidavit from Mr. Hsu and Mr. Rowley which was later submitted as an exhibit. Hsu/Rowley Decl. On June 2, 2008, the NRC Staff submitted the rebuttal testimony of Mr. Hsu which was later submitted as an exhibit. Hsu Rebuttal Decl. The Hsu/Rowley Decl. was later corrected, admitted into evidence, and incorporated into the transcript as if read. The Hsu Rebuttal Decl. was also incorporated into the transcript as if read.<sup>115</sup> The qualifications of the two NRC Staff witnesses are discussed in Section IV.A.3.a, *supra*.

NEC presented three witnesses in support of Contention 4. They were Dr. Joram Hopfenfeld, a mechanical engineer with 45 years of experience, including 18 with the NRC; Dr. Rudolph Hausler, a chemical engineer with over 30 years of experience with an expertise in corrosion prevention; and Mr. Ulrich K. Witte, a specialist in configuration management and regulatory compliance. On April 28, 2008, NEC submitted written direct testimony by Dr. Hopfenfeld in support of its position on Contention 4 which was later submitted as an exhibit. Hopfenfeld Decl. On June 2, 2008, NEC submitted the rebuttal testimony of Dr. Hopfenfeld which was later submitted as an exhibit. Hopfenfeld Rebuttal Decl. This prefiled

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<sup>114</sup>Tr. at 1427. The testimony contained in this declaration is cited herein as Horowitz/Fitzpatrick Decl. Post Tr. 1427, at xx (Horowitz or Fitzpatrick).

<sup>115</sup>Tr. at 1432. The testimony contained in these declarations is cited herein as Hsu/Rowley Decl. Post Tr. 1432, at xx (Hsu or Rowley) and Hsu Rebuttal Decl. Post Tr. 1432, at xx.

testimony was admitted into evidence and incorporated in the transcript as if read.<sup>116</sup> On April 28, 2008, NEC submitted prefiled written direct testimony by Dr. Hausler in support of its position on Contention 4 which was later submitted as an exhibit. Hausler Decl. On June 2, 2008, NEC submitted the rebuttal testimony of Dr. Hausler which was later submitted as an exhibit. Hausler Rebuttal Decl. The Hausler Decl. and the Hausler Rebuttal Decl. were admitted into evidence and incorporated in the transcript as if read.<sup>117</sup> On April 28, 2008, NEC submitted prefiled written direct testimony by Mr. Witte in support of its position on Contention 4 which was later submitted as an exhibit. Witte Decl. On June 6, 2008, NEC submitted the rebuttal testimony of Mr. Witte which was later submitted as an exhibit. Witte Rebuttal Decl. The Witte Decl. and the Witte Rebuttal Decl. were admitted into evidence and incorporated in the transcript as if read.<sup>118</sup>

Dr. Hopenfeld's qualifications are discussed in Section III.A.3.a, *supra*. Dr. Hausler received Bachelor of Science and Master of Science degrees in Chemical Process Technology from the Swiss Federal Institute of Technology in Zurich and a Doctor of Philosophy degree in Chemical Engineering from the same institution. NEC Exh. NEC-RH\_02, Resume of Rudolph H. Hausler at 3. Dr. Hausler has over 30 years of chemical research experience focused on corrosion prevention in the oil production industry. *Id.* at 1. He holds seventeen patents and has had fifty-eight articles published in this area. *Id.* at 4.

Mr. Ulrich K. Witte received a Bachelor of Arts degree in Physics from University of California at Berkeley. NEC Exh. NEC-UW\_02, Resume of Ulrich K. Witte at 9. He has 26 years of professional experience in engineering, configuration management, licensing, and regulatory compliance of commercial nuclear facilities.<sup>119</sup>

*b. Relevant Staff Guidance Documents*

1. NUREG-1800, Rev. 1, "Standard Review Plan for Review of License

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<sup>116</sup>Tr. at 778-79. The testimony contained in these two declarations is cited herein as Hopenfeld Decl. Post Tr. 779, at xx or Hopenfeld Rebuttal Decl. Post Tr. 779, at xx.

<sup>117</sup>Tr. at 1436-37. The testimony contained in these two declarations is cited herein as Hausler Decl. Post Tr. 1437, at xx or Hausler Rebuttal Decl. Post Tr. 1437, at xx.

<sup>118</sup>Tr. at 1439. The testimony contained in these declarations is cited herein as Witte Decl. Post Tr. 1439, at xx and Witte Rebuttal Decl. Post Tr. 1439, at xx.

<sup>119</sup>*Id.* at 1. We note that Mr. Witte's prefiled testimony regarding Contention 4 was challenged in several motions in limine filed before the evidentiary hearing. The Board granted these motions with respect to those sections of Mr. Witte's testimony that addressed the CHECWORKS computer code. However, we denied the motions with respect to those sections of testimony that dealt with factual matters or with configuration management issues. We found that Mr. Witte was qualified to offer testimony in those areas. MIL Order at 7.

Renewal Applications for Nuclear Power Plants” (Sept. 2005) (NRC Staff Exh. 19). This document provides guidance to the NRC Staff reviewers for performing safety reviews of LRAs under 10 C.F.R. Part 54. Particularly relevant to Contention 4 is section 3.0.1 of NUREG-1800 which addresses “Background on the Types of Reviews” in the context of license renewals and discusses the methods that an applicant may use to conduct its aging management reviews, including the option of doing so by satisfying the requirements of NUREG-1800.

2. NUREG-1801, “Generic Aging Lessons Learned (GALL) Report” (Sept. 2005) (NRC Staff Exh. 7; Entergy Exh. E4-05) (GALL Report). NUREG-1801 contains the NRC Staff’s generic evaluation of existing power plant programs and documents the NRC Staff’s judgments as to where existing programs need to be augmented in order to protect the public during the PEO for a license renewal. NUREG-1801 also articulates the Staff’s guidance for FAC. Specifically, section XI.M17 of NUREG-1801 addresses “Flow Accelerated Corrosion” and lays out ten principles that the Staff believes ought to be reflected in a FAC AMP.

In addition to the NRC guidance documents, we note that an industry group, the Nuclear Safety Analysis Center (NSAC) of the Electric Power Research Institute (EPRI), has issued its own guidance: “Recommendations for an Effective Flow Accelerated Corrosion Program” (Aug. 2007) (Entergy Exh. E4-07) (NSAC-202L-R3). This document provides EPRI’s guidelines for nuclear power plants to implement an effective program to detect and mitigate FAC.

## **B. Findings of Fact**

### ***1. Joint Stipulations***

Entergy, the NRC Staff, and NEC have submitted the following two joint stipulations with respect to Contention 4:

(1) The FAC Program that Entergy proposes to implement during the license renewal period includes the following activities: (a) conducting an analysis to determine critical locations; (b) performing baseline inspections to determine the extent of thinning at these locations; and (c) performing follow-up inspections to confirm the predictions, or repairing or replacing components as necessary.

(2) Section B.1.13 of the License Renewal Application for VY indicates that the VY program for addressing flow accelerated corrosion of steel piping and components is comparable to the program described in the NRC guidance document “Generic Aging Lessons Learned (GALL) Report — Tabulation of Results,” NUREG-1801, Vol. 2, Rev. 1 (Sept. 2005), Section XI.M17, Flow Accelerated Corrosion.

Joint Stipulation at unnumbered pages 2-3.

## 2. *Summary of Key Contested Matters*

As discussed in greater detail below, in Contention 4, the intervenor has asserted that Entergy's AMP for flow accelerated corrosion (FAC) fails to demonstrate that the effects of aging will be adequately managed. This contention is based primarily on NEC's allegation that the CHECWORKS model that is part of Entergy's FAC Program will not accurately predict FAC at VYNPS for the PEO because the model's algorithms using data from other plants are inaccurate for the recent increase in power at VYNPS and because the model has not been adequately benchmarked for the change in plant parameters associated with the power uprate. The basic issues before this Board are whether Entergy has demonstrated: (1) that the effects of aging from FAC on the intended functions of the piping and components susceptible to FAC will be adequately managed for the PEO associated with the proposed license renewal as required by 10 C.F.R. § 54.21(c)(1)(iii), and (2) that there is reasonable assurance that the activities authorized by the renewed license will be in accordance with the requirements of the AEA and Part 54, as required by 10 C.F.R. § 54.29.

Prior to addressing the questions presented above, we first establish what is meant by FAC and what processes are included in its definition. As discussed in Part V.B.2.a, we find that the current definition of FAC is restricted to chemical processes that cause pipe thinning, but, as used by NEC, is not limited to chemical corrosion but also includes the process of physical erosion. However, through the plant inspections for FAC and incorporation of these data into the prediction estimates for metal wear, we find that the effects from both chemical and erosion wear are included in Entergy's AMP for FAC. The Board also finds that other causes for metal wear, including droplet impingement and cavitation, are design-related issues that are handled as part of ongoing operations.

To address the first contested issue presented above, we consider whether Entergy has submitted a legally binding AMP for FAC (FAC AMP) in its application, and whether it contains sufficient specificity to meet the demonstration standard required by the regulations. In Part V.B.2.b, we conclude that Entergy's current FAC Program for VYNPS (Existing FAC Program) is part of the CLB that is carried forward into the PEO. This includes all modifications to the UFSAR presented in the LRA to address the license renewal period.

The adequacy of Entergy's FAC AMP in demonstrating that the effects of aging will be managed for the PEO is discussed in Part V.B.2.c. As part of this discussion we explore Entergy's reliance on the CHECWORKS computer model in its assessment of FAC, specifically investigating to what degree Entergy uses the results from CHECWORKS in its AMP. Based on the description of the program in the LRA and the testimony presented at the hearing, the Board finds that: (1) Entergy's Existing FAC Program (which will carry into the PEO as Entergy's FAC AMP) is based on NUREG-1801, which, in turn, references the

specific requirements of the power industry recommendations presented in EPRI's NSAC-202L; (2) aging management actions are directed by the wall thickness measurements made during the plant inspections at each refueling outage; and (3) the computer model CHECWORKS is only used as one of several means to select the critical locations for inspections and has a marginal, if any, role in trending wear rates to assess the safety aspects of the plant, or in implementing corrective actions. We also find that the model has not always been updated with current plant measurements, reducing its effectiveness as guidance for the next round of inspections.

To address the second contested issue, we explored whether the CHECWORKS model will accurately predict pipe and component corrosion with the new power levels implemented at VYNPS in March 2006. In Part V.B.2.d, we find that there is no need to rebenchmark CHECWORKS, since the correlations in the model were derived using plant parameters in the database that bound those present at VYNPS. As a result, there are no indications that CHECWORKS does not provide sufficiently accurate predictions of wear rates to assist in the selection of the inspection points for measuring the actual metal loss in the piping and pipe components susceptible to FAC. However, we also find that the model should be updated in a timely fashion to further enhance the development of future inspection programs.

*a. Definition of Flow Accelerated Corrosion*

(i) EVIDENCE

There are several questions inherent to issues in Contention 4, including: (1) what was covered when NEC alleged that Entergy's FAC AMP was inadequate; (2) whether and to what extent there are other processes which may, and to what extent, cause wall thinning; and (3) to what degree, if any, these processes are also covered by the Existing FAC Program and the FAC AMP proposed by Entergy for the PEO. According to Entergy witnesses, FAC is limited to the chemical dissolving of the protective oxide layer on the interior surface of carbon steel piping and components containing water or water-laden steam. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 2-3 (Horowitz); Tr. at 1470 (Fitzpatrick). They further testified that if left undetected, the thinning of the piping or component may become so severe (usually over a broad area) that it is no longer able to withstand internal pressure, resulting in a sudden rupture rather than a slow leak. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 3 (Horowitz). As stated by Dr. Hopenfeld, NEC witness, FAC is a slow process. Hopenfeld Rebuttal Decl. Post Tr. 779, at 33. Dr. Horowitz, for Entergy, stated that steels containing appreciable amounts of chromium have been found to be resistant to FAC. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 3.



Mr. Fitzpatrick, testifying for Entergy, claimed that FAC does not include erosion (mechanical wearing of metal in areas of high turbulence). Tr. at 1470-71. Dr. Horowitz added that it does not include droplet impingement (wearing away of metal by the force of high-velocity streams of water-drop laden steam which likely results in a finite hole that does not become larger with time) and cavitation (a common hydraulics term referring to the implosion of vapor bubbles — created by a reduction of local pressure — as they are swept into regions of higher pressure). Tr. at 1475-76, 1616-17. According to Dr. Horowitz, erosion is usually associated with local turbulence caused by a disturbance in the pipe and is most often observed with copper and brass components at the entrance to the heat exchangers where turbulence damages the oxide layer of piping components and exposes the bare metal. Tr. at 1477. Droplet impingement and cavitation are localized design issues that are corrected under operational maintenance programs. Tr. at 1473-76.

Dr. Horowitz points out that erosion is not the type of attack that would generally damage piping at VYNPS, since the flow velocities required to mechanically remove the oxide layer from carbon steel pipes are much higher than those that occur with a light water reactor such as VYNPS. Tr. at 1477-78. Where it does occur, Dr. Hausler for NEC testified that erosion tends to be more localized than FAC, focused mostly on the limited area of flow disturbance that is causing the turbulence necessary for erosion. Tr. at 1483-84.

While not contesting the definitions of impingement and cavitation, Dr. Hopfenfeld testified to a more general definition for FAC as a “physical phenomenon in which metal dissolution is accelerated by fluid flow.”<sup>120</sup> Dr. Hopfenfeld stated that he was not an expert on the corrosion process, but that it was difficult for him to separate erosion from corrosion, and there is no acceptable theory for exactly what happens during the erosion process. Tr. at 1479-81. Dr. Hausler testified that erosion “is a dissolution phenomenon that is caused by the local velocity or shear force of the liquid caused by turbulence effects.” Tr. at 1483. While seeming to agree that high velocities are not present at nuclear power stations, he went on to confirm that the shear forces needed to cause erosion are present in localized areas of turbulence. Tr. at 1482-84.

Mr. Fitzpatrick acknowledged that erosion was included with FAC 20 years ago, but, with time, FAC has been narrowed to include only the chemical removal of the oxide layer. Tr. at 1470-71. EPRI, the power industry group that commissioned the development of the CHECWORKS computer model, stated in its guidance document NSAC-202L that FAC is sometimes incorrectly called erosion-corrosion, but notes that erosion is not part of the degradation mechanism

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<sup>120</sup>NEC Exh. NEC-JH\_36, Review of Entergy License Renewal Application for Vermont Yankee Nuclear Power Station: Program for Management of Flow-Accelerated Corrosion at 3 (Apr. 21, 2008) [Hopfenfeld FAC Report].

now considered in their approach to addressing FAC.<sup>121</sup> Dr. Horowitz testified that, in his opinion, FAC is restricted to the chemical corrosion process in order to clarify communication when considering the countermeasures that differ among the various mechanisms that cause metal wear and to have a definition that people can understand and apply. Tr. at 1474. Specifically, he testified that erosion generally results in small pinhole-type leaks, while thinning due to chemical corrosion occurs over a large area and causes widespread damage that can result in a catastrophic failure. Tr. at 1616. Dr. Horowitz pointed out that CHECWORKS only calculates predictions of corrosion associated with the chemical wearing of the steel piping and components and does not consider erosion. Tr. at 1473.

Mr. Hsu, testifying for the NRC Staff, agreed with NEC's broader interpretation of FAC, stating that "[f]low-accelerated corrosion is also known as erosion-corrosion. It is corrosive attack accelerated by high velocity flow, either washing away otherwise protective films or mechanically disturbing the metal itself." Hsu/Rowley Decl. Post Tr. 1432, at 3. Mr. Hsu stated that the Staff considered both the chemical and erosion processes that cause a loss of metal in plant piping and pipe components when it reviewed Entergy's AMP for FAC. Tr. at 1486. Recognizing that CHECWORKS only estimates chemical corrosion, Mr. Hsu noted that the FAC Program is focused toward the chemical removal of the oxide layer and that erosion caused by local turbulence is covered by separate management programs using inspections based on the plant's operational experience. Tr. at 1487.

Entergy's LRA states that the Existing FAC Program at VYNPS applies to "safety-related and non safety-related carbon steel components carrying two-phase liquid or single-phase high-energy fluid [more than] 2% of the plant operating time." Entergy Exh. E4-04 at B-47. Mr. Fitzpatrick testified that FAC Programs apply to the feedwater systems and all the process steam systems but do not apply to the service water system, which has different aging mechanisms from FAC and is under another program. Tr. at 1496. He also stated that Entergy's Existing FAC Program includes, *inter alia*, ultrasonic test (UT) measurements of pipe wall thickness at locations susceptible to chemical erosion as determined by several means, including predictions from CHECWORKS, plant and industry experience, and engineering judgment. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 12.

Mr. Fitzpatrick for Entergy and Mr. Hsu for the NRC Staff each testified that the UT measurements are not able to discriminate between the processes that cause changes in pipe wall thickness with time. Tr. at 1472 (Fitzpatrick), 1510 (Hsu). As such, erosion will inherently be included with chemical corrosion

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<sup>121</sup> Entergy Exh. E4-07/NEC Exh. NEC-JH\_38, Recommendations for an Effective Flow-Accelerated Corrosion Program (NSAC-202L-R3) at 1-1 n.1 (Aug. 2007) [NSAC-202L-R3].

and any other effects when calculating wear rates from the pipeline inspections. Dr. Horowitz noted that, while CHECWORKS algorithms relate to the chemical weathering of the pipe wall, the model has a feedback component, where the plant inspections are used to calculate a line correction factor that is used to adjust the predictive results to reflect these actual measurements. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 16-18; Tr. at 1453.

(ii) FINDINGS

We find that the current definition of “flow accelerated corrosion” is limited to the chemical wearing of carbon steel piping and components containing water or water-laden steam that covers a broad area of piping, which, if left undetected, could result in catastrophic pipe failure. We find that this definition is consistent with the focus of FAC Programs, which include predictive modeling based on algorithms used to estimate these chemical processes. For clarifying communications when considering the countermeasures that differ among the various corrosion mechanisms, erosion — the physical wearing of the metal that generally results in localized leaks — is no longer included with FAC and is managed by its own aging program using inspections based on the plant’s operational experience. We find that Entergy’s Existing FAC Program does not directly track erosion, nor does it address droplet impingement and cavitation — localized design issues that are monitored and corrected under operational maintenance programs.

Having said that, we find there is nothing in Contention 4 that limits its allegations to only the effects of chemical pipe wear. When it reviewed Entergy’s AMP for FAC, the NRC Staff considered both chemical corrosion and erosion as causes for a loss of metal in plant piping and pipe components. While chemical corrosion is the predominant mechanism for the flow-related wear of pipes that is being addressed by Entergy’s FAC Program, we find that erosion can also contribute to the loss of metal in the piping networks addressed by this AMP. However, we also find that the UT measurements track the total effects of all wall thinning mechanisms, and cannot readily discriminate between the various mechanisms causing pipe wear. We find that Entergy does include the effects of erosion in its FAC Program by including these measurements as an integral part of the FAC Program and incorporating actual wall thickness measurements into the CHECWORKS model, we find that Entergy does include the effects of erosion in its FAC Program.

*b. Legal Foundation for Entergy’s AMP for FAC*

(i) EVIDENCE

We admitted Contention 4 because we concluded that the petitioners had

identified sufficient ambiguity in Entergy's AMP related to FAC to meet the requirements for contention admissibility. LBP-06-20, 64 NRC at 193-94. In part, this decision was based on whether Entergy has demonstrated that the effects of aging are managed by merely stating that its program accords with regulatory guidelines contained in NUREG-1801 and, by reference therein, to the industry standards in NSAC-202L-R3, and, if not, what specificity is required to meet this demonstration. Upon review of the testimony, we are also concerned with whether Entergy's FAC AMP is legally binding and enforceable during the PEO. While only section B.1.13 of Appendix B from the LRA was submitted as evidence into the record for this hearing, as part of our review, pursuant to 10 C.F.R. § 2.337(f), we hereby take official notice of LRA § 3.0 and Appendices A and B.<sup>122</sup>

Section 3 of the LRA contains a summary of a detailed assessment, conducted at a component and structure level, to identify those items that require aging management review (AMR). LRA at 3.0-1. FAC has been identified in this section as one of those issues. *Id.* at 3.1-4. The appendices to the LRA contain a description of Entergy's FAC Programs. Appendix A presents new information required by 10 C.F.R. § 54.21(d) relating to the AMP for FAC that supplements the updated final safety analysis report (UFSAR) for VYNPS. The supplement to the UFSAR, presented in section A.2 of Appendix A, contains a summary description of the program and activities for managing the effects of FAC aging for the renewed operating license. Specifically, Entergy's FAC AMP for the PEO is described in section A.2.1.14.

As stated therein, the AMP for FAC at VYNPS applies to all carbon steel components carrying water and water-laden steam more than 2% of the time. *Id.* at A-15. It goes on to state that the program is "based on" EPRI recommendations

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<sup>122</sup>It appears that these important segments of section 3.0 of the LRA were never introduced into evidence herein. This is unfortunate, given that the Board repeatedly adjured the parties that it was their responsibility to present all evidence necessary to support their positions. Tr. at 608-09; Order (Regarding the Record for the Evidentiary Hearing) (Apr 3, 2008) at 2 (unpublished). As the Commission stated: "[T]he responsibility for developing an adequate record for decision is on the parties, not the presiding officer. . . . [T]he parties are responsible for ensuring that there is sufficient evidence on-the-record to meet their respective burdens." Final Rule: "Changes to Adjudicatory Process," 69 Fed. Reg. 2182, 2213 (Jan. 14, 2004). The fact that the application is part of the "hearing file" under 10 C.F.R. § 2.1203(b), and may be subject to mandatory disclosure under 10 C.F.R. § 2.336 does not change this result or automatically make it part of the evidentiary record. Hearing files and mandatory disclosures are usually massive — much larger than the subset of documents introduced into evidence during our adjudicatory proceedings.

Although these segments of the LRA were not introduced into evidence, the Board believes in this context they provide factual information susceptible to judicial and official notice under 10 C.F.R. § 2.337(f) and has therefore done so. However, as required by that regulation, and in accordance with Rule 201(e) of the Federal Rules of Evidence, since the Board's decision rests in part on this official notice, any party wishing to controvert the facts officially noticed may do so by filing a motion for reconsideration or an appeal from this Partial Initial Decision.

for an effective FAC Program that “predicts, detects, and monitors FAC in plant piping and other pressure retaining components,” including an evaluation to determine critical locations for FAC, initial operational inspections to determine the extent of thinning at these locations, and followup inspections to confirm predictions, specifying repair or replacement of components as necessary. *Id.* Appendix A states that this new information will be incorporated into the UFSAR following issuance of the renewed operating license. *Id.* at A-1. As a proposed license condition, the NRC Staff would require Entergy to include this UFSAR supplement, called for in 10 C.F.R. § 54.21(d), in the next UFSAR update, as mandated by 10 C.F.R. § 50.71(e), following issuance of the renewal license. *See* FSER at 1-12.

Appendix B of the LRA discusses the Existing FAC Program being used at VYNPS, lists it as a program credited in Entergy’s integrated plant assessment (IPA) for managing aging effects for FAC, and states that Entergy’s Existing FAC Program is the FAC AMP for VYNPS. LRA at B-1, B-4, B-7, B-12, B-47 to B-48. Mr. Fitzpatrick testified for Entergy that the Existing FAC Program at VYNPS was developed in response to the NRC Staff’s Generic Letter 89-08. Tr. at 1508. He testified that Entergy’s FAC AMP will be identical to the Existing FAC Program and that it conforms to the EPRI guidelines contained in NSAC-202L. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 11. In addition, Tables B-1, B-2, and B-3 state that the FAC AMP for the PEO is the Existing FAC Program and that this program is “consistent with” the recommended program in section XI.M17 of NUREG-1801 for FAC with no exceptions or enhancements. LRA at B-4, B-7, B-12. The operational experience with the FAC Program is described in LRA § B.1.13, which asserts that this program: (1) “has been effective at managing aging effects,” and (2) has “been improved through implementation of lessons learned from operating experience.” LRA at B-48. Based on its IPA, Entergy stated that the FAC Program provides reasonable assurance that the aging effects due to FAC will be adequately managed during the period of extended operation. *Id.*

Entergy conceded that compliance with and incorporation of regulatory guidance by reference could be subject to challenge if raised in a contention, but denies that NEC has raised such a contention here. Entergy Response at 8. The NRC Staff pointed out that the regulations do not indicate the amount of detail that an applicant must provide to meet the demonstration criteria. Staff Response at 10. The Staff posited that it is sufficient for an applicant to state that its AMP is “comparable to” NUREG-1801 in order to demonstrate that the effects of aging will be managed for the PEO. *Id.* at 13. An applicant does not need to provide a detailed explanation or description of an AMP in its application because the Staff verifies consistency of licensees’ AMPs with Staff guidance through its audits.

*Id.* at 14. The Staff audited Entergy's Existing FAC Program and found Entergy's approach to be consistent with the approved regulatory guidance.<sup>123</sup>

As Vermont pointed out, the NRC Staff stated that its review guidance document, NUREG-1800, indicates that it is acceptable for an applicant to reference its AMP to NUREG-1801.<sup>124</sup> Specifically, Vermont noted that section 3.0.1 of NUREG-1800 requires an applicant to ensure that the plant program contains all the elements of the recommendations in NUREG-1801, and that conditions at the plant must be bounded by the conditions for which the NUREG-1801 program was evaluated. Vermont Response Brief at 5.

In its FSER, the NRC Staff specifically reviewed Entergy's claims regarding its Existing FAC Program and found that all the program elements conform to the criteria in the NUREG-1801, AMP XI.M17, and that corrective actions and the 2004 modifications for the power uprate have been effective in managing FAC at the plant. FSER at 3-16 to 3-17. The NRC Staff also stated that Entergy's FAC AMP is defined in the UFSAR supplement (§ A.2.1.14) and determined that it is an adequate summary description of the program as required by 10 C.F.R. § 54.21(d). *Id.* at 3-17. Based on this review, the Staff found that all program elements are consistent with NUREG-1801, and concluded that Entergy had demonstrated that the effects of aging for FAC of carbon steel piping will be adequately managed so that the intended function(s) will be maintained consistent with the CLB for the PEO. *Id.*

Entergy's corporate commitment to address FAC and the details of its corporate program were presented as Entergy Exh. E4-06. Mr. Fitzpatrick testified that Entergy's corporate program was developed in response to the NRC Staff's Generic Letter 89-08 and opined that every plant is required to implement this program. Tr. at 1508. The corporate program provides the requirements for FAC Programs for Entergy's nuclear power plants and standardizes Entergy's approach to mitigating FAC damage. Entergy Exh. E4-06 at 3. It presents a systematic approach for long-term monitoring of affected FAC components and provides criteria and methodology for selecting components for inspections, performing those inspections, evaluating the data, and, if necessary, repairing and replacing the piping. Inspection locations are determined by several methods, including results of the CHECWORKS model, industry/utility/station experience, and engineering judgment. *Id.* Mr. Fitzpatrick asserted that the corporate program provides the requirements that must be implemented for Entergy's fleet of nuclear power plants for establishing and maintaining an effective FAC Program to help mitigate FAC damage. Tr. at 1508. It includes, *inter alia*, the detailed

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<sup>123</sup> Staff Response at 14 (citing Audit and Review Report for Plant Aging Management Programs at B 3.0.1.2).

<sup>124</sup> [Vermont] Response to Entergy and NRC Staff Brief on Pre-Trial Legal Issues (July 15, 2008) at 5 [Vermont Response Brief]; Staff Response at 13 (citing NUREG-1800 at 3.0.1).

responsibilities of the manager, supervisor, FAC engineer, design engineer, and maintenance supervisor. Entergy Exh. E4-06 at 10-14.

(ii) FINDINGS AND CONCLUSIONS

To assist in addressing this issue, the Board investigated whether Entergy affirmatively committed to continue its Existing FAC Program into the PEO as its FAC AMP, whether this commitment is legally binding on the Applicant, and whether there are sufficient details in the program to demonstrate that the effects of aging are adequately managed for the PEO. Through testimony and documentation in Tables B-1 and B-2 of the LRA, we find that Entergy's proposed FAC AMP consists of the Existing FAC Program at VYNPS. As a commitment included in its FSAR, we conclude that as a matter of law Entergy's Existing FAC Program (which already includes changes associated with the power uprate as part of its CLB) carries forward into the PEO.<sup>125</sup> We find that the LRA confirms this conclusion by stating that the Existing FAC Program will be incorporated as an AMP into the UFSAR for the license renewal period. LRA at A-1, A-15, B-4, B-7.

Regarding any changes for the PEO, the NRC Staff's first proposed license condition would require the UFSAR supplement be included in the next UFSAR update as required by 10 C.F.R. § 50.71(e), following the issuance of the renewed license. FSER at 1-12. In summary, we conclude that the presence of Entergy's Existing FAC Program in the CLB and modifications to it presented in the UFSAR supplement in the LRA as documented in Appendix A of the LRA is a legally binding commitment to extend the Existing FAC Program into the PEO.

Having determined that Entergy's FAC AMP is legally binding, we turn to the question of whether it meets NRC Staff and industry guidelines. Entergy's and the NRC Staff's main arguments are that the AMP for VYNPS is consistent with NUREG-1801 and therefore demonstrates the adequate management of aging. While Entergy agrees that incorporation of regulatory guidance by reference is subject to challenge if raised in a contention, we disagree with Entergy's claim that NEC has not raised such a contention here. By challenging the adequacy of the AMP, NEC does challenge the proposition that the mere reference to NUREG-1801 as the sole support for the AMP does not adequately meet the demonstration standard required of 10 C.F.R. § 54.21.

The description of VYNPS's FAC Program presented in section B.1.13 of the LRA simply states that the FAC Program at VYNPS "is comparable to the program described in NUREG-1801, Section XI.M17," with no other details provided therein. While this Board agrees that some special weight should be given to some NRC guidance documents, the same does not apply to EPRI

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<sup>125</sup> This finding is in accordance with the definition of the CLB found in 10 C.F.R. § 54.3(a).

guidance documents. Further, we reject any suggestion that NRC guidance is on par with NRC regulations (which are legally binding). The regulations require that an applicant “demonstrate that . . . the effects of aging . . . will be adequately managed.” 10 C.F.R. § 54.21(c)(1)(iii). The fact that Entergy relies on NUREG-1801 for the details of its AMP is a significant but not the sole factor in our consideration of whether this demonstration has been met. Specifically, section 3.0.1 of NUREG-1800 requires that an applicant ensure that the plant program contains all the elements of the recommendations in NUREG-1801 and that conditions at the plant must be bounded by the conditions for which the NUREG-1801 program was evaluated.

We find that Entergy’s reference to NUREG-1801 is not sufficient by itself to meet 10 C.F.R. § 54.21. Specifically, an AMP which consists solely of the bald statements that it is: (1) “comparable to the program described in NUREG-1801,” (2) “consistent with the program described in NUREG-1801,” and (3) “based on EPRI Report NSAC-202L-R2 recommendations,” LRA at B-47, simply does not satisfy the requirement that an applicant actually “demonstrate” that its AMP will adequately manage aging during the PEO as required by 10 C.F.R. § 54.21(c)(1)(iii) or 54.21(a)(3). An unsupported declaration of compliance is not a demonstration of compliance.

Furthermore, Entergy’s statement that the AMP is “comparable” to NUREG-1801 does not come close to ensuring that Entergy will comply with NUREG-1801. Any AMP program, however adequate or inadequate, could be said to be “comparable” to NUREG-1801. The next statement in Entergy’s FAC AMP — that it is “consistent” with the program described in NUREG-1801 — also is no guarantee or solution. The simple fact is that NUREG-1801 does not contain an AMP, since it merely consists of two pages briefly describing the characteristics of a FAC AMP and specifies ten “evaluation and technical basis” criteria to be used in evaluating a FAC AMP. Entergy Exh. E4-05 at XI.M-61. An enumeration of the criteria to be used in evaluating a program is not itself a program. Even if Entergy were to adopt the ten criteria of NUREG-1801 verbatim as its AMP, this would just be a description of what a plan should contain, and would not constitute an AMP.

The third statement in Entergy’s FAC AMP is that it is “based on EPRI Report NSAC-202L-R2,” an industry monograph entitled “Recommendations for an Effective Flow Accelerated Corrosion Program.” LRA at B-47. NUREG-1801 says that an acceptable FAC AMP “relies on implementation” of EPRI Report NSAC-202L-R2. Entergy Exh. E4-05 at XI.M-61. The EPRI report describes, *inter alia*, the elements of an effective FAC Program, suggests procedures and documentation that will be needed, provides recommendations for FAC tasks, and describes the need for a long-term FAC strategy. Regardless of the technical merits or value of the EPRI recommendations, a FAC AMP that merely states that it is “based on” the EPRI report is not a demonstration of an adequate AMP



because (1) the phrase “based on” leaves huge ambiguity as to what the FAC AMP actually consists of, and (2) the EPRI report is a set of recommendations and is not itself an AMP.

While the use of the term “comparable” in the LRA is an insufficient demonstration, we note that the LRA went on to state that Entergy’s AMP is a “program consistent with NUREG-1801.” While this consistency by itself does not appear to be a guarantee that all aspects of the NUREG-1801 program will be adhered to, it is clear from Table B-3 of Appendix B of the LRA that this phrase is one of three relative terms used to describe the comparison between VYNPS’s program and the corresponding description in NUREG-1801 — the others being “programs with enhancements” and “programs with exceptions to NUREG-1801.” In this context, being consistent with and having no exceptions to NUREG-1801 provides a greater level of assurance of the identity between Entergy’s FAC Program and the program description provided in NUREG-1801.

We turn to other evidence to determine whether or not there are sufficient details in VYNPS’s FAC AMP program to demonstrate that the effects of aging will be adequately managed during the PEO. As a starting point, we find that the term “demonstrate” in 10 C.F.R. § 54.21 is a strong, definitive verb that logically requires an applicant to provide a reasonably thorough description of its AMP to show conclusively how this program will ensure that the effects of aging will be managed for its specific plant. For an applicant to just illustrate how its proposed program will, or promises to, follow the same generic program recommendations provided to all plants does not clear the bar required by the regulations. To claim otherwise would imply that the AMP has already been generically developed for all plants and would render 10 C.F.R. § 54.21 unnecessary.

We recognize that NUREG-1801 was developed by the NRC Staff at the direction of the Commission to provide a basis for evaluating the adequacy of AMPs for license renewals. NUREG-1801 at 1, 4. Surely the need to provide some guidance to an applicant in interpreting how to demonstrate that the effects of aging are being managed is a worthwhile effort that, as the Staff pointed out, has, in part, been achieved through the publication of NRC guidance documents. Staff Response at 10-12. However, the primary benefit of these guidance documents is to reduce the workload, not to be inclusive of all the requirements that must be met by an applicant in regards to aging management for FAC.

As the NRC Staff correctly pointed out, the regulations do not indicate the amount of detail that an applicant must provide in describing its AMP to meet the demonstration criteria. We find that if an applicant submits an AMP that shows how it addresses the recommendations of NUREG-1801, then it will have provided the demonstration required by 10 C.F.R. § 54.21. By providing the goals of an acceptable aging program for FAC in NUREG-1801, the Commission and the Staff have eliminated much of the uncertainty in this subjective requirement.

But we find that an applicant promising to prepare a program in the future

consistent with NUREG-1801 or merely stating that its AMP meets NUREG-1801 without any specificity falls short of the required demonstration, since section XI.M17 of NUREG-1801 consists of less than two pages of narrative evaluating EPRI's guidelines presented in NSAC-202L-R3 with an absence of plant-specific details. While it is reasonable to say that adherence to these recommendations and guidelines in developing a plant-specific program will result in demonstrating that the effects of aging are adequately managed, whether an applicant is successful depends upon whether it has shown that the specific plant details of its AMP have adequately addressed this guidance. But a bald reference to NUREG-1801 fails to show how the recommendations of NUREG-1801 are proposed to be implemented for VYNPS and does not demonstrate that the effects of aging are adequately managed for the plant.<sup>126</sup>

For Entergy's LRA, the details of its proposed FAC AMP are found in its corporate program (Entergy Exh. E4-06) as reflected in its Existing FAC Program that will continue into the PEO, as described in the next section. Based on the information in the LRA and subsequent testimony, this Board finds that Entergy's corporate program (Entergy Exh. E4-06) does implement the recommendations of NUREG-1801, as well as the more detailed guidelines provided in EPRI's NSAC-202L-R3.<sup>127</sup> Comparison of the corporate plan with the recommendations in NUREG-1801, and, in turn, with the program details described in NSAC-202L-R3 indicates that the proposed AMP does conform to the recommendations presented in the Staff guidance and industry document. While plant-specific details are not available to this Board, the details provided by Entergy's corporate program and the specific requirements described in NSAC-202L-R3, provide sufficient demonstration to this Board that the effects of aging will be adequately managed for the period of extended operation at VYNPS. We find that there is sufficient specificity to show that the industry guidelines required by NUREG-1801 have been implemented at VYNPS.

*c. Adequacy of FAC AMP in Demonstrating Aging Management*

To address the adequacy of Entergy's FAC AMP, we reviewed the Applicant's description of its Existing FAC Program, explored the details of its inspection

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<sup>126</sup>The fact that the Commission has stated that the use of an AMP identified in NUREG-1801 constitutes reasonable assurance, *see AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-08-23, 68 NRC 461, 468 (2008), does not mean that an AMP that consists solely of a bald statement that it is "comparable to," "based on," or "consistent with" NUREG-1801 provides such reasonable assurance or "demonstrates" that aging will be adequately managed.

<sup>127</sup>Furthermore, it is clear from Table B-3 and the description of the program in section B.1.13 of the LRA that the FAC Program meets the requirements of NUREG-1801 with no exceptions or enhancements.

plan, evaluated the role of CHECWORKS in its AMP, and investigated the timeliness of Entergy's updates to CHECWORKS with plant-specific data. Each of these topics is discussed below.

(i) EVIDENCE

(1) *FAC Program Description*

To resolve portions of Contention 4, we inquired into the details of VYNPS's Existing FAC Program. As previously established, Entergy's Existing FAC Program will be carried into the license renewal period as its FAC AMP. As such, testimony relating to the existing program, by extension, also relates to Entergy's proposed FAC AMP. Unless specifically designated otherwise, reference hereafter to Entergy's FAC Program relates to both the existing program and the proposed AMP for FAC.

As previously mentioned, the Existing FAC Program was developed in response to the NRC Staff's Generic Letter 89-08 to monitor metal wear in carbon steel piping and pipe components containing single phase (i.e., water) and two-phase (i.e., water-laden steam) high-energy fluid more than 2% of the time. Tr. at 1508. For Entergy, Mr. Fitzpatrick testified that the VYNPS FAC Program primarily applies to single-phase piping, since most of the two-phase piping has been converted to FAC-resistant material. Tr. at 1675. Dr. Horowitz testified for Entergy that "[a]s defined, FAC only attacks carbon steel components in the presence of purified flowing water or wet steam. It does not attack steels containing other fluids, such as oil . . . [or] steels containing appreciable amounts of chromium." Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 3. Mr. Fitzpatrick testified that CHECWORKS was also applied to low-alloy steel (i.e., metal with less than 1.25% chromium content, Entergy Exh. E4-07 at 4-3), and that subsequent inspections did not detect any wear at these locations. Tr. at 1537-38.

In terms of the details of the FAC AMP, it is noted that all parties stipulated that, during the PEO, Entergy proposes to implement the following activities: (1) conducting an analysis to determine critical locations; (2) performing baseline inspections to determine the extent of thinning at these locations; and (3) performing followup inspections to confirm the predictions, or repairing or replacing components as necessary.<sup>128</sup> The effect of the recent EPU on Entergy's FAC analysis for the plant has been reviewed by the NRC Staff in its safety evaluation,<sup>129</sup> and, as Mr. Hsu and Mr. Rowley testified, the NRC Staff concluded that Entergy adequately addressed the effect of the changes in the plant operating conditions on the FAC analysis. Hsu/Rowley Decl. Post Tr. 1432, at 6.

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<sup>128</sup> Joint Stipulation at 2-3; Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 10.

<sup>129</sup> See NRC Staff Exh. 14 at 17 (VYNPS EPU SER § 2.1.6).

Dr. Hopenfeld for NEC contested the engineering assumptions underlying Entergy's FAC Program and, through the current program's extension into the PEO, Entergy's FAC AMP. His challenges related to the adequacy of CHECWORKS in addressing the increased power level during the PEO. Hopenfeld Decl. Post Tr. 779, at 11-12. Mr. Witte, also testifying for NEC, concluded that the FAC Program is not in compliance either with the plant's CLB and EPRI guidance from about 1999 through February 2008 for failure to timely update CHECWORKS with the plant-specific data and the need to benchmark the model with the new plant conditions at the uprated power level.<sup>130</sup>

Mr. Fitzpatrick stated that, as part of its FAC Program, Entergy has selected the computer model CHECWORKS to perform the predictive analysis required by NUREG-1801 and, by reference, EPRI's NSAC-202L-R3. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 11-12. He said that CHECWORKS was selected because of its industrywide acceptance. Tr. at 1547-48. As discussed in greater detail below, the results from this model are used as one of five methods to select the locations for plant inspections. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 12. Mr. Fitzpatrick stated that the trending of FAC wear on piping is not based on the results from CHECWORKS but on the actual inspection data. *Id.* at 48-49. He also stated that the actual wear rates are one of the five criteria mentioned above that are used to select components for subsequent inspections. Tr. at 1649.

Mr. Fitzpatrick testified that while the FAC Program is not designed to detect and monitor erosion, the FAC inspections described in more detail in the following section will detect pipe wall thinning regardless of the cause. Tr. at 1472, 1701. Likewise, he stated that other programs manage the aging of piping systems not within the scope of the VYNPS FAC Program and would address potential erosion issues. Tr. at 1473. Dr. Horowitz testified that inspections to check for mechanical damage are selected by operating experience. Tr. at 1512.

(2) *Inspection Program*

Mr. Fitzpatrick testified that the FAC Program includes plant inspections of piping and components during each refueling outage. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 12. He stated that the items to be inspected and the locations of these inspections are selected in consideration of five factors: (1) required reinspections and recommendations from previous outages, (2) CHECWORKS susceptibility rankings or need to calibrate the CHECWORKS model, (3) industry/utility/station experience including items identified through work orders and condition reports, (4) susceptible large bore piping not previously modeled and

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<sup>130</sup> NEC Exh. NEC-UW\_03, Evaluation of Vermont Yankee Nuclear Power Station License Extension: Proposed Aging Management Program for Flow Accelerated Corrosion (Apr. 25, 2008) at 4-10 [Witte FAC Report].

all small-bore program piping, and (5) engineering judgment. *Id.* Mr. Fitzpatrick testified that currently, approximately one-third of the locations are determined by the results of CHECWORKS, one-third based on previous inspection data, and one-third based on operating experience. Tr. at 1677-78.

Mr. Fitzpatrick stated that piping and components can only be inspected at refueling outages, and, while an inspection is performed every outage, not every pipe is inspected at every outage. Tr. at 1568-69. He added that the specific number of points to be inspected is not designated in the FAC Program but left to the judgment of the FAC engineer and justified in the scoping document for each outage. Tr. at 1575-76. The selection of components for inspection by the FAC engineer is subject to peer review by another engineer. Tr. at 1649 (Fitzpatrick).

Mr. Fitzpatrick and Dr. Horowitz testified that up to thirty-five points were measured during each outage prior to the uprate. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 24. In scoping the first three FAC inspections after the power uprate, Entergy included an added measure of conservatism by inspecting 50% more locations to provide further confirmatory data points for the program. *Id.* at 24-25. Dr. Hopenfeld pointed out that Entergy had not disclosed what fraction of the FAC-susceptible piping in VYNPS is covered by the increased monitoring, making its significance unclear. Hopenfeld Rebuttal Decl. Post Tr. 779, at 33. Regardless, Entergy witnesses testified that little wear had occurred between the uprate in March 2006 and the outage in the spring of 2007 during refueling outage (RFO)-26. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 24.

NSAC-202L-R3 states that the grid size for inspections of large bore piping (i.e., greater than 2-inch-diameter piping) varies with the size of the pipe or component — from 1-inch grid spacing for up to a 3-inch-diameter pipe to 6-inch grid spacing for a 24-inch-diameter pipe. Entergy Exh. E4-07 at 4-15. Entergy witnesses testified that the reason for this is that the larger pipes have a greater amount of material that may be lost before they fail, thus allowing for a larger grid size. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 41-42. For individual components like pipe elbows, the entire component is inspected at the grid spacing. *Id.* at 42.

Mr. Fitzpatrick stated that measurements are made all the way around the pipe and, axially, 2 diameters downstream of the selected location. Tr. at 1664-65. If degradation is found, Entergy stated that the grid size is normally made smaller in that area, Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 41, and the grid is extended axially until no wear is found or another component is encountered. Tr. at 1665 (Horowitz). If another component is encountered in that distance, it is also inspected. The extent of the axial measurements for each component varies with the type of component. Tr. at 1667-68 (Fitzpatrick).

Dr. Hopenfeld recommended an axial distance of 25 to 45 pipe diameters beyond any flow disturbance based on the distance generally required for flow to fully develop. Tr. at 1668. Mr. Fitzpatrick testified that VYNPS has done axial

inspections on four different lines up to 6 diameters distance downstream from a component and has not found any excessive wear. Tr. at 1669-71.

Mr. Fitzpatrick testified that pipes that are selected for the FAC Program are chosen in accordance with NSAC-202L. Tr. at 1543. As recommended by EPRI, he agreed that CHECWORKS is not used at VYNPS to predict FAC locations for small bore piping (i.e., less than 2-inch diameter). Tr. at 1545. Regardless, Mr. Fitzpatrick stated that small bore piping is still part of the FAC Program at VYNPS, including inspections performed at locations associated with disparities found from more than 10 years of plant experience. Tr. at 1531. Mr. Witte, however, states that the ranking of small bore piping was not done and, “[w]ith no ranking, the basis for selection of high susceptibility points for small-bore piping is not evident.” Witte FAC Report at 19. However, Entergy’s exhibits indicate that initial scoping for small bore piping was performed as early as 1992 as evident by the scope and criteria presented in the FAC Program documents. Entergy Exhs. E4-41 at 2, E4-42 at 2.

Mr. Fitzpatrick stated that to perform FAC inspections, the grid is painted on the pipe or component, and measurements are made based on this grid to determine wall thickness. Tr. at 1562, 1664. Rather than recording at specific grid points, Mr. Fitzpatrick stated that Entergy has taken an additional step at VYNPS by scanning the entire area within an individual block of the grid. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 42. By moving the UT transducer over the entire surface, he stated that the lowest wall thickness in the grid square is recorded and that this minimum value is selected as input into CHECWORKS for the entire grid box. *Id.* Entergy witnesses believe that this technique assures that the thinnest readings in a component are found. *Id.*

(3) *Role of CHECWORKS in Entergy’s AMP*

Mr. Fitzpatrick testified that CHECWORKS is only used in the FAC Program as one of five methods to assist FAC engineers in identifying potential locations of FAC vulnerability. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 12. Dr. Horowitz, the coauthor of CHECWORKS, stated that the plant pipe network is divided into a number of analysis lines with the same operating conditions, including temperature, dissolved oxygen, pH, and flow rate. Tr. at 1550-51. He stated that these lines are entered into the model along with plant-specific characteristics defining flow rate, component geometry, material properties, and steam quality. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 16. Water chemistry, in turn, is calculated at each location in the model from plant-specific inputs defining oxygen concentration in the feedwater and reactor steam effluent, thermodynamic conditions, and flow rates. *Id.* Dr. Horowitz stated that the model inserts these data with user-defined component geometry into the model correlations to predict the metal wear rate for each modeled pipe length and component. *Id.*

Dr. Horowitz testified that CHECWORKS uses two types of evaluations in determining the susceptible locations for FAC and predicting wear rates. *Id.* at 17-18. He stated that the first evaluation, called a “Pass 1 Analysis,” is conducted to report predicted wear rates based only on plant operating characteristics that do not incorporate actual pipe thicknesses from plant inspections. *Id.* at 17. This evaluation is normally used by the FAC engineer to generate a list of components for inspection when plant data are not available. *Id.* Once plant inspection data became available, Dr. Horowitz stated that the second evaluation, called a “Pass 2 Analysis,” incorporates measurements from these inspections. *Id.* at 18. The model then compares the results to the initial predicted values and adjusts the FAC calculations to account for actual wall thickness through the use of a “line correction factor” (LCF). *Id.*

NUREG-1801 states that CHECWORKS provides a bounding analysis for FAC that results in reasonable assurances that structural integrity will be maintained between inspections. Entergy Exh. E4-05 at XI.M-61 to XI.M-62. Dr. Horowitz testified that the prediction correlations were initially based on FAC laboratory testing in France, England, and Germany, and from plant operational data from Germany. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 18-19. To refine the accuracy of the CHECWORKS predictions, the model was subsequently revised with a larger database of actual inspection results from U.S. operating plants. *Id.* at 19.

Mr. Fitzpatrick testified that he did not see any increase in wear rates from the 2007 inspection, the first RFO after the power uprate in March 2006. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 24; Tr. at 1676. Dr. Hopenfeld suggested that there may not have been sufficient time for the effects to be measurable in this short time frame. Tr. at 1688-89. However, Mr. Fitzpatrick noted that all the predictions made by CHECWORKS at VYNPS have been conservative in that all measurements have shown less wear than predicted by the model. Tr. at 1596. He went on to testify that Entergy historically increased the measured wear rates by 10% to assure that the model would conservatively overpredict corrosion, Tr. at 1533, and further increased this safety margin to 25% during the EPU to account for the increased power level. Tr. at 1684.

As previously mentioned, CHECWORKS is used to assist FAC engineers in identifying potential locations of piping and components susceptible to FAC. Mr. Hsu testified that, for piping without inspection data, CHECWORKS selects the most susceptible components in a line or a section of piping for inspection. Hsu/Rowley Decl. Post Tr. 1432, at 4. He added that for piping that has previously been inspected, CHECWORKS is used to select the components that have the highest wear rate and lowest failure time for inspection. *Id.*

Dr. Horowitz stated that CHECWORKS is “not used for nuclear design or nuclear applicability but just to provide information to FAC engineers.” Tr. at 1600. As he stated, “CHECWORKS doesn’t find the problem, but operating

experience does.” Tr. at 1512. While the use of a numerical model like CHECWORKS is recommended by NUREG-1801 and NSAC-202L-R3, both Mr. Fitzpatrick, who was the prior FAC engineer at VYNPS, and Dr. Hopfenfeld, NEC’s expert, conclude that the FAC Program would not be materially affected if CHECWORKS was not included in the AMP. Tr. at 1678 (Fitzpatrick), 1690 (Hopfenfeld). Dr. Horowitz, coauthor of the model, also testified that once the plant conditions have stabilized and correlated with measured wear rates from the plant, continual use of CHECWORKS provides very little additional benefit to the FAC Program. Tr. at 1696. “CHECWORKS adds value when conditions are changing, you want to forecast what impact it has on corrosion.” Tr. at 1696. He went on to state that NSAC-202L-R3 recognizes this in their recommendation that half of the inspections done during a refueling outage should be new locations. Tr. at 1696.

(4) *Updating CHECWORKS with Inspection Data*

Mr. Witte testified that Entergy has not consistently updated the model with plant inspection data as required by its Existing FAC Program and, by not keeping it current, suggested that “susceptible locations may not have been inspected during this time period.” Witte FAC Report at 15. He specifically asserted that Entergy had been derelict by failing to update CHECWORKS during the period from 1999 until fall 2006. *Id.* at 15-16. Likewise, he testified that as of April 2008, the power uprate design data had not yet been incorporated into the model, which allegedly casts a shadow on the results of inspections during RFO-25 in the fall of 2005 and RFO-26 in the spring of 2007. *Id.* at 2. According to Mr. Witte, the lapse in updating the model may have significantly weakened the trending and predictive capability of the software, both during the lapse period and presently. *Id.* at 16. He asserted that the FAC Program was in noncompliance with the CLB because the model has not been updated in accordance with its procedures. *Id.* at 19. Mr. Witte also testified that, from 2000 to 2006, VYNPS used an outdated version of CHECWORKS software, and that at least four components in 2004 were predicted to have a wall thickness at that time that was less than the operability limits and “should be considered unsafe with potential rupture at anytime.” *Id.* at 17.

Mr. Fitzpatrick testified for Entergy that all applicable inspection data were incorporated into the model during the summer and fall of 2000, that additional updates were performed for the feedwater system in 2003, and another update was performed in 2006. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 44-46. While the four inspections performed between 2001 and 2005 showed that the wear rates predicted by the CHECWORKS model were consistently conservative, *id.* at 44, Mr. Fitzpatrick stated that inspection data from the previous outage were not incorporated into the model in time for scoping the program for the 2005 outage,



i.e., RFO-25. Tr. at 1719-20. He pointed out, however, that the inspection planning and component selection for RFO-25 were based in part on the conservatively high wear rates previously predicted by CHECWORKS, which were subsequently confirmed as conservative by the 2006 update. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 44-45. Likewise, the results from the updated model execution did not identify any instance where recommended inspections were not performed. Entergy Exh. E4-31 at 11. Furthermore, Mr. Fitzpatrick added that the last update confirmed that the previously predicted wear rates were conservative, which, when analyzed with a Pass 2 analysis, reduced the predicted wear rates and increased the times to minimum wall thickness. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 45.

Mr. Fitzpatrick testified that updating CHECWORKS was not necessary in order to determine the appropriate scope of the RFO-25 inspection program, and stated that Entergy did not depart from its CLB since there is no specific interval required for entering additional inspection data into the model. *Id.* at 46-47. He noted that while CHECWORKS was not updated, all the inspections were conducted, the results were compiled and the data were evaluated to derive the trend in component wear rate. *Id.* at 47. All of these actions, he asserted, were done in accordance with the FAC Program. *Id.*

Entergy's internal audit in 2004 concluded that "while the [FAC] Program was technically sound, a number of the administrative/documentation issues identified did not meet regulatory requirements" and that the program was "unsatisfactory." NEC Exh. NEC-UW\_09 at 2. Mr. Fitzpatrick testified that this conclusion resulted from multiple Condition Reports (CRs) that he wrote for the failure to enter the inspection data into the data management system on time and for using a draft report in planning for a future inspection because the final report was not issued in a timely manner. Tr. at 1585-88. Mr. Fitzpatrick admitted that over the history of the program, up to 3 years have passed without CHECWORKS being updated. Tr. at 1589. He went on to testify that Entergy's delay in incorporating the wall thickness measurements into the CHECWORKS model was related to resource availability and stated that the CRs were written in order to notify management of the resource needs to complete this task. Tr. at 1719.

Mr. Fitzpatrick stated that it takes a person about 2 to 3 months to compile the inspection data, evaluate it, and update CHECWORKS. Tr. at 1576-77. Eventually all the data get into the model, except for readings less than 0.005 inch to keep the prediction estimates conservative by not allowing these low readings to bias the results. Tr. at 1572-73. As the EPRI guidance document NSAC-202L-R3 states: "corporate commitment is essential to an effective FAC program" and "[such commitment should include] [p]roviding adequate financial resources to ensure that all tasks are properly completed." Entergy Exh. E4-07 at 2-1. Mr. Fitzpatrick agreed that there are no efficiencies gained in delaying the updating

of CHECWORKS, and testified that Entergy now has a FAC engineer who is dedicated to the model updates. Tr. at 1578-79. While he stated that all the data through the last refueling outage, i.e., RFO-26, are now in CHECWORKS, Mr. Fitzpatrick acknowledged the influence that this evidentiary hearing had on the diligence paid in assuring all the data entry is currently up to date. Tr. at 1590.

Mr. Fitzpatrick testified that the CLB incorporated the recommendations of NSAC-202L-R2, Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 47, but industry guidance does not specify a specific interval for model updates, and merely recommends that the plant inspection data be incorporated into CHECWORKS whenever possible to enhance the FAC predictions.<sup>131</sup> Based on this, he stated that there are no quantitative requirements in the CLB addressing the frequency to update the model. *Id.* While Mr. Fitzpatrick left Entergy employment in March 2008, Tr. at 1717, he said that, if inspection data are not updated in time for the next refueling operation and a pipe is subsequently estimated to reach its critical wall thickness before the following outage, he believed that Entergy would address this issue through its corrective action program, and, if necessary, would include reducing power in order to perform a confirmatory inspection prior to the next outage. Tr. at 1594. He added that CHECWORKS should be updated every cycle. Tr. at 1589. Dr. Horowitz agreed that CHECWORKS should be updated with the plant inspection data after each outage, preferably within 60 to 90 days after each inspection cycle. Tr. at 1718.

Mr. Witte for NEC stated that VYNPS used an outdated version of CHECWORKS from 2000 to 2006 even though EPRI has recommended it update its model as far back as 2000. Witte FAC Report at 17. Mr. Fitzpatrick stated that in 2000, VYNPS updated CHECWORKS from version 1.0D to version 1.0F, and used that version through 2006. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 48. While there are no differences in the model from version 1.0F to 1.0G relating to water chemistry and wear rates for BWRs, according to Mr. Fitzpatrick, Entergy installed the latter version at VYNPS in 2006. *Id.* Mr. Fitzpatrick stated that the version of CHECWORKS never affected its use as a tool for the FAC Program nor would it have any effect on the implementation during the license renewal period. *Id.* He testified that the latest version of CHECWORKS was installed at the beginning of 2008. Tr. at 1662-63.

In terms of Mr. Witte's concern about the model predictions for the four components in 2004, Mr. Fitzpatrick pointed out that the predicted time for wall thinning is a numerical calculation performed by CHECWORKS to indicate areas of potential concern and is not based on actual inspection data. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 49. Condition reports are written

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<sup>131</sup> Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 47. Entergy Exh. E4-33, Recommendations for an Effective Flow-Accelerated Corrosion Program (NSAC-202L-R2) at 4-2 (Final Report Apr. 1999) [NSAC-202L-R2].

when the inspection data indicate there is an actual problem with wall thinning based on a measured value. *Id.* Of the four components highlighted by Mr. Witte, three are composed of FAC-resistant material, and the remaining component was inspected and determined to meet design requirements with a significant margin. *Id.*; Entergy Exh. E4-37 at 12 (for component CD30TE02DS).

(ii) FINDINGS

As supported by the joint stipulation, we find that Vermont Yankee's FAC Program consists of: (1) conducting predictive analyses using the CHECWORKS numerical model to help determine critical locations susceptible to FAC, (2) selecting inspection locations, (3) performing baseline inspections to determine the extent of thinning at new locations and followup inspections to confirm the actual wear rates, and (4) if necessary, repairing or replacing components. The locations for inspections are determined by more than the results from the CHECWORKS modeling, and include consideration of industry/utility/station experience, required reinspections and recommendations from previous outages, susceptible piping locations not previously modeled, small bore piping program locations, and engineering judgment.

The FAC Program and its use of the CHECWORKS model is primarily designed to track the chemical dissolution of the protective oxide layer of carbon metal piping that generally affects a broad area of piping and components. We find that it is reasonable and prudent to differentiate between the catastrophic pipe ruptures that result from the widespread impacts of FAC and the smaller leaks associated with smaller diameter piping and with localized erosion, droplet impingement, and other causes of metal wear that can be detected and repaired prior to any severe damage. Both Entergy and NEC agree that FAC is a slow process. Based on these facts, we find that Entergy's FAC AMP provides reasonable assurances that the impacts of FAC can be managed in a manner that preserves the integrity of the carbon steel piping and associated components, and that critical leaks from other wear mechanisms will be detected early enough for corrective actions to be implemented prior to catastrophic safety impacts occurring.

CHECWORKS was developed using a common engineering method whereby statistical correlations are created from a large population and are then used to predict behavior for a selected situation using case-specific parameters. Tr. at 1444-48 (Horowitz). Dr. Hopenfeld testified about numerous problems with the fundamental development and application of CHECWORKS, which were documented in the previous section and are specifically addressed in more detail below. Regardless, NEC implicitly acknowledged through the joint stipulation that VYNPS's FAC Program consists of more than just CHECWORKS modeling. NEC did not provide any evidence or testimony that controverted Entergy's

position that the CHECWORKS model is only used to select inspection locations and is but one of five criteria used to select the critical areas for FAC susceptibility. As Mr. Fitzpatrick testified, only one-third of the inspection locations were based on the results from CHECWORKS with the majority of the locations selected on the basis of industry/utility/plant experience, past inspections, and engineering judgment. Tr. at 1677-78. He acknowledged that not all the critical grid locations are measured during each refueling outage. Since FAC is a slow process, we find that it is reasonable and prudent not to inspect the same locations during every RFO but to vary the inspection locations during each RFO in order to expand the coverage of piping and components included in the program.

Based on Mr. Fitzpatrick's testimony, we find that Entergy uses the actual plant inspections to decide the need for repairs, while CHECWORKS is used as a planning tool to indicate the location for these inspections. Tr. at 1595. Rather than measuring individual grid points, we find that Entergy scans the entire grid area, recording the lowest reading within each grid block. In addition to helping detect the minimum wall thickness in an area, this technique helps to eliminate some of the variability associated with trying to relocate the instrument over a selected point for each inspection.

We find that CHECWORKS adequately serves its intended purpose by providing one of five methods to select the locations for actual wall thickness measurements. However, to be useful, it seems imperative to update the model with recent plant data prior to planning for the new inspection program to be conducted during the subsequent refueling outage. The Board recommends that the NRC Staff pay close attention to assuring that Entergy's FAC engineer is timely in updating the model with the most recent results. While the coauthor of CHECWORKS suggests that the model be updated within 90 days of collecting new data, the Board finds that it may take about 2 to 3 months to evaluate the inspection results and incorporate them into the database. Given this, it seems more reasonable to require the Licensee to complete this model update within 6 months after each FAC inspection program is completed.

*d. Adequacy of CHECWORKS at VYNPS Uprate Power Levels*

To address the adequacy of CHECWORKS at the uprated power levels that now exist at VYNPS, we investigated the benchmarking of the model at the higher power levels, explored alleged deficiencies in CHECWORKS, and reviewed the accuracy and capability of the model to predict FAC. Each of these topics is discussed separately below.

(i) EVIDENCE

(1) *Benchmarking with Increased Power Level*

Dr. Hopenfeld testified that the CHECWORKS model will not accurately predict FAC at VYNPS for the PEO because: (1) the model's predictions are insufficient for the recent 20% increase in power at Vermont Yankee, and (2) the model has not been adequately benchmarked for the change in plant parameters associated with this uprate. Hopenfeld Decl. Post Tr. 779, at 11-12. He asserted that up to 16 years of data are needed to provide the data necessary to establish a corrosion rate, Hopenfeld FAC Report at 15-16, and that reliance on the model prior to recalibration could result in improper scope for a FAC inspection. Hopenfeld Decl. Post Tr. 779, at 12. In support of Dr. Hopenfeld's statements, Mr. Witte cited a report apparently prepared by an entity known as the "Petroleum Safety Authority of Norway," which, he stated, supports 5 to 10 years of data for establishing trending for FAC wear rates. Witte FAC Report at 22 (citing NEC Exh. NEC-UW\_13 at 28).

Dr. Hausler explained that the location for FAC will change as the flow rate changes and that it will be very difficult to predict where localized corrosion will occur and how fast it will take place with changes caused by the increased flow rate associated with the uprated power level.<sup>132</sup> To benchmark an empirical model such as CHECWORKS, it is his professional opinion that it would take 12 to 15 years to obtain the three data points needed to update all the locations for the increased power level, given that each pipe location or component is not measured every refueling outage. Tr. at 1680-81.

Dr. Horowitz testified for Entergy that CHECWORKS does not need to be rebenchmarked because the model does not change as a result of a power uprate or any other change in operating parameters. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 20. The model was designed to handle changes in plant operating conditions (e.g., thermodynamic conditions, temperature, oxygen concentration, flow rate) as relevant input parameters, which it then uses to calculate the predicted FAC wear under the new conditions. *Id.* Dr. Horowitz stated that the only thing that changes with the CHECWORKS model when the power level is increased is a change in the plant-specific inputs into the model, and, as a result, he concluded that is not necessary to rebenchmark CHECWORKS when plants have changed operational parameters. *Id.* at 21.

Mr. Hsu of the NRC Staff agreed that CHECWORKS has been *benchmarked* using the actual plant data in the model's database, and the user must only *calibrate* CHECWORKS by incorporating the plant-specific parameters as input

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<sup>132</sup>NEC Exh. NEC-RH\_03, Discussion of the Empirical Modeling of Flow-Induced Localized Corrosion of Steel Under High Shear Stress (Apr. 25, 2008) at 9 [Hausler FAC Report].

into the model to account for the new power levels. Hsu/Rowley Decl. Post Tr. 1432, at 8-9. Mr. Hsu and Mr. Rowley concluded in the safety evaluation of the EPU that Entergy has adequately addressed the effect of the changes in the plant operating conditions in the FAC analysis. Hsu/Rowley Decl. Post Tr. 1432, at 6.

Entergy's witnesses testified that with the update of input data for the change in plant-specific parameters, CHECWORKS provides FAC wear rates for the model under the new conditions. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 24. Mr. Fitzpatrick and Dr. Horowitz asserted that the only relevant inputs with the new power levels at VYNPS are the flow rate and temperature, which were updated upon implementation of the EPU. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 20, 46. Dr. Horowitz testified that the differences in wear rates experienced in a power uprate are generally smaller than those experienced by plants where their water chemistry changes. *Id.* at 21.

In terms of the guidance that Mr. Witte asserts recommends 5 to 10 years of benchmarking, Mr. Fitzpatrick noted that the document discussed the initiation of a condition assessment program where no AMP had previously been in place, and, as such, is not applicable to an established program and does not relate to the use of CHECWORKS at VYNPS. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 27. Mr. Hsu supported this position, and further testified that the reference document credits NUREG-1800 and NUREG-1801 and does not suggest the additional benchmarking for an active FAC Program as claimed by NEC. Hsu/Rowley Decl. Post Tr. 1432, at 11.

In addition to the need to benchmark the model, it is Mr. Witte's opinion that the plant data in CHECWORKS cannot be compared to VYNPS since only six operating plants have increased power by more than 15% and half of these have experienced problems with FAC. Witte FAC Report at 22-23. Dr. Hopenfeld submitted a similar opinion, stating that the 20% power increase in 2006 changed relevant plant parameters including flow velocity and that this will likely result in new areas of high corrosion that the model will be unable to predict since it is calibrated to pre-uprate conditions. Hopenfeld Decl. Post Tr. 779, at 12.

As previously mentioned, Dr. Horowitz contested these allegations, and pointed out that VYNPS is a fairly small plant in terms of power level compared to other units. Tr. at 1659. He stated that the predictive correlations used in CHECWORKS were based on data from approximately thirty different plants, Tr. at 1658, and flow rates and temperatures from these plants encompass the values at VYNPS at its uprated power level. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 28-29. In addition, there have been six plants that have similar uprates in terms of percent of power that have all successfully used CHECWORKS since 2001.<sup>133</sup>

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<sup>133</sup> Entergy Exh. E4-09, Declaration of Neil Wilmshurst in Support of EPRI's Opposition to Motion to Compel (Apr. 18, 2008) at 4-5.

In support of Entergy's position, Mr. Hsu pointed out that the final power level of 1912 MWt at Vermont Yankee is much lower than the original power level at these other plants with power uprates, and that the total increase in power for these other plants is much higher than at VYNPS, since Vermont Yankee started at a lower initial power level of 1593 MWt. Hsu Rebuttal Decl. Post Tr. 1432, at 5-6. He agreed that CHECWORKS was developed considering data from plants operating at much higher power levels than the uprated value at VYNPS, and that FAC is predicted by the model for plant parameters like flow rate and temperature at various power levels, not recognizing whether the power levels are a result of initial conditions or uprated levels. *Id.* at 6.

Mr. Hsu testified that normally two inspection cycles of data are required for each component to determine the wear rate with new power levels. Hsu/Rowley Decl. Post Tr. 1432, at 10. However, he stated that at VYNPS only one point is needed since the increase in wear rate is directly proportional to the increase in velocity caused by the power uprate. *Id.* at 12. While only one inspection is required, Mr. Hsu noted that three inspections will be completed prior to the PEO and, after that, inspections will continue throughout the license renewal period. *Id.* Regardless, as he asserted, CHECWORKS still cannot determine the absolute wear, even with many recalibrations, since corrosion is not an exact science with inherent uncertainties. *Id.* at 8.

Dr. Hopenfeld contended that changes to hydrogen water chemistry in 2003 have reduced the oxygen content of the plant, which further increased the potential for FAC and justifies the need for benchmarking of CHECWORKS. Hopenfeld FAC Report at 15. He supported this position by citing evaluations performed by Entergy's consultant, Structural Integrity Associates, Inc. (SIA) on environmentally assisted fatigue. *Id.* (citing NEC Exh. NEC-JH\_18 at 3.2). Mr. Fitzpatrick stated that the effects of the hydrogen water chemistry have been incorporated into the CHECWORKS model, Tr. at 1660, and that the change to hydrogen water chemistry did not alter the oxygen concentrations in the feedwater system as demonstrated by measured plant data. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 28 (citing Entergy Exh. E4-18). He testified that Entergy has injected oxygen into the condensate and feedwater lines to establish about 40 ppb of dissolved oxygen to enhance the stability of the iron oxide film on the pipe walls, *id.* at 15, and, as a result, there has been no drastic change in the oxygen levels with the power uprate. Tr. at 1660. Although, as Dr. Hausler testified, more oxygen may be consumed from the water due to the increased mass transfer, Tr. at 1672, Dr. Horowitz posited that the effect would be small. Tr. at 1673.

(2) *Deficiencies with CHECWORKS*

Dr. Hopenfeld testified that CHECWORKS is not acceptable for predicting FAC because the required inputs to handle the nonlinear and local nature of

this type of metal loss are not included in the model. Hopenfeld FAC Report at 7. With regard to the localized nature of FAC, Dr. Horowitz agreed that occasionally localized FAC is seen — normally near geometric discontinuities. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 31. However, such local wear usually results in only minor leaks. *Id.* Dr. Horowitz stated that CHECWORKS addresses turbulence around discontinuities through its use of the geometry factor discussed further herein. Tr. at 1651-52. Mr. Fitzpatrick added that the UT inspections measure the total metal loss from whatever corrosion mechanism has caused it. Tr. at 1472. Dr. Horowitz testified that while none of the algorithms in CHECWORKS are modified by these measurements, Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 19 (citing Entergy Exh. E4-09 at 5), a line correction factor is calculated from statistical analyses and used to adjust the model results to improve its predictive ability. Tr. at 1654.

Dr. Horowitz testified for Entergy that, unlike erosion mechanisms, as long as the plant operating conditions remain constant, FAC causes metal wear that is linear with time, i.e., a constant rate of corrosion. Tr. at 1690. He stated that this behavior has been demonstrated in numerous laboratory tests and by field measurements matching predictions using the linear algorithm in the CHECWORKS model. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 30-31. Dr. Hausler testified that variations in the surface finish with time could affect the rate of FAC wear. Tr. at 1692. While Entergy did not dispute this, Dr. Horowitz noted that the variation in wear rate with time is very small, and the extent of roughness is not likely to change much more given the existing elderly age of the pipes. Tr. at 1694-95.

In support of the contention that CHECWORKS needs to be benchmarked for the uprated power, Dr. Hopenfeld for NEC claimed that the rate of corrosion varies nonlinearly with velocity at exponential powers varying from 2.4 to 6, and that as a result, small changes in velocity can lead to rather large changes in the corrosion. Hopenfeld FAC Report at 4. Dr. Hausler agreed with Entergy that the rate of FAC generally varies almost linearly with fluid velocity, but stated that this linear relationship transitions to an exponential one as local turbulence increases to the degree that erosion becomes a factor in the wear rate. Hausler Rebuttal Decl. Post Tr. 1437, at 2-3. He asserted that whether such transition actually occurs when the flow velocity increased following the power uprate at VYNPS must be determined experimentally. *Id.* at 3. Dr. Hopenfeld also criticized CHECWORKS for basing the relationship between corrosion and velocity on the dissolution of copper in hydrochloric acid as not being representative of the composition of reactor fluid and piping. Tr. at 1619.

Dr. Horowitz stated that the model uses a nearly linear velocity relationship with mass transfer based on his review of experimental data and plant experience. Tr. at 1626, 1651-53. He quoted several studies whose data, he says, show that for all known geometries, including straight pipes, bends, and flow restrictions, the



dependence of FAC wear rate on velocity is less than unity, i.e., that the increase in wear is less proportionally than the increase in velocity. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 33-34. Dr. Horowitz states:

The mass transfer correlations built into CHECWORKS are based on laboratory experiments on modeled geometries, published correlations and plant data from many nuclear units, all of which have shown a less than linear relationship exists between velocity and the rate of FAC wear, including velocities higher than those present at VY[NPS] after the uprate.

*Id.* at 34.

Mr. Fitzpatrick also testified that studies from power plants that have undergone power uprates show that increases in FAC wear rates are proportional to velocity. Tr. at 1697. As a result, it is his opinion, based on actual experience, that the FAC wear rates vary roughly with velocity and do not increase in a nonlinear fashion, as claimed by Dr. Hopenfeld. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 34. Dr. Horowitz stated that if the linear relationship incorporated into CHECWORKS was not valid, it would be clear that the model could not track FAC wear rates at the operating plants. Tr. at 1625-26.

An EPRI publication, entitled “Flow Accelerated Corrosion in Power Plants,” states that the potential for any local turbulence is addressed through the use of the geometry factors. Entergy Exh. E4-08 at 3-10. As described by Dr. Horowitz, these factors correct for distorted flow that occurs at component disturbances by relating the maximum degradation of a component to the predicted degradation in a straight pipe. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 32-33. CHECWORKS includes over fifty geometry factors to represent various components. *Id.* at 17. In cases where the component geometry does not match any of those offered in the model, CHECWORKS suggests that a conservative geometry factor be used or that inspections of that component be automatically scheduled. *Id.* Mr. Fitzpatrick testified that it is his experience that the highest wear rates predicted by CHECWORKS are usually located congruent with components having the most tortuous geometry, and that the effect of geometric discontinuities does not change with the increased flow rate and temperature associated with the power uprate. Tr. at 1674.

Dr. Hopenfeld testified that the geometry factors used in CHECWORKS were inaccurate because these factors are incorrectly based on the average velocity (both with time and along the cross section of a component) instead of being based on the local flow velocity value. Tr. at 1620-21. Dr. Horowitz pointed out that nuclear power plants are designed to operate under constant conditions for long periods of time. Tr. at 1651. Under these conditions, he maintained that it is reasonable and appropriate for CHECWORKS to use an average velocity

corresponding to the power plant's conditions to represent the localized impacts of FAC. Tr. at 1651.

Dr. Horowitz stated that the copper tests referred to by NEC were not used to establish the wear rates or to define geometry tables, but as an initial, qualitative way to test the effect of different geometries on wear rates. Tr. at 1627. All geometry factors in CHECWORKS come from plant data. Tr. at 1628. Dr. Hopenfeld also stated that the approach used by CHECWORKS in addressing the relationship between local corrosion and total corrosion was based on an inappropriate equation from the EPRI's handbook on FAC.<sup>134</sup> Dr. Horowitz stated that this figure was used as background information in a separate code, but is not used by EPRI and has no relationship to CHECWORKS. Tr. at 1627.

(3) *Inaccuracy/Inability of CHECWORKS to Predict FAC*

Dr. Hopenfeld testified that he did not believe that the use of CHECWORKS, or its predecessors CHEC and CHECMATE, has resulted in reduced incidence of FAC failures. Hopenfeld Decl. Post Tr. 779, at 13. While noting that NUREG/CR-6936 reports a 10% reduction in through-wall pipe failures since CHEC was introduced in 1987, he believed this reduction is most likely attributed to increased awareness of FAC by all plants following a catastrophic accident at Surry. *Id.* He lists numerous examples of failure of CHECWORKS or its predecessors to predict precursors to FAC incidents. Hopenfeld FAC Report at 9-11.

Dr. Horowitz pointed out that the operational experience cited by Dr. Hopenfeld does not indicate any problems with the proper use of CHECWORKS as part of a FAC Program. Horowitz/Fitzpatrick Decl. Post Tr. 1427, at 35-38. He discussed the operating experience cited and its relevance, if any, to the FAC Program at VYNPS, concluding that none of these examples involve a case in which the proper use of CHECWORKS was ineffective in preventing a FAC failure. *Id.* at 38. He and Mr. Fitzpatrick said that the plants referred to by Dr. Hopenfeld either had no FAC Program before the accident or their FAC Program was not applied to the component that experienced FAC failure, or had a FAC Program that did not follow the guidelines in NSAC-202L. *Id.* at 26.

The accuracy in predicting FAC was questioned by Dr. Hopenfeld and Dr. Hausler for NEC, pointing to the scatter in data presented in the relationships between measured and predicted wear rates as presented in numerous graphs in

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<sup>134</sup>Tr. at 1619 (referencing Entergy Exh. E4-08, Flow-Accelerated Corrosion in Power Plants, Figure 7-2, at 7-8).

Entergy Exh. E4-30.<sup>135</sup> While Dr. Horowitz explained that the slow wear rates observed in the feedwater lines at VYNPS contribute to this scatter, he admitted that the small values for the line correction factors from this analysis are outside of the desired range of 0.5 to 2.5 for this parameter. Tr. at 1631. He stated that work is under way to understand the underprediction of pipe thinning for BWR feedwater systems by CHECWORKS, since they have seen the same behavior at other plants. Tr. at 1631.

While Dr. Hopenfeld was pessimistic of the success of Entergy's FAC Program in predicting FAC, he suggested an alternative that eliminates any computer code, and, instead, dedicates an experienced FAC engineer to this program to help select the critical locations now being done, in part, by CHECWORKS. Tr. at 1610. Mr. Fitzpatrick testified that VYNPS already has a dedicated FAC engineer whose job is solely to maintain the FAC Program and help with the other selection criteria presented in the FAC Program. Tr. at 1578.

Dr. Hopenfeld also proposed that the FAC engineer use a "risk-based" approach whereby all safety-related components subject to FAC will be identified and prioritized into risk-based groups and inspected according to the schedule and varying testing procedures developed for each group. Hopenfeld FAC Report at 15-16. However, he does not indicate how and to what degree this proposed program would be more effective than the current one used at VYNPS.

Assuming CHECWORKS is not abandoned, Dr. Hopenfeld suggested several ways to improve upon the use of the model, including reducing the grid size and modifying some of its equations. Tr. at 1618-19. He asserted that a much denser grid, i.e., a 1-inch by 1-inch grid, would help eliminate some of the uncertainties in the model's use and would help address the issue of local turbulence from discontinuities. Tr. at 1687-88. As previously noted by Mr. Fitzpatrick, grid space is based on pipe diameter; for the smaller pipe diameters the grid spacing is as small as 1 inch and the increase in grid size with a larger pipe is justified on sound technical reasons. See discussion *supra* Part V.B.2.c(i)(2). Regardless of the issues discussed above, EPRI, the owner of the CHECWORKS model, and Entergy recognize that the model cannot fully account for all the potential factors associated with FAC and predict all potential leaks in the carbon steel piping. Entergy Exh. E4-07 at 1-3. Mr. Hsu testified that CHECWORKS cannot determine the absolute wear, even with many recalibrations, since corrosion is not an exact science. Hsu/Rowley Decl. Post Tr. 1432, at 8. As NSAC-202L-R3 clearly states "it will never be possible to prevent all FAC-related leaks and ruptures from occurring." Entergy Exh. E4-07 at 1-3.

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<sup>135</sup> Tr. at 1622, 1628-29 (citing Entergy Exh. E4-30 [VYNPS] [FAC] Inspection Program, EPRI CHECWORKS Wear Rate Analysis Results (Sept. 2006) at 57); Hausler Rebuttal Decl. Post Tr. 1437, at 3.

(ii) FINDINGS

NEC contends that Entergy has not adequately benchmarked CHECWORKS for changes in plant parameters and that use of data from other plants is insufficient for the recent power uprate. Based on the overwhelming evidence provided by Dr. Horowitz, coauthor of CHECWORKS, we find that CHECWORKS was benchmarked using an extensive database of laboratory testing and actual operating conditions from a multitude of plants operating at the same and higher levels than the uprated value at VYNPS.

We find that the CHECWORKS model is designed to handle new operating parameters that change with the uprated power level. At VYNPS, the specific parameters that change, i.e., flow rate and temperature, are supplied as input into CHECWORKS and the model is run to recalculate the new wear rates without the need for rebenchmarking. Even at the uprated power level, this Board finds that VYNPS is a fairly small plant compared to the other units used to benchmark CHECWORKS. We conclude that FAC is predicted by the model for plant parameters, including flow rate and temperature, over a wide range of power levels, and that the model does not recognize whether the power levels are a result of initial conditions or uprated levels. We also find that there is no evidence disputing the fact that the values in the model's database span the flow rates and temperatures likely present at VYNPS. This provides confidence that the error in the wear rates predicted by CHECWORKS will be in line with the historic experience at U.S. plants. As such, there is no need to benchmark CHECWORKS further, but to merely input the new plant characteristics associated with the power uprate (i.e., flow rate and temperature) and run the model to indicate the critical locations for FAC at the new power level. We find that Entergy has done this and, as a result, has adequately addressed the effects of changes in the plant operating conditions with the power uprate into its FAC analysis.

We also find that the 10 to 15 years of benchmarking proposed by NEC are unreasonable and not defensible in light of the goal of CHECWORKS to merely identify locations for plant inspections. Once a power level is set, nuclear power plants tend to operate at constant conditions for long periods of time. As such, the first inspection made during RFO-26 in January 2007 is reflective of the wear rates for the new power level. Specifically, with the previous inspections establishing the wall thickness prior to the uprate, the new wear rate can be calculated using the wall thickness measurement made from one cycle of inspection data after the uprate, given that the increased wear rate is directly proportional to the increased flow rate at the uprated power levels.

In addition, we find that there will be three cycles of inspection data to refine the model calibration for the EPU prior to the PEO and that there is no credible evidence disputing Entergy's claim that only the flow rate and temperature have changed with the increased power. While we find that CHECWORKS can be

recalibrated with just the RFO-26 inspection, the use of this one data set does not provide any mechanism to evaluate inaccuracies in the measurement readings or in the CHECWORKS algorithms used to predict the critical locations for FAC. Regardless, the results from the two additional inspections that will occur during refueling outages prior to the PEO will provide the data points needed to reduce the variability in the data.

For the new power levels, we do agree that the model should be updated in a timely manner to include the observed wear rates measured during refueling outages so as to better predict the critical locations for FAC. The recent measurements show that virtually no metal loss has occurred at the new power level. NEC is correct in arguing that there may have not been sufficient time for the effects to be measurable in this short period. The results from the two remaining inspections will help to refine the wear rate with increased flow rate at the new power levels. Each update of CHECWORKS improves the estimates of FAC, and better indicates the susceptible locations for future inspections. Furthermore, recalibration does not stop there, but continues with each inspection throughout the operational life of the plant. But, as noted, the effects of the subsequent readings on the critical locations for FAC derived from CHECWORKS are marginal if the plant operates as designed at a constant power level for a long period of time.

We find that historically Entergy has been derelict in updating its prediction model with inspection data. Entergy's delay in updating CHECWORKS promptly after each inspection cycle due to resource constraints indicates a failure to meet the corporate commitments necessary to have an effective FAC Program. It seriously undermines Entergy's assertion that its Existing FAC Program meets with the requirements of NUREG-1801 and, by reference, NSAC-202L-R3.

To address this issue, we urge the NRC Staff to track diligently Entergy's performance in updating the model to assure that this function is performed in sufficient time to plan for the next inspection cycle. There is no need to cast this request as a mandated license condition given the limited role CHECWORKS plays in the overall FAC Program and the recognition that aging management for FAC could likely proceed unaffected without the use of this model. Furthermore, the requirement for updating the model is implicitly inherent in Entergy's CLB through its commitment to meet NSAC-202L by reference in NUREG-1801.

The Board finds that NEC's alternative "risk-based" approach to the use of CHECWORKS in identifying critical locations for FAC as proposed by Dr. Hopenfeld may not be unreasonable. However, there is no evidence that it is superior to the program developed by Entergy for VYNPS in accordance with the recommendations advocated by NUREG-1801. To some degree, the use of four other criteria besides CHECWORKS to select inspection points may achieve the same results as the "risk-based" approach advocated by Dr. Hopenfeld.

In summary, we find that no further benchmarking is needed since the plant is operating within the range of plant parameters used in benchmarking the model.

We find that NEC's experts may be misunderstanding the purpose of CHECWORKS in the FAC Program in their attempt to use continuous benchmarking of the model to predict absolute wear. As confirmed by Entergy and the NRC Staff, this is an impossible goal, which is recognized by the guidance documents for implementing this model. Even so, we find that Entergy's witness, Mr. Fitzpatrick, states that Entergy is committed to input the data from plant inspections to continuously recalibrate CHECWORKS throughout the plant's life.

Regarding the untimely incorporation of inspection data into the CHECWORKS model from 2004 to 2006, we find that Mr. Witte's supposition that the delay in updating the model suggests that susceptible locations may not have been inspected is unfounded speculation. Even though inspection data were not incorporated into the model, we find that the results were compiled and trends in component wear rate evaluated in accordance with the FAC Program. All susceptible piping was identified for inspection independent of the CHECWORKS predictions, and the conservative nature of the previous predictions has been confirmed by the inspection data. We also find that subsequent inclusion of inspection data reduced the predicted wear rates and increased the time to minimum wall thickness. Furthermore, the results from the updated model execution did not identify any instance where recommended inspections were not performed. To help prevent future delays in updating the model, Entergy has hired a new employee as FAC Coordinator whose sole responsibility is to assure that programmatic commitments are met.

While benchmarking is not an issue, we find that the adequacy of CHECWORKS in predicting the critical locations for FAC is debatable. The scatter of data illustrated by the plots of wear rates and the associated underprediction of wear rates in modeling of feedwater lines for BWRs is persuasive in supporting the claim that CHECWORKS is not effective in calculating and projecting metal loss from FAC. Even given these problems, we find that the potential inadequacy of CHECWORKS does not detract from the effectiveness of Entergy's FAC AMP, given the very limited role that the model has in the overall program, i.e., used only as one of five techniques to estimate the location of the piping and components most susceptible to FAC. We find that the heart of the program lies in the actual UT wall thickness measurements made during each refueling outage — measurements that are not solely dependent on CHECWORKS software or model update. This, combined with the industrial and plant-specific experience gained over the past two decades with FAC, provides for an adequate AMP. As both Entergy and NEC agree, the FAC Program would be effective without the use of the program.

Regarding the other issues associated with CHECWORKS, we find that the model is not intended to be used for erosion, nor is it the goal of the FAC AMP to address this cause of localized metal loss. However, predictions by CHECWORKS inherently account somewhat for erosion and localized turbulence

through three mechanisms: (1) by the very nature of UT inspections measuring any form of metal loss, (2) by calculation of a line correction factor to improve the predictive accuracy of the model by correcting for actual measurements, and (3) by the use of geometry factors in the code to evaluate the additional metal wear from turbulence-initiated erosion. We find no merit in NEC's argument that denser grid spacing is necessary at VYNPS to improve accuracy, because the UT measurements at this plant span the entire grid square in search of the thinnest reading, and the minimum value is then assigned to the full square. With this technique, the size of the grid spacing is less important.

We find that FAC wear rates are constant with time, since the variation in wear rates with roughness is small and, given the existing age of the piping, further surface changes are likely to be minimal. Witnesses for Entergy and the NRC Staff have testified that Entergy has determined that an increase in velocities will generally cause proportional increases in FAC wear rates, and this Board agrees. We note, however, that this relationship can transition to an exponential function when the velocity increases sufficiently to cause local turbulence. Regardless, there is no indication that the velocities at the relatively modest power settings for VYNPS would come close to exceeding the transition values. The preponderance of the evidence indicates that wear rates are linear with velocity and, as such, the wear rates should increase proportionately to the increase in power level that occurred in March 2006. Given the small increase in flow rate at VYNPS associated with the relatively small increase in power level with the uprate, it does not appear likely that extensive areas of turbulence have developed at VYNPS to cause significant pipe wall erosion. In addition, we find that the method of scanning the overall grid block rather than just measuring selected grid points and the use of the geometry factors in the model will help identify these locations for inspection to determine if corrective actions are necessary.

We agree that the CHECWORKS model cannot fully account for all the potential factors associated with FAC, determine the absolute wear (even with many recalibrations), or predict all potential leaks in the carbon steel piping. No one has claimed that it could, and that was never the intended purpose for using this model or for the FAC Program itself. While there is credible evidence that the efficacy of the model may be limited, especially for the feedwater lines, we find that the accuracy of CHECWORKS is sufficient for its intended purpose — being one of five means to select locations for UT measurements during plant inspections.

We also find that the consensus opinion of the parties that the FAC Program could survive without ever using this model is compelling. While Entergy and the NRC Staff have refuted the claims of NEC that incidents of pipe leakage are evidence of CHECWORKS failures, we find that the predictive capability of CHECWORKS is debatable. Having said that, we believe that the model does,

in fact, provide useful information that helps ensure that the most susceptible locations for FAC are identified.

### **C. Summary of Factual Findings Relating to Aging Management for FAC**

We find that the term “flow accelerated corrosion,” as used in Contention 4, was not intended to refer solely to the precise definition of FAC relating to the chemical corrosion of carbon steel piping and components, but that it also includes the effects of erosion. Nevertheless, we conclude that Entergy’s Existing FAC Program, and by extension, its FAC AMP for the PEO, includes inspections that measure the effects of both types of metal wear or, indeed, any mechanism that causes wall thinning. This, plus the fact that the effects of erosion on piping and components not susceptible to FAC are covered by other AMPs leads us to conclude that the differences in the definition of FAC are not material to our findings on this contention.

Based on the NRC Staff’s conclusions in their 2006 audit, we find that Entergy’s Existing FAC Program is indeed consistent with the one described in NUREG-1801 § XI.M17, which relies on the guidelines of NSAC-202L. However, we also find that the paucity of plant-specific program details found in section B.1.13 of Appendix B in Entergy’s LRA falls short of the demonstration threshold required by 10 C.F.R. § 54.21 to show that the effects of aging will be adequately managed for the PEO. Bald statements that an AMP is “comparable to” or “consistent with” NUREG-1801, or that it is “based on” NSAC-202L, do not constitute an AMP, much less a “demonstration” that it is adequate. Nevertheless, we conclude that Entergy’s corporate FAC Program and Existing FAC Program supply sufficient specificity — including detailed instructions on how inspections should be conducted, how the inspection data should be evaluated, acceptance criteria for inspection components, criteria for the disposition of components failing to meet acceptance criteria, sample expansion criteria, and instructions for incorporating inspection data into the CHECWORKS model — to meet the demonstration requirement of 10 C.F.R. § 54.21(a)(3), (c)(1)(iii).

We find that the specific requirements in Entergy’s corporate FAC Program, combined with the determination in the NRC Staff’s audit that the details of VYNPS’s FAC Program adhere to the recommendations of the GALL Report and NSAC-202L, demonstrate that the effects of aging due to FAC will be adequately managed at VYNPS through the PEO. While the FAC Program was never intended to prevent or stop all leaks or ruptures from occurring, *see* Entergy Exh. E4-07 at 1-3, we find that, based on the results of the IPA as summarized in section 3.0 of the LRA, the use of the existing program as an AMP for the PEO will provide reasonable assurances that the effects of aging will be managed



so that applicable components will continue to perform their intended functions consistent with the CLB for the PEO.

We find that Entergy will continue to use CHECWORKS to assist in identifying inspection locations during the license renewal period. We also find that data collected at VYNPS since 1989 and the three sets of data for the 4<sup>1/2</sup> years at the uprated power level prior to entering the PEO will be sufficient to assure effective use of the CHECWORKS model in the FAC AMP. With the implementation of the FAC Program and recalibration of CHECWORKS, we find that there are reasonable assurances that structural integrity of the FAC-susceptible piping will be maintained between inspections — meeting the goal of the FAC Program.

While several other factors were also alleged to contribute to the inability of CHECWORKS methodology to prevent pipe ruptures for unpredicted wall thinning, we find that there is no evidence to suggest that Entergy's Existing FAC Program and, by extension, its FAC AMP are not sound. We also find that, as one tool, CHECWORKS is useful to some degree in helping a plant's FAC engineer select the most critical FAC locations for plant inspections. The effectiveness of CHECWORKS improves if the data from these inspections are entered into the model in a timely fashion, and the model recalibrated for the observed wear rates. We find that the NRC Staff should ensure that Entergy performs these updates well before each refueling outage, so that the results are available in planning and developing the important plant inspection program.

In summary, we have reviewed all the issues, motions, and arguments presented for this contention and conclude that Entergy has demonstrated that the effects of aging for FAC will be managed for the PEO and that actions with respect to FAC have been or will be taken to reasonably assure that activities authorized by the renewed license for VYNPS will continue for the PEO. Issues, motions, and arguments presented by the parties but not addressed herein have been found to be without merit, unnecessary, or not relevant to the Board's findings on Contention 4.

#### **D. Conclusions of Law**

Entergy has demonstrated that its FAC Program for the PEO will be effective in managing the effects of aging related to FAC as required by 10 C.F.R. § 54.21(a)(3), (c)(1)(iii). Since VYNPS's FAC Program adequately assures that the thinning of carbon steel piping and associated components susceptible to FAC will be maintained within ASME Code limits, Entergy has demonstrated that, in accordance with 10 C.F.R. § 54.21(a)(3), the intended functions will be maintained consistent with VYNPS's CLB during the renewal period. Entergy has identified actions that have been or will be taken to provide reasonable assurances that activities authorized by the renewed license will continue to be conducted in accordance with the CLB. The issues related to FAC have been resolved and

do not prohibit the NRC Staff from issuing the license on the basis of NEC Contention 4.

## VI. CONCLUSION

### A. Contentions 2A and 2B

A. The analytical methods employed in Entergy's CUFen Reanalysis were flawed by numerous uncertainties, unjustified assumptions, and insufficient conservatism, and produced unrealistically optimistic results. Entergy has not, by this flawed reanalysis, demonstrated that the reactor components assessed will not fail due to metal fatigue during the period of extended operation.

B. Entergy's Second CUFen Reanalysis neither validates the results of Entergy's First CUFen Reanalysis, nor independently demonstrates that CUFens for all components . . . are less than one.

With regard to Contentions 2A and 2B, the Board concludes that Entergy's metal fatigue analyses comply with the legal requirements of 10 C.F.R. §§ 54.21 (c)(1) and 54.29, with one significant exception: the use of the simplified Green's function to calculate the metal fatigue on the Vermont Yankee Nuclear Power Station's core spray and reactor recirculation outlet nozzles. In this respect, Entergy's CUFen analyses do not comply with relevant requirements and do not provide reasonable assurance of safety that is required by 10 C.F.R. §§ 54.21(c)(1) and 54.29. These predictive time-limited aging analyses are a condition precedent to issuance of the license renewal. Accordingly, the Board rules that our authorization to issue the license renewal is contingent upon, and the license renewal application cannot be granted unless and until, Entergy completes the confirmatory CUFen analyses on the core spray and reactor recirculation nozzles with satisfactory results without using the simplified Green's function methodology and makes those analyses available for review by the NRC Staff and the other parties herein. The record will be held open and Contention 2 held in abeyance until 45 days after those events occur.

### B. Contention 3

Entergy's License Renewal Application does not include an adequate plan to monitor and manage aging of the steam dryer during the period of extended operation.

With regard to Contention 3, the Board concludes, with the proviso noted below, that Entergy has demonstrated that its proposed aging management program for the steam dryer will adequately manage the effects of aging during the 20-year

license renewal period, as required by 10 C.F.R. § 54.21(a)(3), (c)(1)(iii) and that it meets the reasonable assurance standard of 10 C.F.R. § 54.29. In so ruling, we are relying solely on the first branch of Entergy's proposed steam dryer AMP, i.e., Entergy's commitment to continue its existing Steam Dryer Monitoring Program (including GE-SIL-644, Revision 2, which is incorporated therein) during the period of extended operation. The second branch of Entergy's proposed steam dryer AMP, i.e., proposed BWRVIP-139, is subject to multiple contingencies and is not in the evidentiary record, and therefore nothing herein constitutes our reliance on or approval thereof.

Our conclusion that Entergy's proposed steam dryer AMP meets the relevant requirements subject to the mandatory proviso that the renewed license include the following express condition: "Notwithstanding any other provision, Entergy shall continue to perform and implement the continuous parameter monitoring, moisture content monitoring, and visual inspections specified in the AMP, at the intervals specified in GE-SIL-644 Revision 2. These shall continue for the full term of the PEO unless this provision of the license is duly amended."

#### **C. Contention 4**

Entergy's License Renewal Application does not include an adequate plan to monitor and manage aging of plant piping due to flow accelerated corrosion during the period of extended operation.

With regard to Contention 4, the Board concludes that Entergy has demonstrated that its proposed aging management program for the flow accelerated corrosion of plant piping will adequately manage the effects of aging during the 20-year license renewal period, as required by 10 C.F.R. § 54.21(a)(3), (c)(1)(iii), and that it meets the reasonable assurance standard of 10 C.F.R. § 54.29. However, our decision with respect to Contention 4 rests, in part, on certain facts that have been officially noticed under 10 C.F.R. § 2.337(f) and judicially noticed in accordance with Rule 201(e) of the Federal Rules of Evidence, *see supra* note 122, and therefore any party wishing to challenge such facts may do so by filing a motion for reconsideration with this Board within 10 days, or may file an appeal to the Commission.

### **VII. ORDER**

This Partial Initial Decision resolves Contentions 2A and 2B in favor of the Intervenors, NEC and the Vermont Department of Public Services, leaves Contention 2 open and in abeyance, and resolves Contentions 3 and 4 (subject to

specified conditions) in favor of Entergy.<sup>136</sup> With the exceptions of Contentions 2, 2A, and 2B and the opportunity to seek reconsideration of facts officially and judicially noticed, this Partial Initial Decision shall constitute the final decision of the Commission forty (40) days from the date of its issuance, unless, within fifteen (15) days of its service, a petition for review is filed in accordance with 10 C.F.R. §§ 2.1212 and 2.341(b). Filing of a petition for review is mandatory for a party to exhaust its administrative remedies before seeking judicial review. 10 C.F.R. § 2.341(b)(1).

It is so ORDERED.

FOR THE ATOMIC SAFETY AND  
LICENSING BOARD<sup>137</sup>

Alex S. Karlin, Chairman  
ADMINISTRATIVE JUDGE

(By E. Roy Hawkens for)  
Dr. Richard E. Wardwell  
ADMINISTRATIVE JUDGE

(By E. Roy Hawkens for)  
Dr. William H. Reed  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
November 24, 2008

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<sup>136</sup> Pursuant to 10 C.F.R. § 2.1207(a)(3)(iii), the Board, by separate order, is providing to the Commission's Secretary all questions submitted by the parties prior to and during the course of the evidentiary hearing.

<sup>137</sup> Copies of this order were sent this date by Internet e-mail transmission to counsel for (1) Licensees Entergy; (2) Intervenors Vermont Department of Public Service and New England Coalition of Brattleboro, Vermont; (3) the NRC Staff; (4) the State of New Hampshire; and (5) the Commonwealth of Massachusetts.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**COMMISSIONERS:**

**Dale E. Klein**, Chairman  
**Gregory B. Jaczko**  
**Peter B. Lyons**  
**Kristine L. Svinicki**

**In the Matter of**

**Docket Nos. 50-247-LR  
50-286-LR**

**ENTERGY NUCLEAR OPERATIONS, INC.**  
**(Indian Point, Units 2 and 3)**

**December 9, 2008**

**RULES OF PRACTICE: SANCTIONS**

Dismissal of a party falls within the “spectrum of sanctions . . . available to the boards to assist in the management of proceedings” under 10 C.F.R. § 2.319, although dismissal should be reserved for “severe cases.” *Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452, 454 (1981).

**RULES OF PRACTICE: SANCTIONS**

The Appeal Board has stated, albeit in *dictum*, that a Licensing Board is “clearly authorized” to dismiss a party who obstructs the discovery process, disobeys the Board orders, and engages in willful, bad-faith, and prejudicial conduct toward another party. *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-902, 28 NRC 423, 428 (1988).

**RULES OF PRACTICE: SANCTIONS**

Dismissal due to counsel’s malfeasance is a logical extension of the Board’s disciplinary authority under 10 C.F.R. § 2.314(c) to reprimand, censure, or sus-

pend from a proceeding any party or representative who “refuses to comply with its directions.”

#### **RULES OF PRACTICE: SANCTIONS**

The Commission is generally loath to interfere with the Board’s management of its cases, absent an abuse of power. *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-08-7, 67 NRC 187, 192 (2008).

### **MEMORANDUM AND ORDER**

On December 10, 2007, Westchester Citizen’s Awareness Network, Rockland County Conservation Association, Public Health and Sustainable Energy, Sierra Club–Atlantic Chapter, and New York State Assemblyman Richard Brodsky (collectively, WestCAN) filed a joint petition to intervene and request for hearing on Entergy’s license renewal application for Indian Point Nuclear Generating Units 2 and 3. On July 31, 2008, the Board issued an Order striking WestCAN’s petition and request, thereby expelling them from this adjudication.<sup>1</sup> The Board rested its decision on grounds that are highly unusual in a Commission adjudication — WestCAN counsel’s “appalling lack of candor” and “repeated[ ] misrepresent[at]ions of the] facts.”<sup>2</sup> WestCAN has appealed the Board’s Order. We affirm.

Dismissal of a party falls within the “spectrum of sanctions . . . available to the boards to assist in the management of proceedings” under 10 C.F.R. § 2.319, although dismissal should be reserved for “severe cases.”<sup>3</sup> Our Appeal Board stated, albeit in *dictum*, that a Licensing Board is “clearly authorized” to dismiss a party who obstructs the discovery process, disobeys the Board orders, and engages in willful, bad-faith, and prejudicial conduct toward another party.<sup>4</sup> We also observe that dismissal due to counsel’s malfeasance is a logical extension of the Board’s disciplinary authority under 10 C.F.R. § 2.314(c) to

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<sup>1</sup> Order (Striking WestCAN’s Request for Hearing) (July 31, 2008) (unpublished) (July 31 Order).

<sup>2</sup> *Id.* at 1.

<sup>3</sup> *Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452, 454 (1981). *Cf. Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC 18, 22 (1998) (referring to dismissal of a party as an appropriate sanction “in extreme cases” where the party fails to provide legal and factual support for its arguments and assertions). *See generally* 10 C.F.R. § 2.319(g) (The presiding officer has the power to “[r]egulate the course of the hearing and the conduct of participants”).

<sup>4</sup> *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-902, 28 NRC 423, 428 (1988).

reprimand, censure, or suspend from a proceeding any party or representative who “refuses to comply with its directions” — a transgression that WestCAN’s counsel committed repeatedly in this adjudication.

As we announced earlier in this proceeding, we are generally loath to interfere with the Board’s management of its cases, absent an abuse of power.<sup>5</sup> We find no such abuse here. We have reviewed in detail the extensive record underlying the Board’s decision and find ample evidence to support the Board’s conclusion. WestCAN counsel have, for instance, repeatedly included inaccurate service dates on pleadings, repeatedly claimed that an untimely document had been timely served, inaccurately claimed that documents submitted at different times were identical, and inaccurately certified that all participants had been served in a particular manner. We therefore affirm the Board’s July 31 Order on the grounds specified by the Board.

We might be more willing to consider a lesser penalty than WestCAN’s expulsion if the record showed these misrepresentations to be clearly inadvertent and isolated.<sup>6</sup> But they are not. Rather, we find a pattern of disregard of our regulations and the Board’s instructions. And therein lies our second, independent ground for today’s affirmance of the Board’s July 31 Order.

To offer but a sample: WestCAN’s counsel failed to serve all participants on the official service list; failed to attach certificates of service; failed to certify in WestCAN’s motions that counsel had sought to resolve the issues with opposing counsel; omitted participants from service; failed to include attachments; and submitted multiple, often nonidentical versions of the same pleading to participants and/or the Board. Beginning with their very first submissions,<sup>7</sup> WestCAN counsel consistently ignored both the Board’s and our own warnings that failure to comply with the agency’s service requirements could result in pleadings being stricken from the administrative record.<sup>8</sup> This pattern of behavior

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<sup>5</sup> *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-08-7, 67 NRC 187, 192 (2008).

<sup>6</sup> *Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC at 454 (instructing boards to consider, among other things, whether a participant’s failure to meet an obligation “is an isolated incident or a part of a pattern of behavior”).

<sup>7</sup> Letters to Chairman Klein and Lawrence G. McDade from Susan Shapiro (Nov. 21, 2007) (Re: Additional Extension Request to File Formal Requests for Hearing and Petitions to Intervene with Contentions, due to Document Access Issues) (ADAMS Accession Nos. ML073380808 and ML073380896). Neither of these two requests for extension of time was accompanied by the required certificate of service.

<sup>8</sup> *See, e.g.*, Commission Order (Nov. 16, 2007) at 1-2 (unpublished); Board Order (Denying an Extension of Time Within Which to File Requests for Hearing) (Nov. 27, 2007) at 2-4 (unpublished) (November 27 Order); Board Memorandum and Order (Administrative Matters and Directing Parties Attention to Requirements for Proper Service) (Oct. 29, 2007) at 1-2 (unpublished) (October 29 Order).

regularly continued despite the Board's striking WestCAN's first two pleadings in November 2007.<sup>9</sup>

WestCAN counsel likewise ignored both the Board's express warning that it would dismiss litigants who failed to comply with the Commission's procedural rules<sup>10</sup> and the Board's subsequent expulsion of another petitioner (one who had earlier been represented by one of WestCAN's own attorneys) for that very reason.<sup>11</sup> And counsel's sequential submission of multiple, often nonidentical copies of WestCAN pleadings — notably, its Reply — forced the Board and the other participants to needlessly expend large amounts of time, effort, and resources simply to determine exactly which document WestCAN intended as its filing. The Board's ultimate expulsion of WestCAN came only after multiple warnings and the use of lesser disciplinary measures (striking two of WestCAN's pleadings from the record) — none of which had gained the desired result of WestCAN counsel's compliance.

WestCAN counsel's repeated inability or refusal to comply with the Board's instructions and our procedural rules has seriously disrupted the Board's efforts to meet its responsibility to conduct a fair, orderly, and efficient hearing, has interfered with the other participants' efforts to use their own litigation resources efficiently, and has made our own review of the appellate documents and the underlying record far more time-consuming than necessary.<sup>12</sup> It would be unfair to all these entities if we were to permit WestCAN to continue draining their time, effort, and resources. For all these reasons, we include WestCAN counsel's consistent abuse of the adjudicatory process as our own independent ground for dismissing WestCAN's petition and request.

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<sup>9</sup> November 27 Order. *See also* Order (Denying an Extension of Time Within Which to File Requests for Hearing) (Nov. 28, 2007) (unpublished).

<sup>10</sup> October 29 Order at 3.

<sup>11</sup> Order (Granting the NRC Staff's Motion to Strike FUSE's Superseding [*sic*] Request for Hearing) (Feb. 1, 2008) (unpublished). There, the Board relied in significant part on counsel's submission of an inaccurate certificate of service, and counsel's repeated failure to comply with the agency's procedural regulations despite numerous instructions from the Board. *Id.* at 2-6.

<sup>12</sup> Furthermore, WestCAN counsel continue to make similar procedural errors in conjunction with this appeal. One example of WestCAN's flawed appellate pleadings is its Motion and Reply to Entergy's Opposition to Petitioners' Appeal to the Commission (Sept. 3, 2008). This pleading included a motion to strike Entergy's Answer to WestCAN's Appeal. We reject the motion on the grounds that WestCAN counsel failed to comply with the certification requirements of 10 C.F.R. § 2.323(b) regarding consultation with opposing counsel (an error counsel repeatedly committed before the Board), and also failed to "state with particularity the grounds" for the motion, as likewise required under 10 C.F.R. § 2.323(b). WestCAN also moved to strike the NRC Staff's "multiple answers" to WestCAN's appeal. Petitioners' Motion to Strike the NRC Staff's Multiple Answers to Petitioners' Appeal (Sept. 10, 2008) at 9. We deny this second motion on the first ground set forth above.



In only one prior adjudication (*Millstone*) have we faced this degree of consistent procedural noncompliance from an attorney. There, we eventually directed our Office of the Secretary (SECY) to “screen all filings bearing [that counsel’s] signature[. . .] not to accept or docket them unless they meet all procedural requirements . . . [and] to reject summarily any nonconforming pleadings without referring them to the Atomic Safety and Licensing Board Panel or the Commission.”<sup>13</sup> Our directive applied not only in the *Millstone* case then at bar but in all subsequent adjudications. We now issue this same directive to SECY regarding any filings it receives from Ms. Susan Shapiro or Ms. Sarah Wagner in this or any other proceeding.

### CONCLUSION

We *deny* WestCAN’s appeal of the Board’s July 31 Order and *affirm* that same order.

IT IS SO ORDERED.

For the Commission

ANNETTE L. VIETTI-COOK  
Secretary of the Commission

Dated at Rockville, Maryland,  
this 9th day of December 2008.

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<sup>13</sup> *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-06-4, 63 NRC 32, 38-39 (2006).

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**William J. Froehlich, Chairman**  
**Dr. Gary S. Arnold**  
**Dr. Thomas J. Hirons**

**In the Matter of**

**Docket Nos. 50-282-LR**  
**50-306-LR**  
**(ASLBP No. 08-871-01-LR)**

**NORTHERN STATES POWER**  
**COMPANY (formerly NUCLEAR**  
**MANAGEMENT COMPANY, LLC)**  
**(Prairie Island Nuclear Generating**  
**Plant, Units 1 and 2)**

**December 5, 2008**

**RULES OF PRACTICE: STANDING; AUTHORITY TO REPRESENT  
A TRIBE**

General Counsel for an Indian Tribe is not required to submit a declaration stating the basis of his or her authority to represent the Tribe. As long as Counsel is an attorney in good standing and a member of the bar, a Notice of Appearance is sufficient in itself for him or her to represent the Tribe in a proceeding. *See* 10 C.F.R. § 2.314(b).

**RULES OF PRACTICE: PLEADINGS; CONTENTS OF A REPLY**

A reply is not an opportunity for a petitioner to bolster its original contentions with new supporting facts and arguments. Rather, it is a chance to amplify issues presented in the initial petition as well as the applicant's and NRC Staff's answers.

*See Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-04-25, 60 NRC 223, 224-25, *reconsideration denied*, CLI-04-35, 60 NRC 619 (2004).

#### **NATIONAL HISTORIC PRESERVATION ACT: NRC REQUIREMENTS**

Under Commission regulations, a license renewal applicant must “assess whether any historic or archaeological properties will be affected by the proposed project.” 10 C.F.R. § 51.53(c)(3)(ii)(K). The regulations also shed light on the required extent of this assessment: “The environmental report should contain sufficient data to aid the Commission in its development of an independent analysis.” 10 C.F.R. § 51.45(c).

#### **LICENSE RENEWAL: SCOPE**

A license renewal applicant has no obligation to discuss in its ER the impacts of a potential expansion of the Independent Spent Fuel Storage Installation (ISFSI). Expansion of the ISFSI is a separate project, subject to a separate proceeding governed by the regulations in 10 C.F.R. Part 72.

#### **LICENSE RENEWAL: SCOPE**

Offsite radiological impacts are a Category 1 issue, and the Commission has determined such impacts to be “small” for all nuclear power plants seeking a renewed license. *See* 10 C.F.R. Part 51, App. B, Table B-1. If a petitioner wishes to challenge this generic determination in a license renewal proceeding, it must seek and receive a waiver under 10 C.F.R. § 2.335(b).

#### **LICENSE RENEWAL: SCOPE**

While true that, under NEPA, the Commission is ultimately responsible for analyzing environmental justice issues, nonetheless, 10 C.F.R. § 51.45(c) requires license renewal applicants to assist the Commission with that evaluation.

#### **RULES OF PRACTICE: CONTENTIONS; CHALLENGES RELATED TO NEPA**

NRC regulations require a petitioner to raise contentions related to NEPA as challenges to the applicant’s environmental report, which acts as a surrogate for the EIS during the early stages of a relicensing proceeding.

**LICENSE RENEWAL: AGING MANAGEMENT**

If a component falls within the scope of 10 C.F.R. § 54.4 and meets the requirements of 10 C.F.R. § 54.21 such that aging of the component is a relicensing issue, an applicant may address this issue in one of two ways. An analysis may be performed showing that the aging mechanism will not cause failure of the component. If the analysis fails, then the application must include a specific aging program to manage the effects of aging on that component. If, however, the analysis succeeds, then no aging management program is required.

**LICENSE RENEWAL: AGING MANAGEMENT**

The ten elements of an effective aging management program (AMP) must be addressed only when an applicant’s AMP differs from the relevant AMP identified in the GALL Report. *See AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-08-23, 68 NRC 461, 468 (2008).

**LICENSE RENEWAL: FUTURE NRC REQUIREMENTS**

Where the application provides a commitment that, should inspection requirements be changed, the applicant will implement those new inspection requirements, it is the responsibility of NRC Staff and the applicant to ensure that this commitment is fulfilled. The Board lacks the authority — much less the ability — to require an applicant clairvoyantly to predict the future inspection requirements and to describe their future implementation in the application.

**LICENSE RENEWAL: AGING MANAGEMENT**

Although an applicant’s use of an AMP identified in the GALL Report constitutes reasonable assurance that it will manage the targeted aging effect during the renewal period, the application still must contain sufficient information to independently confirm consistency with the GALL Report.

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**MEMORANDUM AND ORDER**  
**(Ruling on Petition to Intervene, Request for Hearing,  
and Motion to Strike)**

Before us is a petition to intervene and request for hearing filed by the Prairie Island Indian Community (PIIC or Petitioner) concerning the application of Northern States Power Company (Northern States or Applicant) to renew its operating licenses for the Prairie Island Nuclear Generating Plant (PINGP), Units 1 and 2, for an additional 20 years. PINGP is located near the city of Red Wing, in Goodhue County, Minnesota. The current licenses expire on August 9, 2013, for Unit 1 and on October 29, 2014, for Unit 2.

Both Northern States and NRC Staff oppose Petitioner’s request for hearing. For the reasons set forth below, we find that PIIC has established its standing to intervene in the proceeding and has proffered at least one admissible contention as required by 10 C.F.R. § 2.309(a). Accordingly, we grant PIIC’s request for a hearing.

## I. BACKGROUND

On April 11, 2008, Nuclear Management Company, LLC<sup>1</sup> requested renewal of Operating License Nos. DPR-042 and DPR-060 for PINGP Units 1 and 2.<sup>2</sup> On June 17, 2008, the Nuclear Regulatory Commission (NRC or Commission) published a notice of opportunity for hearing regarding this license renewal application (Application or LRA).<sup>3</sup> The hearing notice permitted any person whose interest might be affected by the license renewal to file a request for hearing and petition for leave to intervene within 60 days of the hearing notice.<sup>4</sup> It directed that any petition must set forth with particularity the specific contentions sought to be litigated.<sup>5</sup>

On August 18, 2008, PIIC filed a petition to intervene containing eleven proposed contentions and requesting an adjudicatory hearing.<sup>6</sup> Following the designation of this Licensing Board,<sup>7</sup> Northern States and NRC Staff timely filed answers to the PIIC Petition.<sup>8</sup> In its answer, Northern States does not contest Petitioner's standing to participate in this proceeding. NRC Staff, on the other hand, believes the Petitioner must submit additional information to demonstrate standing in this proceeding. Both Northern States and NRC Staff assert that PIIC has not proffered an admissible contention. On September 19, 2008, PIIC timely filed a reply to the Northern States and NRC Staff answers, accompanied by an expert declaration from Christopher I. Grimes and a Declaration on Standing by counsel for PIIC.<sup>9</sup>

On September 29, 2008, Northern States filed a motion to strike portions of

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<sup>1</sup> Since the Application was filed, the NRC has approved the transfer of operating authority over Prairie Island Nuclear Generating Station, Units 1 and 2, from Nuclear Management Company, LLC (NMC) to Northern States. Order Approving Transfer of License and Conforming Amendment (Sept. 15, 2008) (ADAMS Accession No. ML082521182).

<sup>2</sup> Application for Renewed Operating Licenses (Apr. 2008) [hereinafter LRA] (ADAMS Accession No. ML081130673).

<sup>3</sup> 73 Fed. Reg. 34,335 (June 17, 2008).

<sup>4</sup> *Id.*

<sup>5</sup> *Id.* at 34,336.

<sup>6</sup> Prairie Island Indian Community Notice of Intent to Participate and Petition to Intervene (Aug. 18, 2008) [hereinafter PIIC Petition].

<sup>7</sup> Establishment of Atomic Safety and Licensing Board, 73 Fed. Reg. 52,426 (Sept. 9, 2008).

<sup>8</sup> Nuclear Management Company's Answer to the Prairie Island Indian Community's Petition to Intervene (Sept. 12, 2008) [hereinafter Northern States Answer]; NRC Staff's Answer to the Prairie Island Indian Community's Petition for Leave to Intervene (Sept. 12, 2008) [hereinafter NRC Staff Answer].

<sup>9</sup> Prairie Island Indian Community's Reply to Nuclear Management Company's and the NRC's Answers to the Prairie Island Indian Community's Petition to Intervene (Sept. 19, 2008) [hereinafter PIIC Reply].

the PIIC Reply, arguing that PIIC used the reply improperly as an opportunity to provide new support for its contentions.<sup>10</sup> NRC Staff promptly filed a response supporting Northern States' motion,<sup>11</sup> and Petitioner filed a response in opposition.<sup>12</sup>

The Board heard oral arguments on Petitioner's standing and contentions as well as the motion to strike on October 29, 2008, in Hastings, Minnesota.<sup>13</sup>

## II. STANDING ANALYSIS

NRC regulations require that any person that wishes to intervene as a party in an adjudicatory proceeding addressing a proposed licensing action must (1) establish that it has standing and (2) offer at least one admissible contention.<sup>14</sup>

### A. Standards Governing Standing

A petitioner's right to participate in a licensing proceeding stems from section 189a of the Atomic Energy Act of 1954 (AEA).<sup>15</sup> That section provides for a hearing "upon the request of any person whose interest may be affected by the proceeding."<sup>16</sup> The Commission regulations implementing section 189a require that a licensing board, in deciding whether the petitioner has an interest affected by the proceeding, consider (1) the nature of the petitioner's right under the AEA to be made a party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any decision or order that may be issued in the proceeding on the petitioner's interest.<sup>17</sup> In determining whether an individual or organization should be granted party status in a proceeding based on standing "as of right," the agency has applied contemporaneous judicial standing concepts that require a participant to establish (1) it has suffered or will suffer "a distinct and palpable harm that

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<sup>10</sup>Northern States Power Company's Motion to Strike Portions of the Prairie Island Indian Community's Reply (Sept. 29, 2008) [hereinafter Northern States Motion to Strike].

<sup>11</sup>NRC Staff's Response Supporting Northern States Power Company's Motion to Strike Portions of the Prairie Island Indian Community's Reply (Oct. 9, 2008) [hereinafter NRC Staff's Response to Motion to Strike].

<sup>12</sup>Prairie Island Indian Community's Response Opposing Northern States Power Company's Motion to Strike Portions of the Prairie Island Indian Community's Reply (Oct. 10, 2008) [hereinafter PIIC's Response Opposing Motion to Strike].

<sup>13</sup>See Tr. at 1-162.

<sup>14</sup>10 C.F.R. § 2.309(a).

<sup>15</sup>42 U.S.C. § 2011 *et seq.*

<sup>16</sup>*Id.* § 2239(a)(1)(A).

<sup>17</sup>10 C.F.R. § 2.309(d)(1).

constitutes injury-in-fact within the zone of interests arguably protected by the governing statute[s]’ (e.g., the AEA or the National Environmental Policy Act of 1969 (NEPA)); (2) “the injury can fairly be traced to the challenged action;” and (3) “the injury is likely to be redressed by a favorable decision.”<sup>18</sup>

In applying the traditional requirements for standing, the Commission has recognized that a petitioner may have standing based upon its geographical proximity to a particular facility.<sup>19</sup> In certain types of proceedings, the Commission will presume that “a petitioner has standing to intervene without the need to specifically plead injury, causation, and redressability if the petitioner lives within, or otherwise has frequent contacts with, the zone of possible harm from the nuclear reactor or other source of radioactivity.”<sup>20</sup> This presumption, known as the “proximity presumption,” has been found to arise in a license renewal proceeding if the petitioner lives within a specific distance from the power reactor.<sup>21</sup>

An organization may establish its standing to intervene based on either organizational standing or representational standing. Organizational standing arises if the organization can demonstrate that the licensing action will cause an institutional injury to the organization’s interests.<sup>22</sup> Representational standing requires the organization to demonstrate that the licensing action will affect at least one of its members. The organization must identify the member by name and address, demonstrate that the member has standing, and show that the organization is authorized to request a hearing on that member’s behalf.<sup>23</sup>

It is important to note that, in determining whether a petitioner has met

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<sup>18</sup> *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 6 (1996); see also *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992); *Dellums v. NRC*, 863 F.2d 968, 971 (D.C. Cir. 1988); *Public Service Co. of New Hampshire* (Seabrook Station, Unit 1), CLI-91-14, 34 NRC 261, 266-67 (1991); *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 92 (1993).

<sup>19</sup> See *Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325, 329 (1989).

<sup>20</sup> *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 146 (2001), *aff’d on other grounds*, CLI-01-17, 54 NRC 3 (2001).

<sup>21</sup> See *St. Lucie*, CLI-89-21, 30 NRC at 329-30; *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant, Unit 1), LBP-07-11, 66 NRC 41, 52 (2007); *Turkey Point*, LBP-01-6, 53 NRC at 146-50.

<sup>22</sup> See *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 195 (1998).

<sup>23</sup> *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), CLI-00-20, 52 NRC 151, 163 (2000).



the requirements for establishing standing, the Commission has directed us to “construe the petition in favor of the petitioner.”<sup>24</sup>

## **B. Ruling on Standing**

In its Petition, PIIC states it is a federally recognized Indian Tribe with a 1,900-acre reservation situated just 600 yards north of PINGP.<sup>25</sup> It further states that nearly half of the tribe’s 767 members live on or near the reservation.<sup>26</sup> Given the Indian Community’s close proximity to the facility, PIIC is concerned that renewal of the PINGP license might affect the health and safety of its members and might have a detrimental effect on the environment in which the Community is situated, especially as it relates to the protection of burial mounds and other areas of cultural, historical, or spiritual significance.<sup>27</sup> The PIIC is represented by its General Counsel, Philip Mahowald, who filed a notice of appearance on August 18, 2008.<sup>28</sup> The notice indicates that Mr. Mahowald is a member of the bar in Minnesota and South Dakota.<sup>29</sup> At oral argument, Mr. Mahowald indicated he is also a member of the bar of the PIIC Tribal Court.<sup>30</sup>

Northern States does not challenge PIIC’s standing to intervene in this proceeding.<sup>31</sup> NRC Staff, however, expresses some concern about PIIC’s standing. Specifically, NRC Staff states that it does not oppose PIIC’s intervention in this matter “provided that the Petition is properly supplemented with evidence that a tribe official has authorized participation of PIIC as an entity in this proceeding and represented by the attorneys [*sic*] of record.”<sup>32</sup> NRC Staff suggests that the Board require an affidavit from a tribe official authorizing participation and representation.<sup>33</sup> In response to this suggestion, Mr. Mahowald submitted a declaration stating that he is General Counsel for PIIC<sup>34</sup> and that on July 16, 2008, the PIIC Tribal Council approved a motion authorizing him to file a petition to intervene

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<sup>24</sup> *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 115 (1995).

<sup>25</sup> PIIC Petition at 2.

<sup>26</sup> *Id.* at 3.

<sup>27</sup> *Id.*

<sup>28</sup> Notice of Appearance for Philip R. Mahowald (Aug. 18, 2008) [hereinafter Mahowald Notice of Appearance].

<sup>29</sup> *Id.*

<sup>30</sup> Tr. at 47.

<sup>31</sup> Northern States Answer at 3; Tr. at 49.

<sup>32</sup> NRC Staff Answer at 5.

<sup>33</sup> *Id.* at 6.

<sup>34</sup> PIIC Reply, Declaration of Philip R. Mahowald ¶ 1 (Sept. 19, 2008) [hereinafter Mahowald Declaration].

and request an adjudicatory hearing in this proceeding.<sup>35</sup> Mr. Mahowald's declaration was submitted under penalty of perjury and attached to the PIIC Reply.

Under the Commission's regulations, specifically 10 C.F.R. § 2.314, Mr. Mahowald was not required to submit this declaration. On the contrary, Mr. Mahowald's Notice of Appearance is sufficient in itself for him to represent PIIC in this proceeding. Section 2.314 distinguishes between representation by an attorney and representation by a nonattorney. Section 2.314(b) provides:

Representation. A person may appear in an adjudication on his or her own behalf or by an attorney-at-law. A partnership, corporation, or unincorporated association may be represented by a duly authorized member or officer, or by an attorney-at-law. A party may be represented by an attorney-at-law if the attorney is in good standing and has been admitted to practice before any Court of the United States, the District of Columbia, or the highest court of any State, territory, or possession of the United States. Any person appearing in a representative capacity shall file with the Commission a written notice of appearance. The notice must state his or her name, address, telephone number, and facsimile number and email address, if any; the name and address of the person or entity on whose behalf he or she appears; and, in the case of an attorney-at-law, the basis of his or her eligibility as a representative or, in the case of another representative, the basis of his or her authority to act on behalf of the party.<sup>36</sup>

Thus, PIIC may be represented by Mr. Mahowald because he is an attorney-at-law in good standing, and he has been admitted to practice before the highest court in two states. As an attorney, his statement that he is General Counsel of the PIIC and his Notice of Appearance are all the bases he must present to act on behalf of the party. He need only give the name and address of the person or entity on whose behalf he appears. Counsel Mahowald's Notice of Appearance is therefore sufficient for him to represent the PIIC.

This Board easily concludes that PIIC has established organizational standing in accord with section 2.309(d). The PIIC Petition, submitted by its counsel, declares it is a sovereign, federally recognized Indian Tribe, a factual representation that NRC Staff does not contest. Further, PIIC's reservation is located contiguous with the PINGP facility. A majority of tribal members live near the PINGP, clearly within the "zone of possible harm"<sup>37</sup> from the nuclear facility. PIIC has signed a Memorandum of Understanding with the NRC, designating PIIC as a

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<sup>35</sup> *Id.* ¶ 2.

<sup>36</sup> 10 C.F.R. § 2.314(b).

<sup>37</sup> *Turkey Point*, LBP-01-6, 53 NRC at 146.

cooperating agency for the environmental review of the LRA.<sup>38</sup> And PIIC has identified property, financial, and historical interests that may be affected by the pending Application. Thus, this Board finds that PIIC has met the requirements of section 2.309(d) and has standing to intervene.

### III. CONTENTION ANALYSIS

#### A. Standards Governing Contention Admissibility

In addition to demonstrating standing, a petitioner must also proffer at least one admissible contention to be admitted as a party to a proceeding.<sup>39</sup> For license renewal proceedings, the Commission's contention pleading requirements are found in 10 C.F.R. § 2.309(f)(1)(i)-(vi) and incorporate the prior contention pleading requirements of old 10 C.F.R. § 2.714 (2004).<sup>40</sup> Specifically, section 2.309(f)(1) of the Commission's regulations sets out the requirements that must be met if a contention is to be admitted. An admissible contention must (1) provide a specific statement of the legal or factual issue sought to be raised; (2) provide a brief explanation of the basis for the contention; (3) demonstrate that the issue raised is within the scope of the proceeding; (4) demonstrate that the issue raised is material to the findings the NRC must make to support the action that is involved in the proceeding; (5) provide a concise statement of the alleged facts or expert opinions, including references to specific sources and documents, that support the petitioner's position and upon which the petitioner intends to rely at the hearing; and (6) provide sufficient information to show that a genuine dispute exists in regard to a material issue of law or fact, including references to specific portions of the application that the petitioner disputes, or in the case when the application is alleged to be deficient, the identification of such deficiencies and supporting reasons for this belief.<sup>41</sup> The purpose of the contention rule is to "focus litigation on concrete issues and result in a clearer and more

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<sup>38</sup> Memorandum of Understanding Between the U.S. Nuclear Regulatory Commission and the Prairie Island Indian Community as a Cooperating Agency (June 14, 2008) (ADAMS Accession No. ML081610273) [hereinafter Memorandum of Understanding].

<sup>39</sup> 10 C.F.R. § 2.309(a).

<sup>40</sup> The pleading requirements of former 10 C.F.R. § 2.714(b) now appear in the regulations as 10 C.F.R. § 2.309(f)(1)(i), (ii), (v), and (vi). Section 2.309(f)(1)(iii)-(iv) additionally requires that a contention be within the scope of the proceeding and material to the findings the NRC must make.

<sup>41</sup> 10 C.F.R. § 2.309(f)(1)(i)-(vi).

focused record for decision.’’<sup>42</sup> The Commission has emphasized that the rules on contention admissibility are ‘‘strict by design.’’<sup>43</sup> Further, contentions challenging the Commission’s regulations are not admissible in agency adjudications.<sup>44</sup> Failure to comply with any of these requirements is grounds to reject a contention.<sup>45</sup> However, the petitioner is not required to provide an exhaustive discussion in its proffered contention, so long as the contention meets the Commission’s admissibility requirements.

The application of these requirements has been further developed by NRC case law, as is summarized below.

### ***1. Specific Statement and Brief Explanation of the Basis for the Contention***

An admissible contention must include not only a ‘‘specific statement of the issue of law or fact to be raised or controverted,’’<sup>46</sup> but also a ‘‘brief explanation of the basis for the contention.’’<sup>47</sup> When the contention admissibility standards were revised in 1989, the Commission commented that ‘‘a petitioner must provide some sort of minimal basis indicating the potential validity of the contention.’’<sup>48</sup> This ‘‘brief explanation’’ of the logical underpinnings of a contention does not require a petitioner ‘‘to provide an exhaustive list of possible bases, but simply to provide sufficient alleged factual or legal bases to support the contention.’’<sup>49</sup>

### ***2. Within the Scope of the Proceeding***

A petitioner must demonstrate that the ‘‘issue raised in the contention is within the scope of the proceeding.’’<sup>50</sup> The scope of the proceeding is defined by the

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<sup>42</sup> 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004); *see also Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 553-54 (1978); *Business and Professional People for the Public Interest v. AEC*, 502 F.2d 424, 428 (D.C. Cir. 1974); *Philadelphia Electric Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20 (1974).

<sup>43</sup> *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358 (2001), *reconsideration denied*, CLI-02-1, 55 NRC 1 (2002).

<sup>44</sup> 10 C.F.R. § 2.335(a).

<sup>45</sup> 69 Fed. Reg. at 2221; *Private Fuel Storage, LLC* (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999); *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155 (1991).

<sup>46</sup> 10 C.F.R. § 2.309(f)(1)(i).

<sup>47</sup> *Id.* § 2.309(f)(1)(ii).

<sup>48</sup> 54 Fed. Reg. 33,168, 33,170 (Aug. 11, 1989).

<sup>49</sup> *Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-04-35, 60 NRC 619, 623 (2004).

<sup>50</sup> 10 C.F.R. § 2.309(f)(1)(iii).

Commission in its initial hearing notice and order referring the proceeding to the licensing board.<sup>51</sup> Any contention that falls outside the specified scope of the proceeding must be rejected.<sup>52</sup>

Challenges to NRC regulations are almost always outside the scope of the proceeding. With limited exceptions, “no rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding.”<sup>53</sup> Additionally, the adjudicatory process is not the proper venue to hear any contention that merely addresses petitioner’s own views on regulatory policy.<sup>54</sup> In sum, any contention that amounts to an attack on applicable regulatory requirements must be rejected.<sup>55</sup>

### **3. *Materiality***

An admissible contention must assert an issue of law or fact that is “material to the findings the NRC must make to support the action that is involved in the proceeding.”<sup>56</sup> In other words, the subject matter of the contention must impact the grant or denial of a pending license application.<sup>57</sup> “Materiality” requires the petitioner to show why the alleged error or omission is of significance to the result of the proceeding.<sup>58</sup> This means that there must be some link between the claimed deficiency and the agency’s ultimate determination regarding whether or not the license applicant will adequately protect the health and safety of the public and the environment.<sup>59</sup>

### **4. *Concise Statement of the Alleged Facts or Expert Opinion***

An admissible contention must include “a concise statement of the alleged facts or expert opinions which support the requestor’s/petitioner’s position on the issue . . . together with references to the specific sources and documents on which

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<sup>51</sup> *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-825, 22 NRC 785, 790-91 (1985).

<sup>52</sup> *See Portland General Electric Co.* (Trojan Nuclear Plant), ALAB-534, 9 NRC 287, 289-90 n.6 (1979).

<sup>53</sup> 10 C.F.R. § 2.335(a); *see also Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 207, 218 (2003).

<sup>54</sup> *Peach Bottom*, ALAB-216, 8 AEC at 21 n.33.

<sup>55</sup> *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), LBP-82-76, 16 NRC 1029, 1035 (1982) (citing *Peach Bottom*, ALAB-216, 8 AEC at 20-21).

<sup>56</sup> 10 C.F.R. § 2.309(f)(1)(iv).

<sup>57</sup> *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 179-80 (1998).

<sup>58</sup> *Id.* at 179.

<sup>59</sup> *Id.* at 180.

[it] intends to rely to support its position.”<sup>60</sup> “It is the obligation of the petitioner to present the factual information or expert opinions necessary to support its contention adequately.”<sup>61</sup> “[F]ailure to do so requires that the contention be rejected.”<sup>62</sup>

Determining whether a contention is adequately supported by a concise allegation of the facts or expert opinion is, however, distinct from what is required to support the petitioner’s case at a hearing on the merits.<sup>63</sup> The petitioner does not need to prove its contention at this stage in the proceeding.<sup>64</sup> While the petitioner must present adequate support and demonstrate a genuine issue of material fact, the amount of support required to meet the contention admissibility threshold is less than is required at the summary disposition stage.<sup>65</sup> And, as with a summary disposition motion,<sup>66</sup> a “Board may appropriately view Petitioners’ support for its contention in a light that is favorable to the Petitioner.”<sup>67</sup>

Nonetheless, “mere ‘notice pleading’ is insufficient under these standards.”<sup>68</sup> Any supporting material provided by a petitioner, including those portions of the material that are not relied upon, is subject to Board scrutiny.<sup>69</sup> A petitioner’s contention “will be ruled inadmissible if the petitioner ‘has offered no tangible information, no experts, no substantive affidavits,’ but instead only ‘bare assertions and speculation.’”<sup>70</sup> And if a petitioner neglects to provide the requisite support for its contentions, the Board may not make assumptions of fact that

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<sup>60</sup> 10 C.F.R. § 2.309(f)(1)(v).

<sup>61</sup> *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356 (2006).

<sup>62</sup> *Id.*; *Palo Verde*, CLI-91-12, 34 NRC at 155.

<sup>63</sup> *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-06-20, 64 NRC 131, 151 (2006).

<sup>64</sup> *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 139 (2004).

<sup>65</sup> 54 Fed. Reg. at 33,171 (“[A]t the contention filing stage the factual support necessary to show that a genuine dispute exists need not be in affidavit or formal evidentiary form and need not be of the quality necessary to withstand a summary disposition motion”).

<sup>66</sup> *See Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), LBP-03-21, 58 NRC 338, 342 (2003).

<sup>67</sup> *Palo Verde*, CLI-91-12, 34 NRC at 155.

<sup>68</sup> *Fansteel, Inc.* (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 203 (2003). “Notice pleading” is a broad standard requiring only “a short and plain statement of the claim.” *Conley v. Gibson*, 355 U.S. 41, 47 (1957).

<sup>69</sup> *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 90 (1996); *rev’d in part on other grounds*, CLI-96-7, 43 NRC 235 (1996).

<sup>70</sup> *Fansteel*, CLI-03-13, 58 NRC at 203 (quoting *GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 208 (2000)).

favor the petitioner or supply information that is lacking.<sup>71</sup> Likewise, simply attaching material or documents in support of a contention, without explaining their significance, is inadequate to support the admission of a contention.<sup>72</sup> Rather, a Board will carefully examine the supporting facts or expert opinions provided to confirm their adequacy.<sup>73</sup>

### **5. *Genuine Dispute Regarding Specific Portions of Application***

All contentions must “show that a genuine dispute exists” on a material issue of law or fact with regard to the license application in question. The contention must challenge and identify either specific portions of, or alleged omissions from, the application and provide the supporting reasons for each dispute.<sup>74</sup> Any contention that fails to controvert directly the application or that mistakenly asserts the application does not address a relevant issue must be dismissed.<sup>75</sup>

### **B. Standards Governing Reply Comments**

Pursuant to the NRC’s rules in 10 C.F.R. § 2.309(h)(2), a petitioner may file a reply to any answer to a hearing petition within 7 days after service of that answer. While the rules do not specify the content of such a reply, the Statement of Considerations published with the final rule made clear that a petitioner’s reply brief “should be narrowly focused on the legal or logical arguments presented in the applicant/licensee or NRC staff answer.”<sup>76</sup> In other words, a reply is not an opportunity for a petitioner to bolster its original contentions with new supporting facts and arguments. Rather, it is a chance to “amplify” issues presented in the initial petition as well as the applicant’s and NRC Staff’s answers.<sup>77</sup> To the extent a petitioner uses the reply as an “attempt to reinvigorate thinly supported contentions by presenting entirely new arguments,” the Board should decline to

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<sup>71</sup> *Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), LBP-01-35, 54 NRC 403, 422 (2001); *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), LBP-95-6, 41 NRC 281, 305 (1995).

<sup>72</sup> *See Fansteel*, CLI-03-13, 58 NRC at 204-05.

<sup>73</sup> *See Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-919, 30 NRC 29, 48 (1989), *vacated in part on other grounds and remanded*, CLI-90-4, 31 NRC 333 (1990).

<sup>74</sup> 10 C.F.R. § 2.309(f)(1)(vi).

<sup>75</sup> *See Sacramento Municipal Utility District* (Rancho Seco Nuclear Generating Station), LBP-93-23, 38 NRC 200, 247-48 (1993), *review declined*, CLI-94-2, 39 NRC 91 (1994).

<sup>76</sup> 69 Fed. Reg. 2182, 2203 (Jan. 14, 2004).

<sup>77</sup> *Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-04-25, 60 NRC 223 (2004), *reconsideration denied*, CLI-04-35, 60 NRC at 623.

consider it.<sup>78</sup> The Commission has provided further guidance on the appropriate content of a reply. In the *Palisades* license renewal proceeding, the licensing board had held that it would not “consider anything in the [Petitioner’s] Reply that [did] not focus on the matters raised in the [Applicant’s and NRC Staff’s] answers.”<sup>79</sup> The licensing board declined to consider information first submitted in the petitioners’ reply, finding that petitioners had provided no good cause for failing to provide that information with the original petition to intervene.<sup>80</sup> Thus, the licensing board limited its admissibility review to that information submitted with the original petition in support of the contention.<sup>81</sup> The Commission affirmed the *Palisades* licensing board’s decision, ruling that the petitioner’s reply “constituted an untimely attempt to supplement” the contention.<sup>82</sup> It is, however, appropriate to take into account any information from a reply that legitimately amplifies issues presented in the original petition.<sup>83</sup> Further, it is proper for a reply to respond to the legal, logical, and factual arguments presented in answers, so long as new issues are not raised.<sup>84</sup>

In certain circumstances, the Board may allow a petitioner to file new or amended contentions based on new information.<sup>85</sup> Specifically, under NEPA a petitioner can “file new contentions if there are data or conclusions in the NRC draft or final environmental impact statement, environmental assessment, or any supplements relating thereto, that differ significantly from the data or conclusions in the applicant’s documents.”<sup>86</sup> Outside the NEPA context, a petitioner can file a new or amended contention upon a showing that

- (i) The information upon which the amended or new contention is based was not previously available;
- (ii) The information upon which the amended or new contention is based is materially different than information previously available; and

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<sup>78</sup> *Id.* at 224.

<sup>79</sup> *Nuclear Management Co., LLC* (Palisades Nuclear Plant), LBP-06-10, 63 NRC 314, 329 (2006).

<sup>80</sup> *Id.* at 351.

<sup>81</sup> *Id.*

<sup>82</sup> *Nuclear Management Co., LLC* (Palisades Nuclear Plant), CLI-06-17, 63 NRC 727, 730 (2006).

<sup>83</sup> *PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-07-4, 65 NRC 281, 302 (2007).

<sup>84</sup> *Id.*; see also *LES*, CLI-04-25, 60 NRC at 225 (quoting 69 Fed. Reg. at 2203, which states that a reply must be “narrowly focused on the legal or logical arguments presented in the applicant/licensee or NRC staff answer”); *Palisades*, CLI-06-17, 63 NRC at 732 (noting that “[r]eplies must focus narrowly on the legal or factual arguments first presented in the original petition or raised in the answers to it”).

<sup>85</sup> 10 C.F.R. § 2.309(f)(2).

<sup>86</sup> *Id.*



(iii) The amended or new contention has been submitted in a timely fashion based on the availability of the subsequent information.<sup>87</sup>

Applying the standards stated in Section II.A, we draw the following conclusions on the admissibility of PIIC's eleven proffered contentions.

### **C. Rulings on Petitioner's Contentions**

#### **1. PIIC Contention 1**

The analysis of historical and archaeological resources in Section 4.1.6 of the Environmental Report (Pages 4-54 to 4-56) is incomplete because it does not contain information sufficient to make an accurate assessment of whether any historic or archaeological properties will be affected by the proposed license renewal and does not comply with 10 C.F.R. § 51.53(c)(3)(ii)(K).<sup>88</sup>

In this contention, Petitioner argues that Applicant's Environmental Report (ER) fails to provide adequate assurance that cultural properties and artifacts, central to the core beliefs and value system of the Community, will be protected during the relicensing period.<sup>89</sup> Petitioner lists a number of concerns. First, it points to The 106 Group, which Applicant hired to assess the cultural properties of the PINGP site based solely on a review of collected literature. Because The 106 Group identified "undisturbed land" within the study area and noted the "potential for finding intact burials," PIIC urges that Northern States has an obligation to perform a thorough field assessment before undertaking any construction activity.<sup>90</sup> Second, Petitioner states that it disapproves of Applicant's "Excavation and Trenching Controls" program to protect historic resources because it grants authority to an Environmental Coordinator whose qualifications are not specified.<sup>91</sup> Petitioner also faults Applicant for failing to identify exactly where refurbishment activities, such as the steam generator replacement project, will occur<sup>92</sup> and for ignoring the potential impacts of the expansion of PINGP's Independent Spent Fuel Storage Installation (ISFSI).<sup>93</sup> Finally, PIIC points to the lack of care for cultural resources during the construction of the original units at

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<sup>87</sup> *Id.*

<sup>88</sup> PIIC Petition at 5.

<sup>89</sup> *Id.* at 6.

<sup>90</sup> *Id.* at 7.

<sup>91</sup> *Id.* at 8.

<sup>92</sup> *Id.*

<sup>93</sup> *Id.* at 9.

PINGP, as well as during preconstruction excavation, as cause for concern during the current relicensing proceeding.<sup>94</sup>

Northern States and NRC Staff argue that this contention is inadmissible because it does not demonstrate a genuine, material dispute with the application, is not supported by any expert opinion, and raises issues beyond the scope of the proceeding.<sup>95</sup> Specifically, Applicant asserts that it has no obligation to perform new field work, since The 106 Group assessment relied on several prior surveys that did involve field work.<sup>96</sup> Applicant further maintains that it does not need to specify the exact location of steam generator construction activities beyond the fact that they will occur in “previously disturbed areas.”<sup>97</sup> Both Applicant and NRC Staff point out that any future proposal to expand the ISFSI would fall under a separate license, outside the scope of this proceeding.<sup>98</sup>

In its reply, Petitioner presents evidence intended to show that the surveys relied upon by The 106 Group in its assessment, which were conducted in the 1960s, were faulty. First, PIIC points out that two previously undiscovered sites of cultural significance were discovered in the 1980s.<sup>99</sup> Also, PIIC notes that a human burial mound site was impacted by construction of the original cooling towers.<sup>100</sup> Petitioner further insists that Applicant provides no assurance that the steam generator replacement activities will be confined to previously disturbed areas.<sup>101</sup>

Northern States filed a motion to strike portions of Petitioner’s reply, arguing that the reply raises new claims that could have been raised in the Petition.<sup>102</sup> NRC Staff supports, in part, the motion to strike.<sup>103</sup>

The Board finds Contention 1 admissible. First, we note that under Commission regulations, an applicant must “assess whether any historic or archaeological properties will be affected by the proposed project.”<sup>104</sup> The regulations also shed light on the required extent of this assessment: “The environmental report should contain sufficient information to aid the Commission in development of an

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<sup>94</sup> *Id.* at 10-11.

<sup>95</sup> Northern States Answer at 11; NRC Staff Answer at 15.

<sup>96</sup> Northern States Answer at 11-12.

<sup>97</sup> *Id.* at 12-13.

<sup>98</sup> *Id.* at 15; NRC Staff Answer at 16-17.

<sup>99</sup> PIIC Reply at 5.

<sup>100</sup> *Id.* at 6-7.

<sup>101</sup> *Id.* at 5-6.

<sup>102</sup> Northern States Motion to Strike at 7-8.

<sup>103</sup> NRC Staff’s Response to Motion to Strike at 4-6. NRC Staff disagrees with Applicant’s motion to strike on just one point. Namely, NRC Staff believes that the statement “additional survey work is needed before construction begins,” which Applicant wants stricken from PIIC’s Reply, is a legitimate reiteration of a claim in the original Petition.

<sup>104</sup> 10 C.F.R. § 51.53(c)(3)(ii)(K).

independent analysis.”<sup>105</sup> In the present case, Applicant has attempted to satisfy this requirement by stating its belief that historic and archaeological resources will not be disturbed and detailing its intended actions to ensure this outcome.<sup>106</sup> These intended actions consist of using available surveys to avoid disturbances, restricting refurbishment activities to previously disturbed areas, and designating an Environmental Coordinator to be present during excavation operations.

Petitioner has properly articulated a challenge to Applicant’s assessment of cultural resources. In essence, PIIC has made the assertion that, in order to “aid the Commission in its development of an independent analysis,”<sup>107</sup> Applicant’s ER should also include any pitfalls to its plan to protect cultural resources. As pointed out by the PIIC in its Petition, these pitfalls include the facts that existing surveys are imperfect, that land identified as “previously disturbed” may still contain historic sites, that the location of refurbishment activities is not adequately specified, and that the Environmental Coordinator’s qualifications are not known. The Board finds that the information contained in the Petition is sufficient to raise a genuine and material dispute.<sup>108</sup>

In admitting this contention, the Board finds it unnecessary to rely on Petitioner’s statements in the reply. Nonetheless, we note that certain parts of the reply contain information that did not become available to Petitioner until after the due date for contentions to be filed. As Petitioner confirmed at oral argument, it did not learn about two facts — the artifacts discovered in the 1980s and the burial mounds destroyed during construction of the original cooling towers — until the Environmental Site Audit of August 21, 2008, 3 days after filing its Petition to intervene.<sup>109</sup> The Board does not rely on these facts from the reply but notes that, to the degree these facts are relevant, they may be litigated in the context of any merits consideration of this case.

Finally, the Board rejects those portions of Contention 1 that refer to the ISFSI expansion as a potential source of archaeological destruction. As both Applicant and NRC Staff explain, expansion of the ISFSI “is a separate project, subject to a separate proceeding, and governed by the regulations in 10 C.F.R. Part 72, not the license renewal regulations at 10 C.F.R. Part 54.”<sup>110</sup> Therefore, Applicant has no obligation to discuss the impacts of a potential ISFSI expansion in its ER. Moreover, section 51.53(c)(3)(ii)(K) requires an applicant to assess only those historical resources affected by a “proposed project.” As of yet, NRC has

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<sup>105</sup> *Id.* § 51.45(c).

<sup>106</sup> ER at 4-54 to -56.

<sup>107</sup> 10 C.F.R. § 51.45(c).

<sup>108</sup> *Id.* § 2.309(f)(1)(vi).

<sup>109</sup> PIIC Reply at 6-7; Tr. at 17-18.

<sup>110</sup> NRC Staff Answer at 16; *see also* Northern States Answer at 15.

received no proposal from Applicant to expand the ISFSI at PINGP.<sup>111</sup> For these reasons, the Board finds this element of Contention 1 to be outside the scope of this proceeding.<sup>112</sup>

Contention 1 is admitted in the following form:

The ER in the LRA does not provide an adequate analysis of historical and archaeological resources that may be affected by the proposed license renewal. The LRA does not include information concerning pitfalls that could adversely affect the plan to avoid damage to Historical and Archaeological Resources.

## 2. *PIIC Contention 2*

The severe accident mitigation alternatives (SAMA) analysis does not accurately reflect decontamination costs associated with a severe accident at the Prairie Island site and, therefore, the SAMA analysis underestimates the cost of a severe accident and is not in compliance with 10 C.F.R. § 51.53(c)(3)(ii)(L).<sup>113</sup>

Petitioner argues that the SAMA analysis for PINGP should incorporate the methodology contained in the 1996 Site Restoration Study,<sup>114</sup> rather than use the “outdated” cost figures contained in the MELCOR Accident Consequence Code System (MACCS2).<sup>115</sup> According to Petitioner, the Site Restoration Study’s “methodology and conclusions to estimate decontamination costs are directly applicable to the SAMA analysis in the ER.”<sup>116</sup> Petitioner further asserts that the SAMA analysis should account for the cultural and economic impacts of a severe reactor accident, including the stigma effects on the tourist industry associated with the Treasure Island Casino and Resort and the unique property values of the

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<sup>111</sup> Northern States Answer at 15.

<sup>112</sup> 10 C.F.R. § 2.309(f)(1)(iii).

<sup>113</sup> PIIC Petition at 11.

<sup>114</sup> D. Chanin & W. Murfin, Site Restoration: Estimation of Attributable Costs from Plutonium-Dispersal Accidents, SAND96-0957 (May 1996).

<sup>115</sup> PIIC Petition at 11. The SAMA analysis is a process that determines the worth of potential actions that could be taken, in advance, to mitigate the effects of a severe accident. One step in this process is to determine the cost of a severe accident with no mitigation measures instituted. As part of that determination, the licensee must calculate the cost of decontaminating adjacent properties — all affected property within a 50-mile radius of the plant. The MACCS2 code is the standard method for performing this calculation and, indeed, it was used by Northern States in its relicensing Application. An alternative method for performing this particular cost calculation is described in the Site Restoration Study.

<sup>116</sup> *Id.* at 12.

land surrounding PIIC.<sup>117</sup> According to Petitioner, the SAMA analysis currently underrepresents the real value of PIIC's property adjacent to the plant.<sup>118</sup>

Applicant and NRC Staff both oppose the admission of Contention 2, arguing that it lacks support and fails to establish a material dispute with the Application.<sup>119</sup> Applicant notes that the MACCS2 code is widely used and endorsed by the NRC.<sup>120</sup> Moreover, it asserts that the Site Restoration Study was developed for a plutonium-dispersal accident, not a severe reactor accident.<sup>121</sup> Thus, Applicant claims it is not "directly applicable" to the PINGP site, as Petitioner maintains. NRC Staff argues that Contention 2 fails to raise a material issue, since "[n]owhere . . . does the Petitioner allege that the use of the cost figures from the Sandia Report would result in additional SAMAs applicable to Prairie Island."<sup>122</sup> Finally, NRC Staff points out that, contrary to Petitioner's assertion, the ER does in fact incorporate site-specific property values in the SAMA analysis.<sup>123</sup>

In its reply, Petitioner clarifies that "[t]he Community does not claim that the MACCS2 code is outdated, . . . but rather that the Sandia Site Restoration Study provides information related to clean-up costs that must be factored in to the Applicant's SAMA analysis."<sup>124</sup> Neither Applicant nor NRC Staff moves to strike any portion of this reply.

The Board finds that Petitioner has set forth an admissible contention. Petitioner has alleged specific deficiencies in the ER and provided adequate support for its position. Petitioner argues that the SAMA analysis, which Applicant undertook in section 4.17 of the ER, does not accurately reflect the cost of cleanup at the PINGP site because it relies on outdated assumptions and it undervalues the land occupied by the Indian Community. During oral argument, Petitioner reiterated that it does not oppose use of the MACCS2 code.<sup>125</sup> Rather, it believes that the Site Restoration Study methodology should be used to develop more appropriate input specific to the Prairie Island region.<sup>126</sup> Neither Applicant nor NRC Staff disputes this statement.<sup>127</sup> Although Northern States claims that it did incorporate site-specific property values in its analysis, Petitioner believes that the values

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<sup>117</sup> *Id.* at 13.

<sup>118</sup> *Id.*

<sup>119</sup> Northern States Answer at 17; NRC Staff Answer at 17.

<sup>120</sup> Northern States Answer at 17.

<sup>121</sup> *Id.*

<sup>122</sup> NRC Staff Answer at 18.

<sup>123</sup> *Id.* at 19.

<sup>124</sup> PIIC Reply at 10.

<sup>125</sup> Tr. at 73.

<sup>126</sup> *Id.*

<sup>127</sup> Tr. at 71-72, 80-81.

used do not reflect the property's actual value to the PIIC. Thus, Petitioner has established a genuine dispute with the Application.<sup>128</sup>

Regarding the applicability of the Site Restoration Study, this Board acknowledges that the study primarily addresses plutonium-dispersal accidents. But, as Petitioner points out, the study does address severe reactor accidents as well. Specifically, it states that “[d]ata on recovery from nuclear explosions that have been publicly available since the 1960’s appear to have been misinterpreted, which has led to long-standing underestimates of the potential economic costs of severe reactor accidents.”<sup>129</sup> Based on this quotation, as well as the reasoning of the *Indian Point* Licensing Board in recently admitting a similar contention,<sup>130</sup> we conclude that the Site Restoration Study provides an adequate basis for admitting Contention 2.<sup>131</sup>

This Board finds that Petitioner has raised questions of material fact, adduced sufficient support for its contention, and demonstrated a genuine dispute with the Application.<sup>132</sup> Therefore, we admit Contention 2 in the following form:

The SAMA analysis in the LRA does not accurately reflect the site restoration costs for the area surrounding the PINGP, including the PIIC and its associated Treasure Island complex. The Site Restoration Study methodology should be used to develop more appropriate input for the analysis.

### 3. *PIIC Contention 3*

The information and analysis in the ER on endangered and threatened species is inadequate and incomplete and does not comply with 10 C.F.R. § 51.53(c)(3)(ii)(E).<sup>133</sup>

This contention is supported by two specific factual allegations. First, Petitioner asserts that Applicant did not adequately discuss impacts on the Higgins eye pearlymussel, an endangered species present in the vicinity of PINGP.<sup>134</sup>

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<sup>128</sup> 10 C.F.R. § 2.309(f)(1)(vi).

<sup>129</sup> PIIC Petition at 13.

<sup>130</sup> *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-08-13, 68 NRC 43, 102 (2008)]. Northern States tries to distinguish *Indian Point* by suggesting that the Site Restoration Study applies to “large scale urban areas” like the area surrounding Indian Point, but not to rural areas like the area surrounding PINGP. Northern States Answer at 20. But PIIC insists that it applies “to a broad range of environments, not just urban areas.” PIIC Reply at 10. Specifically, Petitioner notes that “the study examined the costs for extended remediation for mixed-use urban land . . . , Midwest farmland, arid western rangeland, and forested area.” PIIC Petition at 12.

<sup>131</sup> 10 C.F.R. § 2.309(f)(1)(ii).

<sup>132</sup> *Id.* § 2.309(f)(1)(iv)-(vi).

<sup>133</sup> PIIC Petition at 14.

<sup>134</sup> *Id.* at 15-16.

According to PIIC, the ER should have included a more detailed discussion of entrainment and provided greater support for its conclusion that “renewal of the PINGP license is not expected to jeopardize” any endangered species.<sup>135</sup> Second, Petitioner states that Applicant failed to assess the impacts on endangered avian species resulting from collisions with transmission lines.<sup>136</sup> PIIC believes that because PINGP sits in an important migratory flyway, and because a study from the 1970s revealed a large number of bird mortalities around PINGP’s transmission lines, Applicant must identify and analyze the present-day impacts on endangered avian species.<sup>137</sup>

Applicant and NRC Staff believe that PIIC’s two assertions fail to identify any deficiency on a relevant matter in Northern States’ Application. Therefore, they assert, neither claim satisfies 10 C.F.R. § 2.309(f)(1)(vi). With regard to the Higgins eye pearlymussel, Applicant argues that PIIC provides “no basis — no expert opinion, reference, or other source — indicating that there is any significant effect requiring further analysis.”<sup>138</sup> On the contrary, Applicant believes the ER provides ample support for its “no jeopardy” conclusion.<sup>139</sup> Moreover, Applicant notes that under 10 C.F.R. § 51.53(c)(3)(ii)(B), Northern States had no obligation to analyze the impacts of entrainment, given that it provided a copy of its current section 316(b) determinations under the Clean Water Act.<sup>140</sup> Finally, NRC Staff faults Petitioner for failing to “specifically identify” the information omitted from the ER, thus raising no genuine dispute with the Application.<sup>141</sup>

With regard to endangered avian species, Applicant and NRC Staff argue that PIIC provides no support for its claim that PINGP’s transmission lines pose a threat to endangered birds.<sup>142</sup> Moreover, NRC Staff points out that Applicant does indeed address an endangered bird species — the peregrine falcon — in sections 4.6 and 4.7 of the ER.<sup>143</sup> To the extent Petitioner faults Northern States for adopting the Generic Environmental Impact Statement (GEIS) conclusion on avian collisions, NRC Staff and Applicant characterize this as an impermissible

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<sup>135</sup> *Id.*

<sup>136</sup> *Id.* at 16-17.

<sup>137</sup> *Id.* at 16-19.

<sup>138</sup> Northern States Answer at 23; *see also* NRC Staff Answer at 22.

<sup>139</sup> Northern States Answer at 23; *see also* NRC Staff Answer at 22.

<sup>140</sup> Northern States Answer at 22-23. Under 10 C.F.R. § 51.53(c)(3)(ii)(B), as long as the applicant can provide a copy of its current Clean Water Act 316(b) determinations, the Applicant does not need to “assess the impact of the proposed action on fish and shellfish resources resulting from heat shock and impingement and entrainment.”

<sup>141</sup> NRC Staff Answer at 23.

<sup>142</sup> Northern States Answer at 26; NRC Staff Answer at 23-24.

<sup>143</sup> NRC Staff Answer at 25.

attack on NRC rules.<sup>144</sup> Avian mortality from transmission lines in general, they point out, is a Category 1 issue outside the scope of this proceeding.<sup>145</sup>

In its reply, Petitioner suggests that Applicant still must evaluate entrainment impacts on the Higgins eye pearlymussel, citing to NRC Regulatory Guide 4.2S1 and the fact that Applicant's "316(b) report was not attached to the ER."<sup>146</sup> Petitioner also reiterates its concern about avian mortality and suggests that "it is not the Community's obligation to demonstrate that threatened or endangered avian species are being affected. That is the responsibility of the Applicant and the NRC."<sup>147</sup> Applicant, with NRC Staff's support, moves to strike certain parts of this reply.<sup>148</sup>

The Board rejects this contention in its entirety. With regard to the Higgins eye pearlymussel, NRC Staff stated at oral argument that Applicant's analysis in the ER provided adequate information for the NRC to develop an environmental impact statement and that, in NRC Staff's opinion, Northern States analyzed the potential impacts on the Higgins eye pearlymussel to the full extent required by section 51.53(c)(3)(ii)(E).<sup>149</sup> Petitioner provides no support for its claim that Applicant must offer further explanation and quantification of impacts other than "we are left wanting to know more."<sup>150</sup> We find that Petitioner does not sufficiently demonstrate the existence of a material dispute.<sup>151</sup> The Board thus rejects the first part of Contention 3.<sup>152</sup>

The Board also rejects the second part of Contention 3 related to endangered avian species. Based on our reading of the pleadings and the oral argument, we recognize two possible alternative grounds for this contention, but the contention fails in either case. If, on the one hand, Petitioner intends to challenge NRC's

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<sup>144</sup> Northern States Answer at 24-26; NRC Staff Answer at 25-26.

<sup>145</sup> Northern States Answer at 24-26; NRC Staff Answer at 25-26. The GEIS distinguishes between environmental issues that can be treated generically, adopting the GEIS discussion (Category 1), or which must be discussed explicitly for the subject plant (Category 2). Division of Regulatory Applications, Office of Nuclear Regulatory Research, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, NUREG-1437 (May 1996) (ADAMS Accession Nos. ML040690705, ML040690738).

<sup>146</sup> PHC Reply at 12-13.

<sup>147</sup> *Id.* at 16 n.2.

<sup>148</sup> NRC Staff's Response to Motion to Strike at 9; NRC Staff's Response to Motion to Strike at 6-7.

<sup>149</sup> Tr. at 84.

<sup>150</sup> Tr. at 85.

<sup>151</sup> 10 C.F.R. § 2.309(f)(1)(iv).

<sup>152</sup> To the extent Petitioner believes Applicant must address entrainment impacts in the ER, we agree that 10 C.F.R. § 51.53(c)(3)(ii)(B) relieves Applicant of this obligation. In any case, Applicant indicates that the decision to repopulate the Higgins eye pearlymussel was made by appropriate state and federal agencies. Northern States Answer at 24. Their determination that the upstream site was appropriate for repopulation regardless of the intake downstream undercuts Petitioner's unsupported assertion that the effects of entrainment have not adequately been evaluated.



generic conclusion regarding bird collisions with power lines, this represents an impermissible challenge to NRC regulations. On the other hand, if Petitioner intends to challenge Applicant's failure to address endangered avian species, Petitioner has failed to specify that any such species exist in the area or that they are impacted by PINGP's transmission lines. Moreover, Petitioner did not even acknowledge Applicant's analysis of one endangered avian species — the peregrine falcon. Because PIIC has identified no genuine dispute with Northern States' Application,<sup>153</sup> we are compelled to reject the second part of Contention 3.

Lastly, the Board finds this contention inadmissible notwithstanding any new information presented in PIIC's reply. Nothing in the reply has any bearing on our decision to reject Contention 3.

#### 4. PIIC Contention 4

Applicant's environmental report fails to consider the disparate impact of higher than average cancer rates and other adverse health impacts in the adjacent minority population.<sup>154</sup>

In Contention 4, Petitioner acknowledges that radiation exposure to the public is a Category 1 issue<sup>155</sup> but insists that "new and significant" evidence requires Applicant to analyze cancer effects in the ER.<sup>156</sup> This "new and significant" evidence consists of (1) the Declaration of Joseph J. Mangano from the aforementioned *Indian Point* proceeding, (2) a series of European studies reporting elevated cancer risks for people — especially children — who live close to nuclear facilities, and (3) other studies reporting that Native Americans in general, and those in Minnesota in particular, have higher cancer rates than the general population.<sup>157</sup> Based on these studies, Petitioner asserts that "children who live near nuclear power plants develop cancer and leukemia more frequently than [*sic*] those living farther away" and that "[t]he possibility of an increased risk for older children and adults living near NPPs cannot be ruled out."<sup>158</sup>

Applicant and NRC Staff maintain that Contention 4 is inadmissible because it "seeks to raise a Category 1 environmental issue that cannot be litigated in this proceeding absent a waiver of the rules by the Commission."<sup>159</sup> They go

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<sup>153</sup> 10 C.F.R. § 2.309(f)(1)(vi).

<sup>154</sup> PIIC Petition at 20.

<sup>155</sup> See *supra* note 145.

<sup>156</sup> PIIC Petition at 20.

<sup>157</sup> *Id.* at 20-23.

<sup>158</sup> *Id.* at 23.

<sup>159</sup> Northern States Answer at 27; see also NRC Staff Answer at 27.

on to insist that even if Petitioner were to seek a waiver, Petitioner does not allege any “special circumstances” specific to PINGP that would warrant the grant of one.<sup>160</sup> Also, both Applicant and NRC Staff criticize PIIC’s reference to the Mangano Declaration.<sup>161</sup> In their view, the Mangano Declaration contains assertions specific to the Indian Point nuclear plant and hardly advances any “new and significant” information relevant to this proceeding.

In its reply, Petitioner argues that the studies cited in the original Petition obligate Northern States to “disclose more detailed monitoring results to the Community and its residents living well within [a 5-km radius] so they can establish baselines for evaluating and measuring potential adverse health effects.”<sup>162</sup> Petitioner goes on to cite an “unplanned” release of tritium on August 5, 2006, and steadily rising tritium concentration levels in drinking water as further sources of concern.<sup>163</sup> Applicant moves to strike all of these statements from the reply, characterizing them as “an attempt to provide support that could have been included with the original contention.”<sup>164</sup> NRC Staff supports the motion to strike.<sup>165</sup>

The Board finds that Contention 4 is inadmissible because it raises an issue that is outside the scope of a license renewal proceeding.<sup>166</sup> As Applicant and NRC Staff point out, offsite radiological impacts are a Category 1 issue, and the Commission has determined such impacts to be “small” for all nuclear power plants seeking a renewed license.<sup>167</sup> If Petitioner wishes to challenge this generic determination in this proceeding, it must seek and receive a waiver under 10 C.F.R. § 2.335(b).<sup>168</sup> In the present case, not only has PIIC failed to request a waiver, but it has failed to present any “special circumstances” that would warrant the grant of a waiver. The European studies cited by Petitioner, to whatever degree they may be indicative of higher cancer rates among populations near certain

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<sup>160</sup> Northern States Answer at 28; NRC Staff Answer at 29-30.

<sup>161</sup> Northern States Answer at 29; NRC Staff Answer at 28-29.

<sup>162</sup> PIIC Reply at 17.

<sup>163</sup> *Id.* at 18.

<sup>164</sup> Northern States Motion to Strike at 9.

<sup>165</sup> NRC Staff’s Response to Motion to Strike at 7.

<sup>166</sup> 10 C.F.R. § 2.309(f)(1)(iii).

<sup>167</sup> 10 C.F.R. Part 51, App. B, Table B-1; *see also* Northern States Answer at 27; NRC Staff Answer at 29-30.

<sup>168</sup> Section 2.335(b) allows an adjudicatory party to petition for a waiver of a Commission rule or regulation by demonstrating that “special circumstances with respect to the subject matter of the particular proceeding are such that the application of the rule or regulation (or a provision of it) would not serve the purposes for which the rule or regulation was adopted.” *See also Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 12 (2001) (explaining that “petitioners with new information showing that a generic rule would not serve its purpose at a particular plant may seek a waiver of the rule”).

foreign nuclear plants, do not demonstrate any special circumstances particular to the PINGP site that would compel us to disturb the Commission's Category 1 determination. Similarly, the studies reporting higher cancer rates among Native Americans in Minnesota are unavailing since the studies do not attribute these higher rates to radionuclide emissions. Finally, the Mangano Declaration, as NRC Staff and Applicant note, addresses circumstances particular to the Indian Point facility, with no apparent relevance to the present proceeding.

For these reasons, the Board declines to admit this contention. We find Contention 4 inadmissible regardless of whether we consider the information contained in Petitioner's reply.

### 5. *PHC Contention 5*

Applicant's environmental report contains a seriously flawed environmental justice analysis that does not adequately assess the impacts of the PINGP on the adjacent minority population.<sup>169</sup>

In Contention 5, Petitioner argues that "[t]he ER fails to consider the disparate impacts of the PINGP on the adjacent minority population."<sup>170</sup> The impacts to which Petitioner refers are similar to those cited in Contention 4: the higher-than-average cancer rates borne by Native Americans and populations living in the vicinity of nuclear plants. According to Petitioner, Applicant must specifically address the Indian Community in its ER and acknowledge the particular impacts it will face as a result of relicensing.<sup>171</sup>

Applicant dismisses Contention 5 as an impermissible challenge to the Commission's finding that offsite radiological impacts have small effects.<sup>172</sup> Applicant further argues that it has no obligation to address environmental justice issues in the first place. According to Applicant, while it is true that NEPA requires the Commission to consider significant adverse impacts on minority populations, Commission rules impose no such obligation on the applicants themselves.<sup>173</sup> As an additional argument, both Applicant and NRC Staff state that Contention 5 fails to present a genuine dispute with the Application, given that "the PHC provides no basis — no expert opinion, reference or other source — to suggest that [high cancer rates among Native Americans in Minnesota] are attributable to

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<sup>169</sup> PHC Petition at 20.

<sup>170</sup> *Id.* at 24.

<sup>171</sup> *Id.* at 25.

<sup>172</sup> Northern States Answer at 30-31.

<sup>173</sup> *Id.* at 31.

radiation.”<sup>174</sup> Finally, NRC Staff points out that the ER explicitly acknowledges PIIC’s presence in the vicinity of PINGP, and Petitioner “has failed to explain why the analysis provided is inadequate.”<sup>175</sup>

In its reply, Petitioner advances three arguments. First, it notes that NRC Regulatory Guide 4.2S1 makes clear that “the NRC staff expects the applicant to analyze environmental justice issues.”<sup>176</sup> Second, it argues that, because Applicant actually does address environmental justice in the ER, Applicant undermines its own argument that it is not required to do so.<sup>177</sup> Third, Petitioner suggests that “the Category 2 issue of environmental justice is an overarching site specific issue” that must be evaluated in the ER.<sup>178</sup> Neither NRC Staff nor Applicant moved to strike any portion of the PIIC Reply.

The Board finds that Petitioner has stated an admissible contention. We disagree with Applicant’s assertion that it has no obligation to address environmental justice in the ER. While true that, under NEPA, the Commission is ultimately responsible for evaluating impacts on minority groups, nonetheless, 10 C.F.R. § 51.45(c) requires Applicant to assist the Commission with that evaluation.<sup>179</sup> In the present case, Applicant’s ER identifies the minority population in the vicinity of PINGP, thus complying with the letter of Regulatory Guide 4.2S1. But compliance with the Regulatory Guide does not always indicate compliance with the Commission’s regulations or NEPA. In fact, PIIC contends that, by strictly complying with the Regulatory Guide, Applicant has identified the minority populations surrounding PINGP in a way that essentially averages out, or dilutes, the Prairie Island Indian Community. Thus, PIIC is concerned that NRC Staff will overlook PIIC when it conducts its environmental justice review.

The Board understands that PIIC’s intent is to address the issue to NRC Staff — the entity responsible for preparing the EIS and complying with NEPA — not Northern States. Nonetheless, NRC regulations require the Petitioner to raise contentions related to NEPA as challenges to Applicant’s environmental report, which acts as a surrogate for the EIS during the early stages of a relicensing proceeding.<sup>180</sup> If Petitioner were to delay and submit contentions on NEPA topics addressed in the ER after issuance of the EIS, they would likely be characterized

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<sup>174</sup> *Id.* at 33; *see also* NRC Staff Answer at 31-32.

<sup>175</sup> NRC Staff Answer at 32.

<sup>176</sup> PIIC Reply at 18-19.

<sup>177</sup> *Id.* at 19.

<sup>178</sup> *Id.*

<sup>179</sup> Section 51.45(c) instructs that an “environmental report should contain sufficient data to aid the Commission in its development of an independent analysis.” Undoubtedly, these “data” include information that might aid the Commission in its analysis of environmental justice.

<sup>180</sup> *See* 10 C.F.R. § 2.309(f)(2) (explaining that “[o]n issues arising under the National Environmental Policy Act, the petitioner shall file contentions based on the applicant’s environmental report”).

as “late-filed contentions,” subject to much more stringent admissibility standards.<sup>181</sup> Thus, the Board admits Contention 5 now as a contention of omission and a timely challenge to Northern States’ Application. PIIC has raised a genuine dispute with the Application.<sup>182</sup> Because Petitioner sets forth a contention of omission, alleging that Applicant has failed to address the environmental justice impacts of license renewal on the Indian Community, Petitioner is not required to provide supporting facts or expert opinion at this stage.<sup>183</sup>

## 6. PIIC Contention 6

The license renewal Application does not include an adequate plan to monitor and manage the effects of aging for containment coatings, whose integrity is directly related to plant safety and the performance of the emergency core cooling systems.<sup>184</sup>

In this contention, Petitioner argues that containment coatings have a “clear safety function,” thus putting them within scope of license renewal and requiring Applicant to monitor and manage the effects of aging.<sup>185</sup> Petitioner cites Applicant’s own response to Generic Letter (GL) 2004-02, in which Applicant indicated that “the containment inservice program provides a means to check the condition of coatings as a potential source of debris that could block the sump recirculation strainers.”<sup>186</sup> As support for its position, Petitioner points to the Generic Aging Lessons Learned (GALL) Report,<sup>187</sup> which “describes the potential for system fouling resulting from the failure of protective coatings, as a source of debris.”<sup>188</sup>

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<sup>181</sup> See *Id.* § 2.309(c)(1); *Crow Butte Resources, Inc.* (In Situ Leach Facility, Crawford, Nebraska), LBP-08-24, 68 NRC 691, 720 (2008).

<sup>182</sup> 10 C.F.R. § 2.309(f)(1)(vi).

<sup>183</sup> The *Pa’ina* Licensing Board laid out a modified standard for raising a contention of omission, noting that “the pleading requirements of 10 C.F.R. § 2.309(f)(1)(v), calling for a recitation of facts or expert opinion supporting the issue raised, are inapplicable to a contention of omission beyond identifying the regulatively required missing information.” *Pa’ina Hawaii LLC*, LBP-06-12, 63 NRC 403, 414 (2006).

<sup>184</sup> PIIC Petition at 26.

<sup>185</sup> *Id.* at 27. Section 54.4(a)(2) defines the scope of license renewal to include “[a]ll nonsafety-related systems, structures, and components whose failure could prevent satisfactory accomplishment of any of the [safety-related] functions identified in paragraphs (a)(1)(i), (ii), or (iii) of this section.” The license renewal application must identify and demonstrate an aging management program for structures and components that “perform an intended function, as described in § 54.4.” 10 C.F.R. § 54.21(a).

<sup>186</sup> PIIC Petition at 26.

<sup>187</sup> NUREG-1801, “Generic Aging Lessons Learned (GALL) Report,” Rev. 1 (Sept. 2005) (ADAMS Accession No. ML052110905) [hereinafter NUREG-1801].

<sup>188</sup> PIIC Petition at 27.

Petitioner also points to a 2007 NRC audit of the license renewal program, which described “a failure to consider operating experience during the review of the *Oconee* LRA, ‘casting doubt on the efficacy of Oconee’s aging management program for coatings.’”<sup>189</sup>

Applicant responds that Contention 6 fails to present a genuine dispute with the Application.<sup>190</sup> According to Applicant, GL 2004-02 requires Applicant to perform an analysis of the effects of debris blockage, and Applicant detailed the results of this analysis in its Application.<sup>191</sup> This analysis, according to Applicant, assumed that containment coatings will fail and become debris and demonstrated that such debris will not prevent safety-related equipment from performing its safety function.<sup>192</sup> Thus, Applicant argues, coatings do not fall within the scope of license renewal.<sup>193</sup>

NRC Staff claims that Contention 6 raises an issue outside the scope of license renewal. Because containment coatings “are subject to ongoing oversight that addresses their current status and will continue to address their status over the period of license renewal,” they “are not within the scope of this proceeding.”<sup>194</sup>

In its Reply, Petitioner attached an affidavit from its expert Christopher Grimes, which stresses the importance of monitoring and managing containment coatings.<sup>195</sup> Petitioner acknowledges Applicant’s GL 2004-02 analysis, which assumed that a conservative amount of all coatings fail. But Petitioner also states that “[t]he PINGP Application is deficient because it does not describe an effective aging management program for coatings which would ensure that the debris generated by a design-basis accident is bounded by the assumptions in the analysis performed for GL 04-02.”<sup>196</sup> Applicant moves to strike from PIIC’s reply the “new assertions” made by Mr. Grimes, as well as Petitioner’s accompanying “new claim.”<sup>197</sup> NRC Staff supports Applicant’s motion to strike.<sup>198</sup>

It is clear to the Board, from information provided in Northern States’ Answer and at oral argument, that Applicant has considered the issue of debris from failed containment coatings. Applicant’s reply to GL 2004-02 and the associated strainer analysis may well demonstrate that coating degradation due to aging is adequately managed. Nonetheless, we find that Petitioner has proffered an admissible

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<sup>189</sup> *Id.*

<sup>190</sup> Northern States Answer at 34.

<sup>191</sup> *Id.*

<sup>192</sup> *Id.* at 36-37.

<sup>193</sup> *Id.*

<sup>194</sup> NRC Staff Answer at 34.

<sup>195</sup> PIIC Reply at 20.

<sup>196</sup> *Id.*

<sup>197</sup> Northern States Motion to Strike at 10-11.

<sup>198</sup> NRC Staff’s Response to Motion to Strike at 7-8.

contention — namely, that Northern States does not adequately describe its aging management plan in the Application.

The GALL Report contains an aging management program for containment coatings that states:

Proper maintenance of protective coatings inside containment (defined as Service Level I in Nuclear Regulatory Commission [NRC] Regulatory Guide [RG] 1.54, Rev. 1) is essential to ensure operability of post-accident safety systems that rely on water recycled through the containment sump/drain system. Degradation of coatings can lead to clogging of strainers, which reduces flow through the sump/drain system. This has been addressed in NRC Generic Letter (GL) 98-04.<sup>199</sup>

In the LRA, aging management is addressed in Appendix B. The only mention of containment coatings in this Appendix is within the table contained in Section B2.0, which compares the GALL Report and PINGP aging management programs. Under the entry for “Protective Coating Monitoring and Maintenance Program” the Application simply states “Not Applicable,” with no further explanation.<sup>200</sup> Furthermore, in addressing the relevant generic safety issue, the Application contains the following unsupported statement:

PINGP does not credit coatings inside the containment to assure that the intended functions of coated structures and components are maintained. The contribution of coatings to containment debris is event driven and is not related to aging. Therefore, those coatings do not have an intended function.<sup>201</sup>

In light of the GALL Report finding that coating aging creates a safety concern and the bald statement in the Application that debris from containment coatings is not related to aging, we consider it reasonable for Petitioner to question the adequacy of Applicant’s AMP for containment coatings. Petitioner has stated a genuine, material dispute with the Application that falls within the scope of this license renewal proceeding.<sup>202</sup> Because Petitioner sets forth a contention of omission, alleging that Applicant has failed to describe a required AMP, Petitioner is not required to provide supporting facts or expert opinion at this stage.<sup>203</sup> Thus, the Board admits Contention 6 as formulated by Petitioner.<sup>204</sup>

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<sup>199</sup> NUREG-1801, at XI S-24.

<sup>200</sup> LRA at B-11.

<sup>201</sup> *Id.* at 2.1-8.

<sup>202</sup> 10 C.F.R. § 2.309(f)(1)(vi), (iii).

<sup>203</sup> *See supra* note 183.

<sup>204</sup> The Board admits this contention without reference to PIIC’s reply. Indeed, we grant Northern States’ motion to strike the Grimes Declaration and any statements in the reply that are based on it. *See infra* Part IV (ruling on motion to strike).

## 7. PIIC Contention 7

The PINGP license renewal Application does not include an adequate plan to monitor and manage the effects of aging due to embrittlement of the reactor pressure vessels and the associated internals.<sup>205</sup>

In support of this contention, Petitioner argues that “the PINGP LRA does not include any mention that it took embrittlement into account when it assessed the effect of transient loads.”<sup>206</sup> Petitioner proceeds to describe the dangers associated with embrittlement. Relying heavily on the declaration of Richard Lahey submitted in the *Indian Point* proceeding,<sup>207</sup> Petitioner explains that embrittlement can reduce the ability of metals to withstand thermal shock loads, which can ultimately lead to a melting of the core and a significant release of radiation.<sup>208</sup> Notwithstanding this danger, Petitioner asserts, “applicant has not presented any experiments or analysis to justify that the embrittled RPV internal structures will not fail . . . .”<sup>209</sup> Petitioner makes one further claim. Citing to sections A2.34 and B2.1.34 of the Application, PIIC claims that “it is not clear . . . whether PINGP Units 1 & 2 have adequate standby surveillance capsules to support the calculated fluence projections described in WCAP-14040-NP-A and Regulatory Guide 1.190 for the period of extended operation.”<sup>210</sup>

Applicant and NRC Staff believe that Contention 7 is inadmissible because “it does not identify any portion of the LRA that is deficient” and ignores the analysis contained in section 4.2 of the Application.<sup>211</sup> In fact, as both Applicant and NRC Staff point out, section 4.2 contains a time-limited aging analysis (TLAA) that addresses embrittlement of the reactor vessel and demonstrates it will meet all the regulatory criteria throughout the period of extended operation.<sup>212</sup> With regard to the Lahey Declaration, Applicant and NRC Staff insist that it has “no relevance” to PINGP and in any case represents “an impermissible challenge to the sufficiency of the reactor toughness requirements.”<sup>213</sup> Next, Applicant responds to PIIC’s argument concerning the number of spare capsules

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<sup>205</sup> PIIC Petition at 27.

<sup>206</sup> *Id.* at 28.

<sup>207</sup> *Id.* at 27-29. Petitioner believes the Lahey Declaration is applicable to PINGP because “PINGP and Indian Point are both Westinghouse reactor designs of comparable vintage,” even though “PINGP is a two-loop plant and Indian Point is a four-loop plant.” *Id.* at 28.

<sup>208</sup> *Id.* at 28-29.

<sup>209</sup> *Id.* at 29.

<sup>210</sup> *Id.*

<sup>211</sup> NRC Staff Answer at 35; *see also* Northern States Answer at 38.

<sup>212</sup> NRC Staff Answer at 35; Northern States Answer at 38-39.

<sup>213</sup> Northern States Answer at 39; *see also* NRC Staff Answer at 35-36.



by noting that the Application commits to a Reactor Vessel Surveillance Program, consistent with the GALL Report, which indicates an adequate number of spare capsules.<sup>214</sup> NRC Staff further asserts that Petitioner's concern is unsupported and fails to present any issue or controversy for the Board to consider.<sup>215</sup> Finally, Applicant points out that, contrary to Petitioner's claim, "[t]here is no provision in the license renewal rules requiring presentation of . . . experiments or analysis" showing that embrittled structures will not fail.<sup>216</sup>

In its reply, PIIC attaches an affidavit from Christopher Grimes explaining how the concerns raised in the Lahey Declaration are directly applicable to PINGP.<sup>217</sup> PIIC goes on to identify the alleged deficiency in Northern States' Application: it "does not provide the detail to determine whether the program can manage the effects of embrittlement for the period of extended operation."<sup>218</sup> Finally, PIIC maintains that "the LRA does not provide a [*sic*] an adequate description of the program that will rely on saved capsules to demonstrably manage fluence monitoring to manage embrittlement . . . ."<sup>219</sup> Northern States moves to strike these portions of PIIC's reply,<sup>220</sup> and NRC Staff supports the motion to strike.<sup>221</sup>

The Board finds it useful to divide Contention 7 into three claims: (1) failure to consider embrittlement of the reactor vessel, (2) failure to consider embrittlement of reactor vessel internals, and (3) failure to adequately describe the aging management program for the reactor vessel with regard to the Vessel Surveillance Program. As to the first claim, Petitioner does not present a genuine dispute with the Application.<sup>222</sup> As NRC Staff and Applicant point out, Northern States accounted for reactor vessel embrittlement in section 4.2 of its Application,<sup>223</sup> and Petitioner has not identified any deficiency in Applicant's analysis.

PIIC's second claim, on the other hand, states an admissible contention of omission. Petitioner points to an omission in the Application — a failure to

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<sup>214</sup>Northern States Answer at 39-40. Applicant further explained the Vessel Surveillance Program at oral argument. *See* Tr. at 118-21. Each vessel initially contained six surveillance capsules and currently contains two capsules. Only one capsule per vessel is needed to evaluate the neutron embrittlement caused by the end-of-life neutron fluence. Because the capsules are located in regions of high neutron flux, both capsules in each vessel have reached that value of fluence. One capsule per vessel will be removed and destructively evaluated within the next couple of years, and that will complete the needed surveillance program for a 60-year vessel life.

<sup>215</sup>NRC Staff Answer at 37-38.

<sup>216</sup>Northern States Answer at 40.

<sup>217</sup>PIIC Reply at 21.

<sup>218</sup>*Id.*

<sup>219</sup>*Id.* at 22.

<sup>220</sup>Northern States Motion to Strike at 11-12.

<sup>221</sup>NRC Staff's Response to Motion to Strike at 8-9.

<sup>222</sup>10 C.F.R. § 2.309(f)(1)(vi).

<sup>223</sup>LRA at 4.2-1 to -10.

account for the effects of a pressure shock on reactor vessel internals. Petitioner notes that the Application must provide an aging management plan (AMP) for those structures and components that fall under 10 C.F.R. § 54.21(a)(1) and asserts that this analysis is missing for vessel internals.<sup>224</sup> Because PIIC alleges a facially viable contention of omission, PIIC does not need to provide supporting facts or expert opinion at this stage.<sup>225</sup> Thus, with regard to Petitioner's second claim, Petitioner has stated an admissible contention.

PIIC's third claim, regarding the vessel surveillance program as part of the aging management plan for the reactor vessel, does not meet the admissibility standards of section 2.309(f)(1). Specifically, Petitioner has not alleged a genuine dispute with the Application on a material issue of law or fact.<sup>226</sup> If a component falls within the scope of 10 C.F.R. § 54.4 and meets the requirements of 10 C.F.R. § 54.21 such that aging of the component is a relicensing issue, Applicant may address this issue in one of two ways. An analysis may be performed showing that the aging mechanism will not cause failure of the component. If the analysis fails, then the application must include a specific aging program to manage the effects of aging on that component. If, however, the analysis succeeds, then no AMP is required. With regard to embrittlement of the vessel at PINGP, a TLAA was performed. This analysis showed satisfactory vessel performance through the end of a 60-year life.<sup>227</sup> Thus, no AMP is required for the vessel. The Reactor Vessel Surveillance Program is not part of a vessel AMP. It is instead a program that validates the input to the vessel TLAA. It need not even be mentioned in the AMP section of the Application. To the extent that Contention 7 alleges deficiencies in this program, it cannot be admitted because there is no requirement to include this program in the Application.

But even if the Vessel Surveillance Program were considered part of a vessel AMP, the Board would still decline to admit this part of Contention 7. Northern States claims in its answer that the Reactor Vessel Surveillance Program is consistent with the GALL Report.<sup>228</sup> The only program enhancement is a commitment "to preserve withdrawn and spare surveillance capsules for future use."<sup>229</sup> Petitioner provides no foundation for its claims alleging an inadequate number of standby surveillance capsules and an inadequate description of the program enhancement. The Reactor Vessel Surveillance Program is an existing program fully described in other license documents that, in its existing form, provides adequate surveillance of the vessel throughout the license extension

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<sup>224</sup> PIIC Petition at 28.

<sup>225</sup> See *supra* note 183.

<sup>226</sup> 10 C.F.R. § 2.309(f)(1)(vi).

<sup>227</sup> LRA at 4.2-1.

<sup>228</sup> Northern States Answer at 39.

<sup>229</sup> *Id.*; see also Tr. at 123.

period. Because the Commission can utilize this preexisting documentation in making its final determination on license renewal, Northern States need not repeat the description of this program in its Application. Such a description would be redundant and would in no way affect the Commission's ultimate decision. Thus, the third element of Contention 7 raises an issue immaterial to the NRC's determination.<sup>230</sup>

Based on the preceding analysis, we admit Contention 7 as modified:<sup>231</sup>

The LRA does not contain an adequate plan to monitor and manage the effects of aging due to embrittlement of the reactor vessel internals.

### **8. PIIC Contention 8**

The program for managing primary stress corrosion cracking for nickel-alloy components fails to comply with 10 C.F.R. § 54.21(a)(3).<sup>232</sup>

Petitioner argues that Applicant's "commitment to do whatever the NRC tells them to do" to address the primary water stress corrosion cracking (PWSCC) of nickel-alloy components does not amount to an effective AMP.<sup>233</sup> Petitioner faults Northern States for simply committing to "1. comply with applicable NRC orders, and 2. implement applicable NRC Bulletins, Generic Letters, and staff-accepted industry guidelines."<sup>234</sup> Moreover, Petitioner notes, Applicant describes a monitoring program that merely implements the requirements of NRC First Revised Order EA-03-009 (Order EA-03-009)<sup>235</sup> and the NRC's Interim Staff Guidance.<sup>236</sup> Thus, in Petitioner's view, Northern States' Application fails to "address all ten elements of an effective aging management program."<sup>237</sup>

Applicant responds that Contention 8 does not present a genuine dispute with the Application on a material issue of law or fact.<sup>238</sup> Applicant begins

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<sup>230</sup> 10 C.F.R. § 2.309(f)(1)(iv).

<sup>231</sup> The Board makes this determination without reference to PIIC's reply. Indeed, we grant Northern States' motion to strike the Grimes Declaration and any statements in the reply that are based on it. *See infra* Part IV (ruling on motion to strike).

<sup>232</sup> PIIC Petition at 30.

<sup>233</sup> *Id.* at 31.

<sup>234</sup> *Id.* at 30.

<sup>235</sup> EA-03-009, "Issuance of Order Establishing Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurized Water Reactors" (Feb. 11, 2003) (ADAMS Accession No. ML030380470) [hereinafter Order EA-03-009].

<sup>236</sup> PIIC Petition at 30-31.

<sup>237</sup> *Id.* at 31.

<sup>238</sup> Northern States Answer at 46-47.

by distinguishing two different programs dealing with PWSCC of nickel-alloy nozzles and penetrations: a “specific program” applicable to “the penetration nozzles welded to the upper reactor vessel head,” and “a general program, still under development by the NRC.”<sup>239</sup> With regard to the first program, announced in Order EA-03-009, Applicant explains that PINGP has implemented the inspection requirements with the Nickel-Alloy Vessel Head Penetration Nozzles Program described in Section B2.1.28 of the Application, and Petitioner does not allege any specific deficiencies with regard to this program.<sup>240</sup> The second program, also announced in Order EA-03-009, is currently in development.<sup>241</sup> In the interim, NRC Bulletin 2003-02 requires all PWRs to describe a lower head inspection program. Northern States asserts that it has complied with this interim requirement.<sup>242</sup> NRC also established an Interim Staff Guidance item “to alert license renewal applicants that a longer term program is under development,” and Northern States acknowledged this Guidance in its Application.<sup>243</sup> In sum, Applicant asserts that its commitments to continue complying with the Order EA-03-009 inspection program and other generic communications, as well as its promise to comply with the program currently under development, are enough to satisfy the requirements of section 54.21(a)(3).

NRC Staff considers Contention 8 inadmissible because Petitioner has failed to provide any factual support for its claim, any facts or expert opinion supporting its position, or a genuine dispute on a material issue of fact or law.<sup>244</sup> NRC Staff also points out that, contrary to PIIC’s assertion, section 54.21(a)(3) does not necessarily require an applicant to address the ten elements of an effective AMP. In any case, NRC Staff argues, Petitioner fails to identify those ten elements in its contention.<sup>245</sup>

In its reply, Petitioner includes an excerpt from the Grimes Declaration attached to the Petition alleging that “[t]he LRA does not explain how the existing interim inspection requirements satisfy the requirements of an effective aging management program.”<sup>246</sup> Petitioner goes on to maintain that section 54.21(a)(3) requires Applicant to show exactly how the interim inspection requirements demonstrate the adequacy of its aging management program.<sup>247</sup> Applicant seeks

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<sup>239</sup> *Id.* at 41.

<sup>240</sup> *Id.*

<sup>241</sup> *Id.* at 44.

<sup>242</sup> *Id.* at 44-45.

<sup>243</sup> *Id.* at 45.

<sup>244</sup> NRC Staff Answer at 39-40.

<sup>245</sup> *Id.* at 39.

<sup>246</sup> PIIC Reply at 22 (quoting Grimes Declaration).

<sup>247</sup> *Id.*

to strike these portions of PIIC's reply,<sup>248</sup> and NRC Staff supports Applicant's motion to strike.<sup>249</sup>

This contention is more conveniently treated as two issues. The first concerns the AMP described in section B2.1.27 of the Application — the “Nickel-Alloy and Penetrations Program.” The second involves the AMP of section B2.1.28 — the “Nickel-Alloy Penetration Nozzles Welded to the Upper Reactor Vessel Closure Heads of Pressurized Water Reactors Program.”

The first of these issues is admissible as part of this contention. Section 54.21(a)(3) of the Commission's regulations requires the Applicant to “demonstrate that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB for the period of extended operation.”<sup>250</sup> Section B2.1.27 of the Application describes Applicant's AMP in its entirety:

For the Nickel-Alloy Nozzles and Penetrations Program, PINGP is providing a commitment to the following activities for managing the aging of nickel-alloy components susceptible to primary water stress corrosion cracking: 1. comply with applicable NRC orders, and 2. implement applicable NRC Bulletins, Generic Letters, and staff-accepted industry guidelines. This commitment is included in LRA Appendix A (USAR Supplement) for incorporation into the USAR.<sup>251</sup>

The Board finds that PIIC has stated a genuine dispute with the Application<sup>252</sup> — namely, that Applicant fails to describe its AMP to the extent required by section 54.21. Because PIIC alleges a facially viable contention of omission, PIIC does not need to provide supporting facts or expert opinion at this stage.<sup>253</sup> Thus, we admit this part of Contention 8.

The second issue addresses nickel-alloy upper head penetrations. For convenience, we will analyze this second issue for two time periods: a current AMP and a future AMP. The current part consists of Applicant's direct implementation of the requirements imposed by Order EA-03-009. The future part consists of Applicant's promise to implement the Commission's finalized inspection requirements, which will be incorporated into 10 C.F.R. § 50.55a at some future date. The admissibility of the second issue is herein addressed separately for these two periods of the AMP.

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<sup>248</sup> Northern States Motion to Strike at 14.

<sup>249</sup> NRC Staff's Response to Motion to Strike at 9.

<sup>250</sup> 10 C.F.R. § 54.21(a)(3). “CLB” stands for “current licensing basis,” which is defined in 10 C.F.R. § 54.3(a).

<sup>251</sup> LRA at B-58.

<sup>252</sup> 10 C.F.R. § 2.309(f)(1)(vi).

<sup>253</sup> *See supra* note 183.

Regarding the current period, Order EA-03-009 directs that all affected licensees implement an inspection program to address PWSCC of nickel-alloy upper head penetrations. This order created an immediately effective modification of all licensees' licenses. Thus, the currently implemented AMP for stress corrosion cracking of nickel-alloy head penetrations is part of PINGP's current licensing basis.

Order EA-03-009 imposes a generic inspection requirement on the approximately seventy plants to which the letter was addressed. Hence, a contention alleging that Applicant's AMP is inadequate would be an allegation that the upper head inspection programs for seventy plants are inadequate. This would be a generic allegation rather than a contention specific to the Prairie Island plant. Therefore, a petition for rulemaking would be a more appropriate means to address this alleged deficiency. However, Contention 8 does not allege inadequacy of the AMP; it merely states that the plan is not adequately described in the Application. Concerning the aging management plan, section B.2.1.28 of the Application states:

The Nickel-Alloy Penetration Nozzles Welded to the Upper Reactor Vessel Closure Heads of Pressurized Water Reactors Program (Nickel-Alloy Vessel Head Penetration Nozzle Program) is a condition monitoring program that implements the requirements of the NRC First Revised Order EA-03-009, "Issue of Order Establishing Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurized Water Reactors," dated February 20, 2004.<sup>254</sup>

NRC Order EA-03-009 provides more than adequate detail of the inspection program to satisfy the need for a description of the AMP in the Application. Detail of the AMP has been incorporated by reference. PIIC also alleges that the AMP description does not address all ten elements of an effective AMP. These ten elements must be addressed when an applicant's AMP differs from the AMP identified in the GALL Report.<sup>255</sup> However, in this case, the AMP imposed by Order EA-03-009 is the relevant AMP identified by the GALL Report.<sup>256</sup> Hence, the ten elements need not be addressed. We conclude that this part of the contention is not supported by fact or expert opinion as required by 10 C.F.R. § 2.309(f)(1)(v) and is therefore inadmissible.

The second part of this issue concerns the future AMP that will be implemented once the NRC incorporates finalized inspection requirements into 10 C.F.R. § 50.55a. The claim here is that "[t]he LRA program commitment to do whatever

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<sup>254</sup> LRA at B-59.

<sup>255</sup> *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-08-23, 68 NRC 461, 468 (2008).

<sup>256</sup> See NUREG-1801, at XI M-45.

the NRC tells them to do does not demonstrate the effectiveness of an aging management program.”<sup>257</sup> The Board believes that the LRA must be evaluated on the basis of AMPs now in effect. This means we will evaluate the LRA based on the requirements of Order EA-03-009. At some future date, the NRC might or might not implement finalized inspection requirements. The Application has provided a commitment that, should the inspection requirements be changed, Applicant will implement those new inspection requirements.<sup>258</sup> It will be the responsibility of NRC Staff and Applicant to ensure that this commitment is fulfilled. This Board lacks the authority — much less the ability — to require Applicant clairvoyantly to predict the future inspection requirements and to describe their future implementation. On this issue, Petitioner has failed to identify any deficiency on a relevant matter in Northern States’ Application and therefore does not satisfy 10 C.F.R. § 2.309(f)(1)(vi). This part of the contention is inadmissible.

In summary, the Board admits this contention insofar as it applies to the AMP described in section B2.1.27 of the Application. Petitioner has raised a question of material fact and demonstrated a genuine dispute with the Application.<sup>259</sup> The Board rejects this contention, however, as it relates to the AMP of section B2.1.28.<sup>260</sup> Thus, the Board admits Contention 8 in modified form:

Section B2.1.27 of the LRA does not contain an adequate plan to monitor the effects of primary water stress corrosion cracking of nickel-alloy components.

## **9. PIIC Contention 9**

The aging management program contained in the license renewal Application violates 10 C.F.R. §§ 54.21 and 54.29(a) because it does not provide adequate inspection and monitoring for corrosion or leaks in all buried systems, structures, and components that may convey or contain radioactively-contaminated water or other fluids and/or may be important for plant safety.<sup>261</sup>

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<sup>257</sup> PIIC Petition at 31.

<sup>258</sup> The Commission has explained that mere “speculation” that an applicant will not comply with NRC regulations, in the absence of documentary support, does not amount to an admissible contention. *GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 207 (2000) (stating that “this agency has declined to assume that licensees will contravene our regulations”).

<sup>259</sup> 10 C.F.R. § 2.309(f)(1)(iv), (vi).

<sup>260</sup> The Board admits this contention without reference to PIIC’s reply. Indeed, we grant Northern States’ motion to strike the Grimes Declaration and any statements in the reply that are based on it. *See infra* Part IV (ruling on motion to strike).

<sup>261</sup> PIIC Petition at 32.

In this contention, Petitioner alleges three deficiencies in Applicant's AMP for buried pipes containing radioactive fluid: it does not provide for adequate inspection, there is no adequate leak prevention program, and there is no adequate monitoring to determine when leakage occurs.<sup>262</sup> Petitioner explains that such leakage, if it goes undetected, could "be a significant contributor to the potential for a core damage accident."<sup>263</sup> Citing a 2006 NRC report, Petitioner points to several recent examples of aging piping systems at other facilities that have experienced undetected leaks.<sup>264</sup> While Petitioner acknowledges that Northern States' Application contains an inspection program for underground piping, it finds that program deficient because it "does not specifically commit to conducting any inspections of buried systems, structures, or components to establish baseline conditions that can be used to ensure the effectiveness of the program."<sup>265</sup> In support of this claim, Petitioner cites to the Hausler Declaration submitted in the *Indian Point* proceeding. According to Petitioner, "[t]he proposed program for PINGP is similarly deficient because it contains no provision for using cathodic protection or other methods to prevent leaks from occurring."<sup>266</sup>

Applicant considers Contention 9 inadmissible because, in its view, it is outside the scope of license renewal, provides no factual basis for its claims, and fails to demonstrate a genuine dispute with the Application.<sup>267</sup> First, Applicant argues, the contention is overly broad because it does not specify which buried pipes containing radioactive fluid fall within the scope of license renewal as defined by 10 C.F.R. § 54.4. "In fact," Applicant asserts, "there are no buried components within the scope of the license renewal rule at PINGP that contain radioactive liquids."<sup>268</sup> Second, Applicant maintains that Petitioner's claims regarding PINGP's monitoring and leak prevention programs have no relevance to aging management and are therefore beyond the scope of this proceeding.<sup>269</sup> Third, Applicant urges that neither the Hausler Declaration nor Petitioner's numerous examples of leaks at other plants provides an adequate basis for Contention 9, given that they are in no way related to PINGP, and Petitioner makes no attempt to demonstrate their applicability.<sup>270</sup> Fourth, Applicant suggests that the contention is "unduly vague" and faults Petitioner for failing to carefully review the Application, which "reveals that there in fact are no buried components

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<sup>262</sup> *Id.*

<sup>263</sup> *Id.*

<sup>264</sup> *Id.* at 33-34.

<sup>265</sup> *Id.* at 35.

<sup>266</sup> *Id.*

<sup>267</sup> Northern States Answer at 47.

<sup>268</sup> *Id.* at 48 n.50.

<sup>269</sup> *Id.* at 49.

<sup>270</sup> *Id.* at 51-54.



within the scope of the license renewal rule at PINGP that contain radioactive liquids.”<sup>271</sup>

Like Northern States, NRC Staff argues that Contention 9 is overly broad, falls outside the scope of this proceeding, lacks any facts or expert opinion specific to PINGP, and fails to raise a genuine dispute with the Application.<sup>272</sup>

In its reply, Petitioner includes an excerpt from the Grimes Declaration. Grimes acknowledges that the Application contains a “Buried Piping and Tanks Inspection Program” but finds that program deficient because it “only commits to conduct inspections if the opportunity arises, with at least one inspection occurring within ten years.”<sup>273</sup> Moreover, for those systems that contain buried piping, Grimes asserts that “it is not clear whether the components and systems normally contain radioactive liquid or might contain radioactive liquid as a result of an accident or transient.”<sup>274</sup> Finally, PIIC states that it is not reassured by Applicant’s claim that there are “no buried components within the scope of the license renewal rule at PINGP that contain radioactive liquids.”<sup>275</sup> Applicant moves to strike all “new allegations” set forth in the Grimes Declaration and PIIC’s accompanying text in the PIIC Reply.<sup>276</sup> NRC Staff supports this motion to strike.<sup>277</sup>

The Board finds that Petitioner has not stated an admissible contention. Section 2.309(f)(1)(i) requires a petitioner to “[p]rovide a specific statement of the issue of law or fact to be raised or controverted . . . .”<sup>278</sup> PIIC fails to meet this requirement, because it has submitted a contention aimed broadly at all “buried systems, structures, and components that may convey or contain radioactively-contaminated water.”<sup>279</sup> Petitioner does not identify any specific buried components at PINGP that may contain radioactive fluids. On the other hand, Applicant has identified three systems within the scope of license renewal that contain buried piping and has asserted that “[n]one of these three systems contains or carries radioactive liquids.”<sup>280</sup> If Petitioner disputes this assertion, it

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<sup>271</sup> *Id.* at 54-55.

<sup>272</sup> NRC Staff Answer at 41-45.

<sup>273</sup> PIIC Reply at 23 (quoting Grimes Declaration).

<sup>274</sup> *Id.*

<sup>275</sup> *Id.* at 23-24.

<sup>276</sup> Northern States Motion to Strike at 15-16.

<sup>277</sup> NRC Staff’s Response to Motion to Strike at 10.

<sup>278</sup> 10 C.F.R. § 2.309(f)(1)(i).

<sup>279</sup> PIIC Petition at 32.

<sup>280</sup> Northern States Answer at 55. The three systems include “(1) [the intake portion of the] cooling water systems (Application at 2.3.3.6), (2) the fire protection systems (*id.* at 2.3.3.9), and (3) the fuel oil system (*id.* at 2.3.3.10).” *Id.*; *see also* Tr. at 133.

provides no basis for this position nor any supporting facts or expert opinion.<sup>281</sup> Thus, it fails to state an admissible contention.<sup>282</sup> Moreover, the Board agrees with Applicant that Petitioner's claims regarding PINGP's monitoring and leak prevention programs have no relevance to aging management and are therefore beyond the scope of this proceeding.<sup>283</sup>

In sum, the Board declines to admit this contention. We find Contention 9 inadmissible regardless of whether we consider the information contained in Petitioner's reply.

#### **10. PIIC Contention 10**

The LRA violates 10 C.F.R. §§ 54.21(a) and 54.29 because it fails to include an aging management plan for each electrical transformer that has a safety-related function.<sup>284</sup>

In this contention, Petitioner faults Applicant for failing to demonstrate a plan for managing electrical transformers with a safety-related function.<sup>285</sup> According to Petitioner, electrical transformers are subject to aging management review because they "function without moving parts or without a change in configuration or properties . . . ."<sup>286</sup>

Applicant responds that Contention 10 is an impermissible challenge to the NRC's license renewal rule.<sup>287</sup> As Applicant points out, 10 C.F.R. § 54.21(a)(1) requires an AMP only for structures and components "that perform an intended function . . . without moving parts or without a change in configuration or properties."<sup>288</sup> These are known as "passive" structures and components. Transformers, however, according to Applicant, have been determined by the NRC to be "active components excluded from aging management review."<sup>289</sup> Thus, Applicant asserts, Petitioner's claim in Contention 10 represents an "impermissible challenge to 10 C.F.R. § 54.21(a)(1) under which active components are screened

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<sup>281</sup> 10 C.F.R. § 2.309(f)(1)(ii), (v).

<sup>282</sup> The Board acknowledges that the *Indian Point* Licensing Board recently admitted a contention similar to Contention 9. *Indian Point*, LBP-08-13, 68 NRC at 81-82. In that case, however, the petitioner was able to identify numerous buried components within the scope of Part 54 that contain radioactive fluid. In the present case, Petitioner has failed to identify any such components.

<sup>283</sup> 10 C.F.R. § 2.309(f)(1)(iii).

<sup>284</sup> PIIC Petition at 36.

<sup>285</sup> *Id.*

<sup>286</sup> *Id.*

<sup>287</sup> Northern States Answer at 56.

<sup>288</sup> *Id.*

<sup>289</sup> *Id.* at 57.

out.”<sup>290</sup> Moreover, “PIIC provides no basis to dispute the NRC’s determination that transformers are active components.”<sup>291</sup>

NRC Staff agrees with Northern States. NRC Staff outlines how the Commission distinguishes between active and passive components and explains how the Commission reached its conclusion that transformers are active components.<sup>292</sup> NRC Staff also notes that Petitioner “offers no factual support or expert opinion to support the assertion that transformers function without a change in configuration or properties.”<sup>293</sup>

In its reply, Petitioner acknowledges the NRC’s position that transformers are active components. “While it is difficult for the Community to understand why a transformer is an ‘active’ component,” Petitioner states, “we now recognize that it is an established NRC position.”<sup>294</sup> At oral argument, Petitioner confirmed that it wishes to withdraw Contention 10.<sup>295</sup>

Contention 10 is withdrawn.

## ***11. PIIC Contention 11***

The program for managing flow accelerated corrosion (FAC) fails to comply with 10 C.F.R. § 54.21(a)(3).<sup>296</sup>

In this contention, Petitioner takes issue with the “Flow-Accelerated Corrosion (FAC) Program” described in the Application. Petitioner acknowledges that, according to the Application, the FAC program is consistent with the GALL Report.<sup>297</sup> Nonetheless, it insists, “the LRA does not offer any demonstration that the FAC effects will be adequately managed.”<sup>298</sup> Citing to the expert declaration of Dr. Joram Hopenfeld submitted in the *Indian Point* proceeding, Petitioner argues that “[t]he proposed FAC program is deficient because it relies on the computer code CHECWORKS, without sufficient benchmarking of the operating parameters.”<sup>299</sup> Dr. Hopenfeld recommends a benchmarking period of 6

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<sup>290</sup> *Id.* at 58.

<sup>291</sup> *Id.*

<sup>292</sup> NRC Staff Answer at 46-49 (citing Nuclear Energy Institute (NEI) “Industry Guideline for Implementing the Requirements of 10 CFR Part 54 — The License Renewal Rule,” Revision 3, at Appendix B (March 2001) (ADAMS Accession No. ML011100576)).

<sup>293</sup> *Id.* at 46.

<sup>294</sup> PIIC Reply at 24.

<sup>295</sup> Tr. at 140.

<sup>296</sup> PIIC Petition at 37.

<sup>297</sup> *Id.* at 37-38.

<sup>298</sup> *Id.* at 38.

<sup>299</sup> *Id.* at 40.

years for low-turbulence straight pipes and at least 10-15 years for elbows and branching areas, where turbulence is considerably higher.<sup>300</sup> Notwithstanding those recommendations, Petitioner asserts, “[t]he LRA does not explain how the FAC program has been benchmarked.”<sup>301</sup> Moreover, “it does not provide any explanation of the predictive capability of CHECWORKS when wall thinning was identified.”<sup>302</sup>

Applicant responds that Contention 11 is inadmissible because Petitioner does not demonstrate a genuine, material dispute with the Application.<sup>303</sup> First, Applicant suggests that PIIC’s reliance on a declaration from the *Indian Point* proceeding is entirely misplaced. According to Applicant, Petitioner makes no attempt to relate Dr. Hopenfeld’s assessments to the use of CHECWORKS at PINGP.<sup>304</sup> In fact, Applicant points out, Dr. Hopenfeld’s benchmarking assessments reflect the fact that Indian Point, unlike PINGP, underwent a power uprate.<sup>305</sup> Thus, Applicant argues, the Hopenfeld Declaration is inapplicable to Petitioner’s claim. And even if it were applicable, Northern States “has incorporated FAC monitoring data back to 1988 into its CHECWORKS modeling, so that by 2013 there will be a total of 25 years of plant inspection data into the model, in excess of even the outside limit postulated by Dr. Hopenfeld.”<sup>306</sup> Finally, Applicant points out that its Application demonstrates consistency with the FAC program described in the GALL Report, and the GALL Report “is entitled to significant weight in addressing the issue of adequacy of aging management programs.”<sup>307</sup> Because “[t]he PIIC provides no information . . . that would indicate any ineffectiveness of the program determined to be adequate by the GALL Report standards,” Applicant believes that PIIC’s claim is unsupported and therefore inadmissible.<sup>308</sup>

NRC Staff also takes issue with Petitioner’s reliance on the Hopenfeld Declaration. According to NRC Staff, “[t]he declaration by itself provides no facts or opinion regarding FAC; it simply supports two of Riverkeeper’s contentions in a separate proceeding.”<sup>309</sup> Thus, Petitioner has failed to provide any expert witness or facts to support its assertions.

In its reply, Petitioner insists that it has no obligation to “exhaust the record to determine how long [the FAC] program has been used at PINGP to demonstrate

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<sup>300</sup> *Id.* at 41.

<sup>301</sup> *Id.*

<sup>302</sup> *Id.*

<sup>303</sup> Northern States Answer at 58.

<sup>304</sup> *Id.* at 59-60.

<sup>305</sup> *Id.* at 61-62.

<sup>306</sup> *Id.* at 61 (emphasis in original).

<sup>307</sup> *Id.*

<sup>308</sup> *Id.*

<sup>309</sup> NRC Staff Answer at 51.

the extent to which it should have been benchmarked.”<sup>310</sup> PIIC also disputes Applicant’s assertion that mere consistency with the GALL Report is sufficient to demonstrate an adequate AMP.<sup>311</sup>

The Board finds Contention 11 admissible. As stated by Petitioner, 10 C.F.R. § 54.21(a)(3) requires that the Application, “[f]or each structure and component identified in paragraph (a)(1) of this section, demonstrate that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB for the period of extended operation.” Applicant has chosen to make this demonstration for the effects of FAC by applying an AMP that measures its effects. Section B2.1.17 of the Application states that the FAC program is an existing program, is based upon EPRI guidelines, and is consistent with the GALL Report.<sup>312</sup> It consists of three components: (1) initial analysis, (2) baseline inspections, and (3) followup inspections. The Application does not, however, provide any more than this brief description of the plan.

A recent Commission decision states that “the license renewal applicant’s use of an aging management program identified in the GALL Report constitutes reasonable assurance that it will manage the targeted aging effect during the renewal period.”<sup>313</sup> In the present case, Northern States’ Application asserts that its AMP is consistent with the program described in the GALL Report for managing FAC. The LRA makes this assertion not because Applicant has adopted the AMP directly from the GALL Report, but rather because Applicant has compared the two programs and found them to be consistent. Still, the Application must contain sufficient information to independently confirm consistency with the GALL Report. Currently, the description of the AMP in the Application leaves this in question. Thus, Contention 11 raises a genuine and material concern about whether or not the AMP is consistent with the GALL Report, whether it fulfills the requirements of 10 C.F.R. § 54.21(a)(3), and potentially, whether the AMP actually exists.<sup>314</sup> For this reason Contention 11 is admitted in the following form:

The LRA fails to supply sufficient details of the aging management program for flow accelerated corrosion to demonstrate that its effects will be adequately managed.

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<sup>310</sup> PIIC Reply at 24.

<sup>311</sup> *Id.* at 25.

<sup>312</sup> LRA at B-42 to -43.

<sup>313</sup> *Oyster Creek*, CLI-08-23, 68 NRC at 468.

<sup>314</sup> 10 C.F.R. § 2.309(f)(1)(vi).

#### IV. CONCLUSION

Based on the foregoing, the Prairie Island Indian Community is admitted as a party to this license renewal proceeding pursuant to 10 C.F.R. § 2.309.

The following contentions have been admitted, as limited and reworded by the Licensing Board:

1. Contention 1 — The ER in the LRA does not provide an adequate analysis of historical and archaeological resources that may be affected by the proposed license renewal. The LRA does not include information concerning pitfalls that could adversely affect the plan to avoid damage to Historical and Archaeological Resources.
2. Contention 2 — The SAMA analysis in the LRA does not accurately reflect the site restoration costs for the area surrounding the PINGP, including the PIIC and its associated Treasure Island complex. The Site Restoration Study methodology should be used to develop more appropriate input for the analysis.
3. Contention 5 — Applicant's environmental report contains a seriously flawed environmental justice analysis that does not adequately assess the impacts of the PINGP on the adjacent minority population.
4. Contention 6 — The LRA does not include an adequate plan to monitor and manage the effects of aging for containment coatings, whose integrity is directly related to plant safety and the performance of the emergency core cooling systems.
5. Contention 7 — The LRA does not contain an adequate plan to monitor and manage the effects of aging due to embrittlement of the reactor vessel internals.
6. Contention 8 — Section B2.1.27 of the LRA does not contain an adequate plan to monitor the effects of primary water stress corrosion cracking of nickel-alloy components.
7. Contention 11 — The LRA fails to supply sufficient details of the aging management program for flow accelerated corrosion to demonstrate that its effects will be adequately managed.

The Board rules that the procedures of Subpart L shall be used for these admitted contentions. Within fifteen (15) days of the issuance of this Order, NRC Staff shall notify the Board and the parties of whether it desires to participate in this proceeding as a party pursuant to 10 C.F.R. § 2.1202(b)(2). Within thirty (30) days of this Order, the parties shall make their initial disclosures pursuant to 10 C.F.R. § 2.336(a). NRC Staff shall make its initial disclosures pursuant to

10 C.F.R. § 2.336(b) and shall file in the docket, present to the Board, and make available to the parties to the proceeding the hearing file pursuant to 10 C.F.R. § 2.1203(a)(1).

For the foregoing reasons, Petitioner's first, second, fifth, sixth, seventh, eighth, and eleventh contentions are admitted as restated, while the Petitioner's third, fourth, and ninth contentions are not admitted. Petitioner has withdrawn Contention 10.

Northern States' motion to strike is granted as follows: the Declaration of Christopher I. Grimes is struck in its entirety and all references to his declaration in the PIIC Reply are also struck. The Grimes Declaration constitutes "new support" and therefore is not proper in a reply.

Pursuant to 10 C.F.R. § 2.311, an appeal of this Memorandum and Order may be filed within ten (10) days of service of this Memorandum and Order by filing a notice of appeal and an accompanying supporting brief. Any party opposing an appeal may file a brief in opposition to the appeal. All briefs must conform to the requirements of 10 C.F.R. § 2.341(c)(2).

It is so ORDERED.

THE ATOMIC SAFETY AND  
LICENSING BOARD<sup>315</sup>

William J. Froehlich, Chairman  
ADMINISTRATIVE JUDGE

Dr. Gary S. Arnold  
ADMINISTRATIVE JUDGE

Dr. Thomas J. Hirons  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
December 5, 2008

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<sup>315</sup>Copies of this Order were sent this date by the agency's E-Filing system to counsel for (1) Applicant, Northern States Power Company; (2) Petitioner, Prairie Island Indian Community; and (3) NRC Staff.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**Michael M. Gibson**, Chairman  
**Dr. Richard F. Cole**  
**Brian K. Hajek**

**In the Matter of**

**Docket No. 40-8943**  
**(ASLBP No. 08-867-02-MLA-BD01)**  
**(License Renewal)**

**CROW BUTTE RESOURCES, INC.**  
**(In Situ Leach Facility, Crawford,**  
**Nebraska)**

**December 10, 2008**

This 10 C.F.R. Part 40 proceeding concerns the application of Crow Butte Resources, Inc. (Crow Butte), for renewal of its Source Materials License No. SUA-1534 to allow continued operation of its in-situ leach (ISL) uranium mine in Crawford, Nebraska. The Licensing Board ruled that a newly filed contention regarding public health and safety concerns related to arsenic in Consolidated Petitioners' drinking water was both timely and admissible.

**RULES OF PRACTICE: NEW OR AMENDED CONTENTIONS**

The basic rule governing contentions (10 C.F.R. § 2.309(f)) indicates that contentions “must be based on documents or other information available at the time the petition is to be filed . . .” 10 C.F.R. § 2.309(f)(2). To that end, new or amended contentions can be filed with leave of the Board if (i) the information upon which the amended or new contention is based was not previously available; (ii) the information upon which the amended or new contention is based is materially different from information previously available; and (iii) the amended



or new contention has been submitted in a timely fashion based on the availability of the subsequent information. *See id.* § 2.309(f)(2)(i)-(iii).

#### **RULES OF PRACTICE: NONTIMELY CONTENTIONS**

Nontimely contentions may be accepted under section 2.309(c)(1) only upon a showing of “good cause” for failure to file in a timely manner and a weighing of a number of factors. 10 C.F.R. § 2.309(c)(1)(ii)-(viii). Previous boards have concluded that, when new contentions are based on “breaking developments of information, they are to be treated as ‘new or amended,’ not as ‘nontimely.’” *Shaw AREVA MOX Services* (Mixed Oxide Fuel Fabrication Facility), LBP-07-14, 66 NRC 169, 210 n.95 (2007).

#### **RULES OF PRACTICE: NEW OR AMENDED CONTENTIONS**

The contention need not meet the stricter requirements required of untimely contentions under section 2.309(c)(i)-(viii) because it is based on information heretofore unknown to Petitioners. Though the concern was referenced in Petitioners’ initial pleading, they filed their initial pleading 1 month before the scientific study in issue was available to the public. The information in the scientific study is therefore both new to Petitioners and is materially different from information previously available to them. Therefore, “[t]he amended or new contention has been submitted in a timely fashion based on the availability of the subsequent information.” 10 C.F.R. § 2.309(f)(2)(iii).

### **ORDER**

#### **(Ruling on Motion to Admit New Contention)**

On November 21, 2008, this Board issued an Order granting standing to Consolidated Petitioners<sup>1</sup> and the Oglala Sioux Tribe. The Board also admitted nine contentions asserted against Crow Butte Resources, Inc. (Crow Butte), which seeks to renew its license for an in situ leach uranium mine in Crawford, Nebraska.<sup>2</sup>

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<sup>1</sup> The admitted Consolidated Petitioners consist of Beatrice Long Visitor Holy Dance, Debra White Plume, Thomas Kanatakeniate Cook, Loretta Afraid of Bear Cook, Afraid of Bear/Cook Tiwahe, Joe American Horse, Sr., American Horse Tiospaye, Owe Aku/Bring Back the Way, and the Western Nebraska Resources Council. Standing was not granted to two of the Consolidated Petitioners (Dayton O. Hyde and Bruce McIntosh). *See* LBP-08-24, 68 NRC 691, 760 (2008).

<sup>2</sup> *See id.*

Before the Board issued its Order, Consolidated Petitioners moved for leave to file a new contention regarding public health and safety concerns related to arsenic in Consolidated Petitioners' drinking water.<sup>3</sup> The Consolidated Petitioners allege that the arsenic is present because of Crow Butte Resources, Inc.'s (Crow Butte) mining activities in the Brule Chadron aquifer.<sup>4</sup> On October 3, 2008, the Oglala Delegation of the Great Sioux Nation Treaty Council moved to join with Consolidated Petitioners in their motion for leave to file this new contention regarding arsenic.<sup>5</sup>

In their motion, Consolidated Petitioners allege a connection between low levels of arsenic in drinking water and a high incidence of diabetes in Chadron, Nebraska, and on the Pine Ridge Indian Reservation.<sup>6</sup> To support this allegation, Consolidated Petitioners refer to an August 2008 study conducted by the Johns Hopkins Bloomberg School of Public Health establishing a link between low levels of arsenic in drinking water and a high incidence of type-2 diabetes in persons consuming the affected water.<sup>7</sup> Though a link between arsenic contamination and diabetes has been considered likely for some time,<sup>8</sup> the Johns Hopkins study focuses on low to moderate levels of arsenic contamination, the effects of which had not previously been studied.<sup>9</sup> Consolidated Petitioners further allege that there is a correlation between diabetes and pancreatic cancer,<sup>10</sup> and provide evidence that cancer cases in Chadron appear to be above the national average.<sup>11</sup> Consolidated Petitioners then aver that the Johns Hopkins study and specific

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<sup>3</sup> See Petition for Leave to File a New Contention Re: Arsenic (Sept. 22, 2008) [hereinafter Pet. New Cont.].

<sup>4</sup> See Pet New Cont. at 3-4.

<sup>5</sup> See Petitioner Oglala Delegation of the Great Sioux Nation Treaty Council's Motion to Join Consolidated Petitioners [*sic*] Petition for Leave to File New Contention Re: Arsenic (Oct. 3, 2008). Crow Butte and NRC Staff have opposed this motion. See Crow Butte Resources, Inc.'s Response to Oglala Delegation's Motion to Join Late-Filed Contention (Oct. 14, 2008); NRC Staff's Response in Opposition to Petition for Leave to File New Contention Re: Arsenic (Oct. 14, 2008). A decision on the Treaty Council's Motion to Join will be deferred until a later date.

<sup>6</sup> See Pet. New Cont. at 3-4.

<sup>7</sup> See *id.* at 1 (citing Ana Navas-Acien et al., *Arsenic Exposure and Prevalence of Type 2 Diabetes in U.S. Adults*, 300 J. Am. Med. Ass'n, 814 (2008) [hereinafter Johns Hopkins study]).

<sup>8</sup> Mei-Shwu Lai et al., *Ingested Inorganic Arsenic and Prevalence of Diabetes Mellitus*, 139 Am. J. Epidemiol. 484 (1994).

<sup>9</sup> Ana Navas-Acien et al., Abstract, *Arsenic Exposure and Prevalence of Type 2 Diabetes in U.S. Adults*, 300 J. Am. Med. Ass'n, 814 (2008).

<sup>10</sup> See Affidavit of David C. Frankel (Sept. 22, 2008) at 2 [hereinafter Frankel Aff.] (citing Suresh T. Chari et al., *Probability of Pancreatic Cancer Following Diabetes: A Population-Based Study*, 129 Gastroenterology 504 (2005); Pancreatic Cancer UK: Pancreatic Cancer Symptoms and Signs, <http://www.pancreaticcancer.org.uk/PCSymptoms.htm>).

<sup>11</sup> See Pet. New Cont. at 4. See also Frankel Aff. at 1-2 (Sept. 22, 2008) (citing Surveillance Epidemiology and End Results Fact Sheet, <http://seer.cancer.gov/statfacts/html/pancreas.html>).

cases of pancreatic cancer in persons living near Consolidated Petitioners provide new information, not available to them at the time they filed their petition, that materially alters their understanding of the impact of arsenic contamination on the public health and safety.<sup>12</sup>

In its response to Consolidated Petitioners' motion, Crow Butte maintains that Consolidated Petitioners' new contention does not meet the requirements for "late-filed" contentions under 10 C.F.R. § 2.309(c)(i)-(viii).<sup>13</sup> Furthermore, Crow Butte challenges Consolidated Petitioners' assertion that its operations are detrimental to public health and safety by insisting that Consolidated Petitioners cannot establish a causal connection between mining activities and arsenic contamination or between arsenic contamination and pancreatic cancer or diabetes.<sup>14</sup>

In its response to Consolidated Petitioners' motion, the NRC Staff claims that Consolidated Petitioners' new contention falls "within the purview of contentions already proffered in this proceeding" because arsenic was mentioned in Consolidated Petitioners' initial pleading.<sup>15</sup> Moreover, the NRC Staff asserts that Consolidated Petitioners do not rely on new information that is materially different from information available to them when their initial pleadings were filed, and so the submission of the new contention cannot be considered "timely."<sup>16</sup> Finally, the NRC Staff posits that Consolidated Petitioners' new contention does not meet the general admissibility requirements of 10 C.F.R. § 2.309(f)(1)(i)-(vi).<sup>17</sup>

We first note the basic rule governing contentions (10 C.F.R. § 2.309(f)), which indicates that contentions "must be based on documents or other information available at the time the petition is to be filed. . . ."<sup>18</sup> To that end, new or amended contentions can be filed with leave of the Board if (i) the information upon which the amended or new contention is based was not previously available; (ii) the information upon which the amended or new contention is based is materially different from information previously available; and (iii) the amended or new contention has been submitted in a timely fashion based on the availability of the subsequent information.<sup>19</sup> Nontimely contentions may be accepted under section 2.309(c)(1) only upon a showing of "good cause" for failure to file in a timely

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<sup>12</sup> See *id.* at 3-4.

<sup>13</sup> See Crow Butte Resources, Inc.'s Response to Consolidated Petitioners' Late-Filed Contention (Oct. 14, 2008) at 3-4.

<sup>14</sup> See App. Resp. at 6-7.

<sup>15</sup> Staff Resp. at 3. See also Pet. New Cont. at 2 (citing Consolidated Request for Hearing and Petition for Leave to Intervene (July 28, 2008) at 16-17 [hereinafter Cons. Pet.]).

<sup>16</sup> See Staff Resp. at 10.

<sup>17</sup> See *id.* at 12-14.

<sup>18</sup> 10 C.F.R. § 2.309(f)(2).

<sup>19</sup> 10 C.F.R. § 2.309(f)(2)(i)-(iii).

manner and a weighing of a number of factors.<sup>20</sup> Previous boards have concluded that when new contentions are based on “breaking developments of information, they are to be treated as ‘new or amended,’ not as ‘nontimely.’”<sup>21</sup> This Board adopts that reasoning here.

We are satisfied that Consolidated Petitioners’ new contention meets the requirements of 10 C.F.R. § 2.309(f)(2). Contrary to Crow Butte’s position, the Board finds that the contention need not meet the stricter requirements required of untimely contentions under section 2.309(c)(i)-(viii) because it is based on information heretofore unknown to Consolidated Petitioners. Though arsenic was referenced in Consolidated Petitioners’ initial pleading,<sup>22</sup> they filed their initial pleading on July 28, 2008, 1 month before the Johns Hopkins study was available to the public. The information in the Johns Hopkins study is therefore both new to Consolidated Petitioners and, because the study focuses on the effects of low-level arsenic contamination, is materially different from information previously available to them.<sup>23</sup> Furthermore, the Johns Hopkins study was published on August 20, 2008, and the new contention was filed 1 month later on September 22, 2008. The Board is therefore satisfied that “[t]he amended or new contention has been submitted in a timely fashion based on the availability of the subsequent information.”<sup>24</sup>

In addition to meeting the requirements in 10 C.F.R. § 2.309(f)(2), a newly filed contention must meet the six basic contention admissibility standards set forth in 10 C.F.R. § 2.309(f)(1)(i)-(vi) as well.<sup>25</sup> In the Board’s view, that obligation has been met here. To begin with, we are satisfied that Consolidated Petitioners raised a specific issue of law or fact to be controverted and provided an explanation of the basis for the contention.<sup>26</sup> Furthermore, the Board agrees

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<sup>20</sup> These factors are: the nature of the petitioner’s right to be a party to the proceeding; the nature and extent of the petitioner’s property, financial, or other interest in the proceeding; the possible effect of any order that may be entered in the proceeding on the petitioner’s interest; the availability of other means whereby the petitioner’s interest will be protected; the extent to which the petitioner’s interests will be represented by existing parties; the extent to which the petitioner’s participation will broaden the issues or delay the proceeding; and the extent to which the petitioner’s participation may reasonably be expected to assist in developing a sound record. 10 C.F.R. § 2.309(c)(1)(ii)-(viii).

<sup>21</sup> *Shaw AREVA MOX Services* (Mixed Oxide Fuel Fabrication Facility), LBP-07-14, 66 NRC 169, 210 n.95 (2007). See also *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-06-11, 63 NRC 391, 395-96 & n.3 (2006); and *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-05-32, 62 NRC 813, 821 & n.21 (2005).

<sup>22</sup> See Cons. Pet. at 14.

<sup>23</sup> 10 C.F.R. § 2.309(f)(2).

<sup>24</sup> 10 C.F.R. § 2.309(f)(2)(iii).

<sup>25</sup> See *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-06-14, 63 NRC 568, 575 (2006).

<sup>26</sup> 10 C.F.R. § 2.309(f)(1)(i)-(ii).

that Consolidated Petitioners' proposed contention is clearly within the scope of the present proceeding and material to the findings the NRC must make because allegations that mining activities may cause harm to public health and safety are related to the reissuance of Crow Butte's license.<sup>27</sup> Additionally, the Board finds that Consolidated Petitioners have provided facts that support their contention in accordance with 10 C.F.R. § 2.309(f)(1)(v). Section 2.309(f)(1)(v)'s requirement of factual support "is not intended to prevent intervention when material and concrete issues exist."<sup>28</sup> Consolidated Petitioners rely on information in the License Renewal Application and their own pleadings, on the Johns Hopkins study showing a link between low levels of arsenic in drinking water and type-2 diabetes, and on affidavits supporting a high incidence of pancreatic disease and diabetes near the mine and on the Reservation. These facts adequately meet the requirements of section 2.309(f).

Still further, Consolidated Petitioners raise a genuine dispute with the License Renewal Application in accordance with 10 C.F.R. § 2.309(f)(1)(vi). They contend that both the AEA and the NRC's implementing regulations require Crow Butte to operate its mining activities so as to avoid contamination that would harm the public health and safety.<sup>29</sup> Consolidated Petitioners are framing the environmental impact from arsenic transport in groundwater as a safety contention by claiming that Crow Butte's ISL mine is causing harm to the public. Thus, if Consolidated Petitioners are correct that Crow Butte's mining activities cause releases of arsenic that harm the public health and safety, both the AEA and the NRC's implementing regulations would prohibit the NRC from renewing Crow Butte's license.

The Board also finds that Consolidated Petitioners have provided sufficient information to show that a genuine dispute exists with Crow Butte on a material issue of fact as required by 10 C.F.R. § 2.309(f)(vi). Consolidated Petitioners have provided more than "bare assertions and speculation."<sup>30</sup> They support this contention by referencing the License Renewal Application where it states that the ISL uranium mining process increases the arsenic levels in the aquifer, and they incorporate by reference their original petition, which claims that there are intervening faults and fractures that enable the higher concentrations of arsenic

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<sup>27</sup> 10 C.F.R. § 2.309(f)(1)(iii)-(iv).

<sup>28</sup> *Fansteel, Inc.* (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 203 (2003). *See also Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 342 (1999) (expert support is not required for admission of a contention; a fact-based argument may be sufficient on its own).

<sup>29</sup> *See* Pet. New Cont. at 7.

<sup>30</sup> *Fansteel*, CLI-03-13, 58 NRC at 203.

to migrate from the mined aquifer to the Reservation.<sup>31</sup> We find this information adequate to establish a genuine dispute on a material issue.

Consolidated Petitioners' proposed contention will be *admitted* as Consolidated Petitioners' Safety Contention A<sup>32</sup> as follows:

The oxidation of uranium due to Crow Butte's mining operations releases low levels of arsenic that contaminates drinking water. This contamination threatens the health and safety of the public in that it contributes to an increase in diabetes and pancreatic cancer. The AEA and NRC regulations require Crow Butte's operations to be conducted without harm to the public health and safety.

For the foregoing reasons, Consolidated Petitioners' new contention regarding arsenic is *admitted*.<sup>33</sup>

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<sup>31</sup> See Pet. New Cont. at 7. See also Application for 2007 License Renewal USNRC Source Materials License SUA-1534 Crow Butte License Area § 2.9.6 (Nov. 2007).

<sup>32</sup> Because the Petitioners are basing this contention on requirements under the AEA, it is not an environmental contention that may be resolved through NEPA, but is instead a safety contention claiming Crow Butte's ISL mine is causing harm to the public.

<sup>33</sup> In some respects, the Oglala Sioux Tribe's Environmental Contention A (which has previously been admitted herein pursuant to our November 21, 2008 Order at 29) implicates many of the same concerns that are raised in Consolidated Petitioners' new contention. As discussed above, however, as pleaded, this is a safety contention and not an environmental contention. Oglala Sioux Tribe's Environmental Contention A states: "There is no evidence based science for [Crow Butte's] conclusion that ISL mining has 'no non-radiological health impacts' (see Table 8.6-1 of Application), or that non radiological impacts for possible excursions or spills are 'small' (see 7.12.1 of application)." Request for Hearing and/or Petition to Intervene, Oglala Sioux Tribe (July 28, 2008) at 6. As we noted during the September 30–October 1, 2008 Oral Argument, the Board may combine for hearing some of the admitted contentions, and in some ways these two contentions appear to be good candidates for a combined evidentiary presentation. See Tr. at 211. However, because one is an "environmental" contention and the other a "safety" contention, they will not be consolidated.

It is so ORDERED.

THE ATOMIC SAFETY AND  
LICENSING BOARD<sup>34</sup>

Michael M. Gibson, Chairman  
ADMINISTRATIVE JUDGE

Dr. Richard F. Cole  
ADMINISTRATIVE JUDGE

Brian K. Hajek  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
December 10, 2008

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<sup>34</sup> Copies of this Memorandum and Order were sent this date by the agency's E-Filing system to the counsel/representatives for (1) Applicant Crow Butte Resources, Inc.; (2) Consolidated Petitioners; (3) NRC Staff; (4) Oglala Delegation of the Great Sioux Nation Treaty Council; and (5) Oglala Sioux Tribe.

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the National Environmental Policy Act requires an applicant to present a cost-benefit analysis for nuclear power plants and facilities only where the applicant's alternatives analysis indicates that there is an environmentally preferable alternative; LBP-08-21, 68 NRC 576 (2008)
- Consumers Power Co.* (Palisades Nuclear Plant), LBP-81-26, 14 NRC 247, 253-55 (1981), *rev'd on other grounds*, ALAB-670, 15 NRC 493 (1982)  
requirements for representational standing apply to labor unions; CLI-08-19, 68 NRC 263 (2008)
- Crow Butte Resources, Inc.* (In Situ Leach Facility, Crawford, Nebraska), LBP-08-24, 68 NRC 691, 720 (2008)  
if petitioner were to delay and submit contentions on National Environmental Policy Act topics addressed in the environmental report after issuance of the environmental impact statement, they would likely be characterized as late-filed contentions, subject to much more stringent admissibility standards; LBP-08-26, 68 NRC 932 (2008)
- Crow Creek Sioux Tribe v. Brownlee*, 331 F.3d 912, 916 (D.C. Cir. 2003)  
a Tribe does not have standing merely because it has statutory rights in burial remains and cultural artifacts, but rather, to establish standing, the Tribe must show some actual or imminent injury; LBP-08-24, 68 NRC 713 n.106 (2008)
- Curators of the University of Missouri* (TRUMP-S Project), CLI-95-1, 41 NRC 71, 98 (1995)  
NUREGs and Regulatory Guides, by their very nature, serve merely as guidance and cannot prescribe requirements; LBP-08-25, 68 NRC 788 n.29 (2008)
- Curators of the University of Missouri* (TRUMP-S Project), CLI-95-1, 41 NRC 71, 121 (1995)  
it is the applicant, not the Staff, that has the burden of proof in litigation; CLI-08-23, 68 NRC 477, 486 (2008)
- Curators of the University of Missouri* (TRUMP-S Project), CLI-95-1, 41 NRC 71, 121-22 (1995)  
a board's jurisdiction does not extend to overseeing or directing the NRC Staff in its license reviews; CLI-08-23, 68 NRC 473-74 (2008)  
it would be unfair to deny a meritorious application because the Staff's review was found lacking; CLI-08-23, 68 NRC 482 (2008)  
NRC has not, and will not, litigate claims about the adequacy of the Staff's safety review in licensing adjudications; CLI-08-23, 68 NRC 476 n.64 (2008)
- Curators of the University of Missouri* (TRUMP-S Project), CLI-95-1, 41 NRC 71, 149-50 (1995)  
although NRC guidance documents are entitled to some weight, they do not have the force of a legally binding regulation and, like any guidance document, may be challenged in an adjudicatory proceeding; LBP-08-22, 68 NRC 614 (2008)
- Curators of the University of Missouri* (TRUMP-S Project), CLI-95-8, 41 NRC 386, 395-96 (1995)  
the issue in adjudications is not the adequacy of the NRC Staff's review of the application but rather whether the license application raises health and safety concerns; LBP-08-13, 68 NRC 71 n.88 (2008)
- Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 592 (1993)  
the term, "reasonable assurance," is interpreted; LBP-08-22, 68 NRC 644 n.261 (2008)
- Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 592-93 (1993)  
reliability of scientific evidence is verified by assessing whether the reasoning or methodology underlying the evidence is scientifically valid; LBP-08-24, 68 NRC 739 n.267 (2008)
- Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 597 (1993)  
trial judges have the task of ensuring that an expert's testimony both rests on a reliable foundation and is relevant; LBP-08-22, 68 NRC 646 (2008)
- Dellums v. NRC*, 863 F.2d 968, 971 (D.C. Cir. 1988)  
in determining whether an individual or organization should be granted party status in a proceeding based on standing "as of right," the agency applies contemporaneous judicial standing concepts; LBP-08-26, 68 NRC 911 (2008)

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- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 207, 213 (2003)  
the contention rule is strict by design; CLI-08-17, 68 NRC 233 (2008)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 207, 218 (2003)  
with limited exceptions, no rule or regulation of the Commission is subject to attack in any adjudicatory proceeding; LBP-08-13, 68 NRC 64 (2008); LBP-08-26, 68 NRC 916 (2008)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 3), CLI-02-27, 56 NRC 367 (2002)  
the National Environmental Policy Act imposes no legal duty on the NRC to consider intentional malevolent acts on a case-by-case basis in conjunction with commercial power reactor license renewal applications; LBP-08-13, 68 NRC 142-43 (2008)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 3), LBP-08-9, 67 NRC 421, 448 n.154 (2008)  
motion to strike is denied as moot; LBP-08-17, 68 NRC 457 (2008)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358 (2001), *petition for reconsideration denied*, CLI-02-1, 55 NRC 1 (2002)  
the rules on contention admissibility are strict by design; LBP-08-13, 68 NRC 61 (2008); LBP-08-14, 68 NRC 288 (2008); LBP-08-15, 68 NRC 312 (2008); LBP-08-18, 68 NRC 540 (2008); LBP-08-26, 68 NRC 915 (2008)  
threshold contention standards are imposed to avoid admission of contentions based on little more than speculation and intervenors who have negligible knowledge of nuclear power issues; CLI-08-17, 68 NRC 233 (2008)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358-59 (2001)  
the contention rule is strict by design; CLI-08-17, 68 NRC 233 (2008)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 364 (2001)  
NRC regulations establish what the agency has found to be adequately protective radiological dose limits, and petitioners may not use an adjudicatory proceeding to challenge this generic regulatory framework; CLI-08-17, 68 NRC 243 (2008)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 365 (2001), *petition for reconsideration denied*, CLI-02-1, 55 NRC 1 (2002)  
to provide the basis of an admissible contention, allegations of management improprieties or lack of integrity must relate directly to the currently proposed licensing action and not be based on allegations of improprieties of only historical interest; LBP-08-15, 68 NRC 327 (2008); LBP-08-24, 68 NRC 728 (2008)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-04-12, 59 NRC 237, 241-42 (2004)  
in conducting its acceptance review of the high-level waste repository construction authorization application, Staff only determines whether the license application contains sufficient information for the NRC to begin its safety review; CLI-08-20, 68 NRC 274 (2008)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 560-61 (2005)  
consideration of emergency planning is outside the scope of a license renewal proceeding because, by its very nature, it is neither germane to age-related degradation nor unique to the period covered by the license renewal application; LBP-08-13, 68 NRC 148 n.642, 165, 201 (2008)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 565 (2005)  
consideration of emergency plans in license renewal proceedings is precluded because they are already covered by ongoing regulatory review; LBP-08-13, 68 NRC 165 (2008)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-06-4, 63 NRC 32, 37 (2006)  
contentions that deal with operational issues are not within the scope of license renewal; LBP-08-13, 68 NRC 216 (2008)

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- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-06-4, 63 NRC 32, 37-38 (2006)  
to the extent that petitioners have any basis for claiming that there are current, ongoing excessive radiological releases from a facility, petitioners may seek NRC enforcement action under 10 C.F.R. 2.206; CLI-08-17, 68 NRC 245 n.77 (2008)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-06-4, 63 NRC 32, 38 (2006)  
sanctions have been imposed against a party seeking to file a written request for hearing only when that party has not followed established Commission procedures; LBP-08-18, 68 NRC 542 (2008); LBP-08-19, 68 NRC 547 (2008); LBP-08-20, 68 NRC 552 (2008)  
the Commission may reject an appeal summarily for violating NRC procedural regulations; CLI-08-17, 68 NRC 234 (2008)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-06-4, 63 NRC 32, 38-39 (2006)  
consistent procedural noncompliance from an attorney resulted in direction to the Office of the Secretary to screen all filings bearing that counsel's signature, not to accept or docket them unless they meet all procedural requirements, and to reject summarily any nonconforming pleadings without referring them to the Atomic Safety and Licensing Board Panel or the Commission; CLI-08-29, 68 NRC 903 (2008)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), LBP-04-15, 60 NRC 81, 89 & n.26 (2004)  
petitioners are expected to clearly identify the matters on which they intend to rely with reference to a specific point; LBP-08-21, 68 NRC 570 n.14 (2008)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), LBP-04-15, 60 NRC 81, 89, 91, 94 (2004)  
simply attaching materials or documents, without explaining their significance, is insufficient for contention admission; LBP-08-17, 68 NRC 441 (2008)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), LBP-04-15, 60 NRC 81, 90, *aff'd*, CLI-04-36, 60 NRC 631 (2004)  
the scope of license renewal proceedings is quite limited under Commission rules and case law; LBP-08-22, 68 NRC 598 (2008)
- Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), CLI-07-27, 66 NRC 215, 259 (2007)  
in the environmental context, the contents of the final environmental impact statement bound the reach of both issue preclusion and Staff inquiry into new and significant information in a future combined operating license proceeding referencing an early site permit; LBP-08-15, 68 NRC 322 (2008)
- Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), LBP-04-18, 60 NRC 253, 265 (2004)  
licensing boards can and should review materials supporting contentions to determine whether, at least on their face, they actually support the facts alleged; LBP-08-17, 68 NRC 453 (2008)
- Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), LBP-04-18, 60 NRC 253, 268-69 (2004)  
challenges to NRC regulations are inadmissible; LBP-08-21, 68 NRC 587 (2008)  
challenges to NRC's Waste Confidence rule are inadmissible; LBP-08-17, 68 NRC 456 (2008)
- Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), LBP-04-18, 60 NRC 253, 268-70 (2004)  
the Waste Confidence Rule is applicable to all new reactor proceedings and contentions challenging the Waste Confidence Rule or seeking its reconsideration are not admissible; LBP-08-16, 68 NRC 416 (2008)
- Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), LBP-04-18, 60 NRC 253, 270-72 (2004)  
contentions that challenge the Waste Confidence Rule are inadmissible; LBP-08-23, 68 NRC 686 (2008)

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- Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), LBP-07-9, 65 NRC 539 (2007), *aff'd*, CLI-07-23, 66 NRC 35 (2007)  
adequacy of Staff review is questioned by the licensing board; CLI-08-23, 68 NRC 473 (2008)
- Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), LBP-07-9, 65 NRC 539, 550 (2007)  
an early site permit focuses on the suitability of a proposed site, and is defined as a Commission approval for a site or sites for one or more nuclear power facilities; LBP-08-15, 68 NRC 299-300 (2008)  
an early site permit is a partial construction permit, whose issuance does not authorize an applicant to construct nuclear power reactors; LBP-08-15, 68 NRC 299 (2008)
- Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), LBP-07-9, 65 NRC 539, 550-51 (2007)  
the holder of an early site permit may not actually commence construction of any reactors on the site without having applied for and received a separate construction permit or combined operating license; LBP-08-15, 68 NRC 307 (2008)
- Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), CLI-01-28, 54 NRC 393 (2001)  
requests to suspend proceedings or hold them in abeyance in the exercise of the Commission's inherent supervisory powers over proceedings in the wake of the September 11 terrorist attacks pending the Commission's comprehensive review of anti-terrorist measures at licensed facilities were rejected; CLI-08-23, 68 NRC 485 (2008)
- Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), CLI-02-19, 56 NRC 143 (2002)  
although Subpart I rules have been used in very few cases to disclose classified information in contested licensing proceedings, in those cases the information was necessary to evaluate challenges to the agency's compliance with security requirements of the Atomic Energy Act, not the National Environmental Policy Act; CLI-08-26, 68 NRC 523 (2008)
- Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), CLI-02-24, 56 NRC 335 (2002)  
the National Environmental Policy Act imposes no legal duty on the NRC to consider intentional malevolent acts on a case-by-case basis in conjunction with commercial power reactor license renewal applications; LBP-08-13, 68 NRC 143 (2008)
- Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), LBP-01-35, 54 NRC 403, 422 (2001)  
if petitioner neglects to provide the requisite support for its contentions, it is not within the board's power to make assumptions of fact that favor the petitioner, nor may the board supply information that is lacking; LBP-08-13, 68 NRC 63 (2008); LBP-08-16, 68 NRC 385 (2008); LBP-08-26, 68 NRC 918 (2008)  
petitioners are prohibited from challenging NRC regulations; LBP-08-14, 68 NRC 287 (2008)
- Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), LBP-03-21, 58 NRC 338, 342 (2003)  
a board may appropriately view petitioners' support for its contention in a light that is favorable to the petitioner; LBP-08-26, 68 NRC 917 (2008)
- Duke Energy Carolinas, LLC* (William States Lee III Nuclear Station, Units 1 and 2), LBP-08-17, 68 NRC 431, 438-42 (2008)  
relevant case law on contention admissibility is presented; LBP-08-21, 68 NRC 560 n.4 (2008)
- Duke Energy Carolinas, LLC* (William States Lee III Nuclear Station, Units 1 and 2), LBP-08-17, 68 NRC 431, 442-43 (2008)  
challenges to NRC regulations are inadmissible; LBP-08-21, 68 NRC 587 (2008)
- Duke Energy Carolinas, LLC* (William States Lee III Nuclear Station, Units 1 and 2), LBP-08-17, 68 NRC 431, 456-57 (2008)  
contentions that challenge the Waste Confidence Rule are inadmissible; LBP-08-23, 68 NRC 689 (2008)

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- Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), CLI-04-6, 59 NRC 62, 74 (2004)  
NRC has not, and will not, litigate claims about the adequacy of the Staff's safety review in licensing adjudications; CLI-08-23, 68 NRC 476-77 n.64 (2008)
- Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), CLI-04-21, 60 NRC 21, 27-28 & n.14 (2004)  
boards review the education, experience, and qualifications of the individuals offering expert opinions on behalf of the litigants to determine whether these individuals qualify as experts; LBP-08-12, 68 NRC 17 n.10 (2008)
- Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), LBP-05-10, 61 NRC 241 (2005)  
the preponderance-of-the-evidence standard applies in a license renewal proceeding; LBP-08-22, 68 NRC 646 (2008)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-01-20, 54 NRC 211, 212 (2001)  
license renewal proceedings are limited to a review of the plant structures and components that will require an aging management review for the period of extended operation and the plant's systems, structures, and components that are subject to an evaluation of time-limited aging analyses; LBP-08-22, 68 NRC 599 (2008); LBP-08-25, 68 NRC 786 (2008)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-14, 55 NRC 278, 293 (2002)  
NRC licensing proceedings are not occasions for far-reaching speculation about unimplemented and uncertain plans of applicants or licensees; LBP-08-17, 68 NRC 455 (2008)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-17, 56 NRC 1, 7-8 n.14 (2002)  
petitioner must approximate the relative cost and benefit of a challenged severe accident mitigation alternative in order to get an adjudicatory hearing; LBP-08-13, 68 NRC 103 (2008)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-17, 56 NRC 1, 11-12 (2002)  
petitioner must proffer some indication of what the differences might be if a proposed severe accident mitigation alternative is performed; LBP-08-13, 68 NRC 104 (2008)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-26, 56 NRC 358, 363-64 (2002)  
the scope of license renewal proceedings is quite limited under Commission rules and case law; LBP-08-22, 68 NRC 598 (2008)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-26, 56 NRC 358, 364 (2002)  
terrorism contentions are, by their very nature, directly related to security and are therefore, under NRC license renewal rules, unrelated to the detrimental effects of aging and thus are beyond the scope of, not material to, and inadmissible in a license renewal proceeding; LBP-08-13, 68 NRC 142 (2008)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-26, 56 NRC 358, 365 (2002)  
the National Environmental Policy Act imposes no legal duty on NRC to consider intentional malevolent acts on a case-by-case basis in conjunction with commercial power reactor license renewal applications; LBP-08-13, 68 NRC 142 (2008)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 379 (2002)  
although boards generally are to litigate a "contention" rather than the "basis" that provides the issue statement's foundational support, the reach of a contention necessarily hinges upon its terms coupled with its stated basis; LBP-08-13, 68 NRC 61 (2008); LBP-08-16, 68 NRC 386 (2008)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 383 (2002)  
a contention of omission alleges the improper omission of particular information or an issue from an application; LBP-08-12, 68 NRC 20 (2008)  
if applicant supplies the missing information or performs the omitted analysis, a contention of omission is moot; CLI-08-28, 68 NRC 676 n.72 (2008); LBP-08-12, 68 NRC 21 (2008); LBP-08-15, 68 NRC 317 (2008); LBP-08-24, 68 NRC 748 n.325 (2008)



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- petitioner must timely file a new or amended contention if it intends to challenge the sufficiency of the new information supplied by applicant that cures the deficiency cited in a contention of omission; LBP-08-15, 68 NRC 318 (2008)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 383-84 (2002)
- in a case with an open record, when a contention of omission is rendered moot, the intervenor may be permitted to timely file a new contention arising from the new information; LBP-08-12, 68 NRC 22 n.15 (2008)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC 419, 424 (2003)
- NRC rules bar contentions where petitioners have only what amounts to generalized suspicions that they hope to substantiate later; LBP-08-17, 68 NRC 441 (2008)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC 419, 428 (2003)
- unlike federal court practice, the Commission does not accept mere notice pleading in support of an admissible contention; LBP-08-24, 68 NRC 730 (2008)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC 419, 428-29 (2003)
- there simply would be no end to NRC licensing proceedings if petitioners could disregard the timeliness requirements and add new bases or new issues that simply did not occur to them at the outset; CLI-08-19, 68 NRC 262 (2008)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), LBP-02-4, 55 NRC 49 (2002)
- a Category 1 issue does not require a site-specific analysis and is outside the scope of a license renewal proceeding; LBP-08-13, 68 NRC 216 (2008)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), LBP-02-4, 55 NRC 49, 77 (2002)
- although pro se intervenors must be afforded some latitude in their pleadings, the board expects that an organization that has appeared several times previously will have a heightened awareness of the agency's pleading rules; LBP-08-16, 68 NRC 405-06 (2008)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), LBP-02-4, 55 NRC 49, 85-87 (2002)
- a Category 1 environmental issue that is adequately addressed by the generic environmental impact statement is outside the scope of a license renewal proceeding; LBP-08-13, 68 NRC 195 (2008)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), LBP-03-17, 58 NRC 221, 240-41 (2003)
- regulatory guidance documents are merely suggestions with no legal authority to supersede the plain language of the regulatory criteria that requires aging management review for a structure or component that performs its safety functions without moving parts and without a change in configuration or properties; LBP-08-13, 68 NRC 88 (2008)
- Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-98-17, 48 NRC 123, 125 (1998)
- the scope of license renewal proceedings is quite limited under Commission rules and case law; LBP-08-22, 68 NRC 598 (2008)
- Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 334 (1999)
- petitioners cannot seek to use a specific adjudicatory proceeding to attack generic NRC regulations and requirements, or express generalized grievances about NRC policies; CLI-08-17, 68 NRC 233, 242 (2008)
- Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 334-35 (1999)
- the contention rule is strict by design; CLI-08-17, 68 NRC 233 (2008)
- Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 336-37 (1999)
- the mere issuance of requests for additional information does not mean an application is incomplete for docketing; CLI-08-17, 68 NRC 242 (2008)
- Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 337-39 (1999)
- NRC rules bar contentions where petitioners have only what amounts to generalized suspicions that they hope to substantiate later; LBP-08-17, 68 NRC 441 (2008)

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- Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 342 (1999)  
expert support is not required for admission of a contention because a fact-based argument may be sufficient on its own; LBP-08-27, 68 NRC 956 (2008)
- Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 345 (1999)  
a contention that attacks a Commission rule, or that seeks to litigate a matter that is, or clearly is about to become, the subject of a rulemaking, is inadmissible; LBP-08-16, 68 NRC 383 (2008)  
if petitioners are dissatisfied with the Commission's generic approach to a problem, their remedy lies in the rulemaking process, not in adjudication; LBP-08-23, 68 NRC 689 n.50 (2008)
- Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), LBP-98-33, 48 NRC 381, 385 n.1 (1998)  
the proximity presumption extends to petitioners living in or having frequent contacts with an area within a 50-mile radius of a nuclear reactor; LBP-08-18, 68 NRC 539 (2008)
- Duke Power Co. v. Carolina Study Group*, 438 U.S. 59 (1978)  
constitutionality of the Price-Anderson Act has been upheld against a constitutional due process challenge; LBP-08-17, 68 NRC 452 (2008)
- Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-355, 4 NRC 397, 410 (1976)  
NRC's longstanding approach to electric power demand forecasting has emphasized historical, conservative planning to ensure electricity generating capacity will be available to meet reasonably expected needs; LBP-08-16, 68 NRC 406 (2008)
- Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-825, 22 NRC 785, 790-91 (1985)  
contentions must be within the scope of the proceeding as defined by the Commission in its initial hearing notice and order referring the proceeding to the licensing board; LBP-08-13, 68 NRC 62 (2008); LBP-08-15, 68 NRC 314 (2008); LBP-08-16, 68 NRC 384 (2008); LBP-08-26, 68 NRC 916 (2008)
- Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1048 (1983)  
although an intervenor may have fewer resources and less ability than other participants, both share the same burden of uncovering relevant information that is publicly available; LBP-08-12, 68 NRC 32 (2008)
- Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), LBP-82-107A, 16 NRC 1791, 1808 (1982)  
relitigation of issues that were decided against petitioner in its earlier administrative litigation is prohibited; LBP-08-15, 68 NRC 337 (2008)  
the doctrine of collateral estoppel should be applied in appropriate circumstances in NRC proceedings; LBP-08-15, 68 NRC 310 (2008)
- Duncan's Point Lot Owners Association, Inc. v. Federal Energy Regulatory Commission*, 522 F.3d 371 (D.D.C. 2008)  
procedural violations of the National Historic Preservation Act have resulted in a grant of standing to tribes; LBP-08-24, 68 NRC 715 (2008)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-08-9, 67 NRC 353, 355 (2008)  
the purpose of obtaining "interested state" status was so that a state could request a suspension of the license renewal proceeding; LBP-08-25, 68 NRC 783 n.13 (2008)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 270 (2006)  
the proximity presumption extends to petitioners living in or having frequent contacts with an area within a 50-mile radius of a nuclear reactor; LBP-08-18, 68 NRC 539 (2008)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 338-41 (2006)  
a contention related to emergency planning that touches on the adequacy of a severe accident mitigation alternative analysis in the context of environmental review during license renewal proceedings is admissible; LBP-08-13, 68 NRC 165-66 (2008)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 340 (2006)  
a generic challenge to the MACCS2 code is inadmissible; LBP-08-13, 68 NRC 101 (2008)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356 (2006)  
failure to adequately present the factual information or expert opinions necessary to support a contention requires that the contention be rejected; LBP-08-26, 68 NRC 917 (2008)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-07-13, 66 NRC 131, 142-43 (2007)  
a generic challenge to the MACCS2 code is inadmissible; LBP-08-13, 68 NRC 101 (2008)

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- Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-07-28, 66 NRC 275, 275 (2007)  
sanctions have been imposed against a party requesting a hearing only when that party has not followed established Commission procedures; LBP-08-18, 68 NRC 542 (2008); LBP-08-19, 68 NRC 547 (2008); LBP-08-20, 68 NRC 552 (2008)
- Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-08-7, 67 NRC 187, 191 (2008)  
oral argument on contention admissibility is not a right; LBP-08-23, 68 NRC 683 (2008)
- Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-08-7, 67 NRC 187, 192 (2008)  
boards have broad discretion to issue procedural orders to regulate the course of proceedings and the conduct of participants, and as a general matter, the Commission declines to interfere with the board's day-to-day case management decisions, unless there has been an abuse of power; CLI-08-29, 68 NRC 901 (2008); LBP-08-23, 68 NRC 683 (2008)
- Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-08-13, 68 NRC 43, 86 (2008)  
commitment of one party to fulfill its statutory duties in the application process is not enough to demonstrate that the issue will be properly addressed; LBP-08-24, 68 NRC 720 (2008)
- Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-08-13, 68 NRC 43, 102 (2008)  
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- Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-08-13, 68 NRC 43, 138 (2008)  
applicant's proposal to perform the modified calculations in the future, albeit in accordance with specified guidance, is unacceptable because these calculations are not a component of an aging management plan, but are the fundamental fatigue analyses for time-limited aging required to be included in the license renewal application; LBP-08-25, 68 NRC 827 (2008)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-3, 65 NRC 13, 16 (2007)  
spent fuel pool fires are Category 1 environmental issues and are addressed in the generic environmental impact statement for license renewals; LBP-08-13, 68 NRC 185 (2008)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-3, 65 NRC 13, 17 (2007)  
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- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-16, 65 NRC 371, 377 (2007)  
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- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-16, 65 NRC 371, 383 (2007)  
adjudication is not the proper forum for challenging applicable statutory requirements or the basic structure of the agency's regulatory process; LBP-08-16, 68 NRC 384 (2008)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-16, 65 NRC 371, 383-84 (2007)  
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- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-16, 65 NRC 371, 387 (2007)  
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- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-16, 65 NRC 371, 387-88 (2007)  
boards must take state permit determinations at face value and are prohibited from undertaking any independent analysis of the permit's limits; LBP-08-13, 68 NRC 157 (2008)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-16, 65 NRC 371, 389 (2007)  
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- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), DD-05-2, 62 NRC 389, 396 (2005)  
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- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-04-28, 60 NRC 548, 552 (2004)  
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- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-04-28, 60 NRC 548, 552-53 (2004)  
intervention petitioner must show that it has personally suffered or will personally suffer in the future a distinct and palpable harm that constitutes injury-in-fact, the injury can be fairly traced to the challenged action, and the injury is likely to be redressed by a favorable decision; LBP-08-18, 68 NRC 538 (2008)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-04-28, 60 NRC 548, 557 (2004)  
it is the admissibility of the contention, not the basis, that must be determined; LBP-08-17, 68 NRC 447 (2008)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-04-31, 60 NRC 686, 705 (2004)  
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- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-05-24, 62 NRC 429, 431 (2005)  
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- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-05-32, 62 NRC 813, 821 & n.21 (2005)  
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- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-06-14, 63 NRC 568, 574 (2006)  
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- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-06-14, 63 NRC 568, 575 (2006)  
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- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-06-20, 64 NRC 131, 151 (2006)  
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- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-06-20, 64 NRC 131, 186-87 (2006)  
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- it is not sufficient for an applicant to propose a plan to develop a future plan; LBP-08-13, 68 NRC 172 (2008)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-06-20, 64 NRC 131, 206 (2006)
- two petitioners, each of which has submitted an admissible contention, may adopt the contentions of a third petitioner, and of each other; LBP-08-13, 68 NRC 65 (2008)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-06-20, 64 NRC 131, 206-08 (2006)
- the issue of contention adoption in a license renewal proceeding is addressed; LBP-08-13, 68 NRC 65 (2008)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-06-20, 64 NRC 131, 207-08 (2006)
- in ruling that petitioners could adopt contentions, a board found unpersuasive the Commission's dicta in an earlier decision that an adopting party must demonstrate an independent ability to litigate; LBP-08-13, 68 NRC 66 (2008)
- Envirocare of Utah, Inc. v. NRC*, 193 F.3d 72, *passim* (D.C. Cir. 1999)
- although the Commission has long looked for guidance to judicial concepts of standing, it is not bound to do so; CLI-08-19, 68 NRC 265 (2008)
- Envirocare of Utah, Inc. v. NRC*, 194 F.3d 72, 74 (D.C. Cir. 1999)
- because federal agencies are neither constrained by Article III nor governed by judicially created standing doctrines, the criteria for establishing administrative standing therefore may permissibly be less demanding than the criteria for judicial standing; LBP-08-24, 68 NRC 702 n.32 (2008)
- Environmental Law & Policy Center v. NRC*, 470 F.3d 676, 684 (7th Cir. 2006)
- the National Environmental Policy Act does not require consideration of energy efficiency alternatives when applicant is in no position to implement such measures; LBP-08-13, 68 NRC 99 n.282 (2008)
- Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-05-17, 62 NRC 5 (2005)
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- Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 805, 807 (2005), *aff'g* LBP-05-19, 62 NRC 134 (2005)
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- Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 806 (2005), *aff'g* LBP-05-19, 62 NRC 134 (2005)
- neither NRC nor the applicant has the mission or authority to implement a general societal interest in energy efficiency; LBP-08-13, 68 NRC 99 n.282 (2008)
- the Commission makes no practical distinction between energy efficiency and energy conservation; LBP-08-13, 68 NRC 99 (2008)
- Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 806-07 (2005), *aff'g* LBP-05-19, 62 NRC 134 (2005)
- the National Environmental Policy Act does not require an analysis of conservation or efficiency as an alternative to an early site permit; LBP-08-13, 68 NRC 93 (2008)
- Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 807-08 (2005), *aff'g* LBP-05-19, 62 NRC 134 (2005)
- the National Environmental Policy Act's rule of reason does not demand an analysis of energy efficiency, because conservation measures are beyond the ability of an applicant to implement, and are therefore outside the scope required by a National Environmental Policy Act analysis of reasonable alternatives; LBP-08-13, 68 NRC 93 (2008)
- Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-07-12, 65 NRC 203, 207-08 (2007)
- the Commission expressly rejected the idea that the Staff's review of the ESP application had not been adequate; CLI-08-23, 68 NRC 480 (2008)

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- Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), LBP-04-17, 60 NRC 229, 246-47 (2004)  
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- Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), LBP-05-19, 62 NRC 134, 156-58, *aff'd*, CLI-05-29, 62 NRC 801 (2005), *aff'd sub nom. Environmental Law & Policy Center v. NRC*, 470 F.3d 676 (7th Cir. 2006)  
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- Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), LBP-06-28, 64 NRC 460 (2006), *aff'd*, CLI-07-12, 65 NRC 203 (2007)  
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- Exelon Generation Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), CLI-05-26, 62 NRC 577, 580 (2005)  
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- Exelon Generation Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), CLI-05-26, 62 NRC 577, 580-81 (2005)  
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- Exelon Generation Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), CLI-05-26, 62 NRC 577, 580-83 (2005)  
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if petitioner fails to show that a particular licensing action raises an obvious potential for offsite consequences, then the standing inquiry reverts to a traditional standing analysis of whether the petitioner has made a specific showing of injury, causation, and redressability; CLI-08-19, 68 NRC 269 n.68 (2008)
- Fansteel, Inc.* (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 203 (2003)  
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- Fansteel, Inc.* (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 204 (2003)  
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- Fansteel, Inc.* (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 204-05 (2003)  
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- Fansteel, Inc.* (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 205 (2003)  
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- Federal Election Commission v. Akins*, 524 U.S. 11, 20 (1998)  
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- FirstEnergy Nuclear Operating Co.* (Beaver Valley Power Station, Units 1 and 2; Davis-Besse Power Station, Unit 1; Perry Nuclear Power Plant, Unit 1), CLI-06-2, 63 NRC 9, 16 (2006)  
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- FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), LBP-04-11, 59 NRC 379, 385 (2004)  
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- Florida Power & Light Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2; Calvert Cliffs Independent Spent Fuel Storage Installation; Nine Mile Point Nuclear Station, Units 1 and 2; R.E. Ginna Nuclear Power Plant; Turkey Point Nuclear Generating Plant, Units 3 and 4; St. Lucie Nuclear Power Plant, Units 1 and 2; Seabrook Station; Duane Arnold Energy Center), CLI-06-21, 64 NRC 30, 34-35 (2006)  
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- Florida Power & Light Co.* (Point Beach Nuclear Plant, Unit 1), LBP-08-19, 68 NRC 545 (2008)  
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- Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325, 329 (1989)  
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- Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325, 329-30 (1989)  
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- Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 and 2), LBP-08-14, 68 NRC 279 (2008)  
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- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), 4 AEC 9, 12 (1967)  
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- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), ALAB-952, 33 NRC 521, 528-30 (1991)  
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- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-00-23, 52 NRC 327, 329 (2000)  
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- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3 (2001)  
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- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 7 (2001)  
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- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 7-8 (2001)  
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- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 7-10 (2001)  
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- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 8 (2001)  
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- issues relating to a plant's current licensing basis are ordinarily beyond the scope of a license renewal review because those issues already are monitored, reviewed, and commonly resolved as needed by ongoing regulatory oversight; LBP-08-22, 68 NRC 601-02 n.50 (2008)
- license renewal applicants must demonstrate that all important systems, structures, and components will continue to perform their intended function in the period of extended operation; LBP-08-22, 68 NRC 599 (2008)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 8-9 (2001)
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- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 9 (2001)
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- current licensing basis represents an evolving set of requirements and commitments for a specific plant that are modified as necessary over the life of a plant to ensure continuation of an adequate level of safety; LBP-08-25, 68 NRC 786, 830 (2008)
- it is unnecessary and inappropriate to throw open the full gamut of provisions in a plant's current licensing basis to reanalysis during the license renewal review; LBP-08-22, 68 NRC 599 (2008)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 9-10 (2001)
- consideration of emergency plans is outside the scope of a license renewal proceeding; LBP-08-13, 68 NRC 165 (2008)
- the current licensing basis need not be reviewed again and is not subject to attack in a license renewal proceeding; LBP-08-13, 68 NRC 68 (2008)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 10 (2001)
- issues such as emergency planning already are the focus of ongoing regulatory processes and thus do not come within NRC safety review at the license renewal stage; LBP-08-13, 68 NRC 148 n.642 (2008)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 10 n.2 (2001)
- an issue can be related to plant aging and still not warrant review at the time of a license renewal application, if it is adequately dealt with by regulatory processes on an ongoing basis; LBP-08-22, 68 NRC 599 (2008)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 11 (2001)
- Category 1 issues are not subject to challenge in a relicensing proceeding because they involve environmental effects that are essentially similar for all plants and need not be assessed repeatedly on a site-specific basis; LBP-08-13, 68 NRC 67 (2008)
- Category 2 issues must be reviewed on a site-specific basis, and accordingly, challenges relating to these issues are properly part of a license renewal proceeding; LBP-08-13, 68 NRC 67 (2008)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 11-13 (2001)
- the scope of license renewal proceedings is quite limited under Commission rules and case law; LBP-08-22, 68 NRC 598 (2008)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 12 (2001)
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- petitioners with new information showing that a generic rule would not serve its purpose at a particular plant may seek a waiver of the rule; LBP-08-26, 68 NRC 929 n.168 (2008)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-90-16, 31 NRC 509, 521 & n.12 (1990)
- an allegation that some aspect of a license application is inadequate or unacceptable does not give rise to a genuine dispute unless it is supported by facts and a reasoned statement of why the application is unacceptable in some material respect; LBP-08-17, 68 NRC 442 (2008)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 146, *aff'd on other grounds*, CLI-01-17, 54 NRC 3 (2001)
- petitioner is presumed to have standing to intervene without the need to specifically plead injury, causation, and redressability if the petitioner lives within, or otherwise has frequent contacts with, the zone of possible harm from the nuclear reactor or other source of radioactivity; LBP-08-17, 68 NRC 438 (2008); LBP-08-18, 68 NRC 539 (2008); LBP-08-26, 68 NRC 911 (2008)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 146-50 (2001)
- under the proximity presumption, petitioner is presumed to have standing to intervene in a license renewal proceeding without the need specifically to plead injury, causation, and redressability if the petitioner lives within 50 miles of the nuclear power reactor; LBP-08-13, 68 NRC 60 n.18 (2008); LBP-08-26, 68 NRC 911 (2008)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 148-49 (2001)
- in power reactor license proceedings, proximity within 50 miles of a plant is often enough on its own to demonstrate standing; LBP-08-24, 68 NRC 703 (2008)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 149, *aff'd on other grounds*, CLI-01-17, 54 NRC 3 (2001)
- in reactor license proceedings, the zone of possible harm for proximity-based standing is generally deemed to constitute the areas within a 50-mile radius of the site; LBP-08-17, 68 NRC 438 (2008)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 150-51 (2001)
- the prohibition against challenges to NRC regulations applies not only to a direct challenge to the validity of a regulation, but also to a claim that NRC should promulgate requirements that are more stringent than those already included in its regulations; LBP-08-15, 68 NRC 332 (2008)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 159, *aff'd on other grounds*, CLI-01-17, 54 NRC 3 (2001)
- contentions that advocate more stringent requirements than NRC rules impose or that otherwise seek to litigate a generic determination that the Commission has established by rulemaking, or that raise a matter that is or is about to become the subject of rulemaking are barred; LBP-08-16, 68 NRC 383 (2008); LBP-08-17, 68 NRC 441 (2008)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-08-18, 68 NRC 533 (2008)
- hearing request is denied for failure to demonstrate standing, impermissible challenge to Staff's significant hazards consideration, and failure to proffer an admissible contention; LBP-08-20, 68 NRC 552 (2008)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-08-18, 68 NRC 533, 543 (2008)
- a meritless petition warrants denial, not sanctions; LBP-08-19, 68 NRC 547 (2008)
- Friends of Endangered Species, Inc. v. Jantzen*, 760 F.2d 976, 986 (1985)
- the National Environmental Policy Act does not require a decision whether an environmental impact report is based on the best scientific methodology available, nor does NEPA require resolution of disagreements among various scientists as to methodology; CLI-08-26, 68 NRC 518 n.51 (2008)
- General Public Utilities Nuclear Corp.* (Three Mile Island Nuclear Station, Unit 1), ALAB-881, 26 NRC 465, 476 (1987)
- contentions must be within the scope of the proceeding as defined by the Commission in its initial hearing notice and order referring the proceeding to the licensing board; LBP-08-16, 68 NRC 384 (2008)

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- Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, GA), CLI-95-12, 42 NRC 111, 115 (1995)
- an organization claiming representational standing is required to demonstrate that an individual member has standing to participate, and has authorized the organization to represent his or her interests; CLI-08-19, 68 NRC 259 (2008)
  - for an organizational petitioner to establish standing, it must show immediate or threatened injury to either its organizational interests or to the interest of identified members; LBP-08-24, 68 NRC 702 (2008)
  - in assessing an intervention petition to determine whether all elements are met, the presiding officer is to construe the petition in favor of the petitioner; LBP-08-16, 68 NRC 378 (2008); LBP-08-17, 68 NRC 439 (2008); LBP-08-21, 68 NRC 559 (2008); LBP-08-26, 68 NRC 912 (2008)
  - intervention petitioners must allege a concrete and particularized injury that is fairly traceable to the challenged action and is likely to be redressed by a favorable decision; LBP-08-24, 68 NRC 701 (2008)
- Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 120 (1995)
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  - a license renewal proceeding is an appropriate time to review the adequacy of a licensee's corporate organization and the integrity of its management; LBP-08-24, 68 NRC 753 (2008)
  - to provide the basis of an admissible contention, allegations of management improprieties or lack of integrity must relate directly to the currently proposed licensing action; LBP-08-15, 68 NRC 327 (2008)
- Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 121 (1995)
- allegations of historical improprieties are relevant in a license renewal proceeding because NRC must assure the public that the facility's current management encourages a safety-conscious attitude and must provide reasonable assurance that the facility can be safely operated; LBP-08-24, 68 NRC 729 (2008)
- Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), LBP-95-23, 42 NRC 215, 217 (1995)
- where a petitioner is accorded standing in one proceeding, that petitioner need not make a separate demonstration of standing in another proceeding regarding that same facility and the same parties; LBP-08-24, 68 NRC 703 (2008)
- Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), LBP-95-6, 41 NRC 281, 305, vacated in part and remanded on other grounds, CLI-95-10, 42 NRC 1 (1995), and *aff'd in part*, CLI-95-12, 42 NRC 111 (1995)
- if petitioner neglects to provide the requisite support for its contentions, the board may not make assumptions of fact that favor the petitioner or supply information that is lacking; LBP-08-13, 68 NRC 63 (2008); LBP-08-16, 68 NRC 385 (2008); LBP-08-26, 68 NRC 918 (2008)
  - petitioner must present factual information and expert opinions necessary to support its contention adequately; LBP-08-13, 68 NRC 63 (2008); LBP-08-16, 68 NRC 384 (2008)
- Gilda Marx, Inc. v. Wildwood Exercise, Inc.*, 85 F.3d 675, 679 (D.C. Cir. 1996)
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- Glass Packaging Institute v. Regan*, 737 F.2d 1083, 1091 (D.C. Cir.), *cert. denied*, 469 U.S. 1035 (1984)
- the National Environmental Policy Act does not require an agency to assess every impact or effect of its proposed action, but only effects on the environment; CLI-08-16, 68 NRC 228 (2008)
  - to be encompassed by the National Environmental Policy Act, there needs to be a reasonably close causal relationship between a change in the physical environment and the effect at issue because otherwise, the words "adverse environmental effects" might embrace virtually any consequence of a proposed federal action that someone thought adverse; CLI-08-16, 68 NRC 228 (2008)

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- Glass Packaging Institute v. Regan*, 737 F.2d 1083, 1092 (D.C. Cir.), cert. denied, 469 U.S. 1035 (1984)  
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- GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193 (2000)  
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- GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 202 (2000)  
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- GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 207 (2000)  
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- GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 208 (2000)  
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- Guidry v. Sheet Metal Workers National Pension Fund*, 493 U.S. 365, 375 (1990)  
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- Gulf States Utilities Co.* (River Bend Station, Units 1 and 2), ALAB-183, 7 AEC 222, 227-28 (1974)  
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- Havasupai Tribe v. United States*, 752 F. Supp. 1471 (D. Ariz. 1990)  
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- Heckler v. Chaney*, 470 U.S. 821, 837-38 (1985)  
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- Houston Lighting and Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-535, 9 NRC 377, 393 (1979)  
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- Houston Lighting and Power Co.* (South Texas Project, Units 1 and 2), ALAB-799, 21 NRC 360, 384 n.108 (1985)  
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- Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-98-16, 48 NRC 119,  
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- Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-99-22, 50 NRC 3, 6  
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- Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), LBP-98-9, 47 NRC 261,  
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- Hydro Resources, Inc.* (Crown Point, New Mexico), LBP-03-27, 58 NRC 408, 413 (2003)  
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- Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-00-12, 52 NRC 1, 3 (2000)  
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- Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 53 (2001)  
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- Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 55 (2001)  
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- Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-04-33, 60 NRC 581, 596 (2004)  
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- Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-04-33, 60 NRC 581, 597 (2004)  
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- Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), LBP-04-3, 59 NRC 84, 88 (2004)  
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- International Brotherhood of Teamsters v. Transportation Security Administration*, 429 F.3d 1130, 1134-35 & n.4 (D.C. Cir. 2005)  
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- International Uranium (USA) Corp.* (Request for Materials License Amendment), CLI-00-1, 51 NRC 1, 19 (2000)  
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- International Uranium (USA) Corp.* (White Mesa Uranium Mill), CLI-98-6, 47 NRC 116, 117 n.1 (1998)  
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- International Uranium (USA) Corp.* (White Mesa Uranium Mill), CLI-01-21, 54 NRC 247, 252 (2001)  
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- International Uranium (USA) Corp.* (White Mesa Uranium Mill), CLI-01-21, 54 NRC 247, 253 (2001)  
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- International Uranium (USA) Corp.* (White Mesa Uranium Mill), CLI-01-21, 54 NRC 247, 254 (2001)  
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- International Uranium (USA) Corp.* (White Mesa Uranium Mill), LBP-97-12, 46 NRC 1, 8 (1997), *aff'd*, CLI-98-6, 47 NRC 116 (1998)  
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- International Uranium (USA) Corp.* (White Mesa Uranium Mill), LBP-01-15, 53 NRC 344, 349 (2001)  
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- Keystone Shipping Co. v. New England Power Co.*, 109 F.3d 46, 52 (1st Cir. 1997)  
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- Kungys v. United States*, 485 U.S. 759, 778 (1988)  
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- Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-902, 28 NRC 423, 428 (1988)  
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- Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), CLI-91-2, 33 NRC 61, 65 (1991)  
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- Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), LBP-84-45, 20 NRC 1343, 1400 (1984)  
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- Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), LBP-91-7, 33 NRC 179, 183 (1991)  
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- Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-95-7, 41 NRC 383, 384 (1995)  
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- Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 89 (1998)  
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- Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-04-25, 60 NRC 223, 225,  
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- Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-04-35, 60 NRC 619, 623 (2004)  
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- Lujan v. Defenders of Wildlife*, 504 U.S. 555, 561 (1992)  
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- Lujan v. Defenders of Wildlife*, 504 U.S. 555, 572 n.7 (1992)  
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- Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-03-12, 58 NRC 185, 191 (2003)  
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- Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-03-12, 58 NRC 185, 191 (2003)  
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- Philadelphia Electric Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20-21 & n.33, *aff'd in part on other grounds*, CLI-74-32, 8 AEC 217 (1974)
- contentions that attack applicable statutory requirements, challenge the basic structure of the NRC's regulatory process, or merely express generalized policy grievances are not appropriate for a licensing board hearing; LBP-08-16, 68 NRC 384 (2008); LBP-08-17, 68 NRC 440 (2008)
- Philadelphia Electric Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 21 n.33 (1974)
- the adjudicatory process is not the proper venue to hear any contention that merely addresses petitioner's own views on regulatory policy; LBP-08-26, 68 NRC 916 (2008)
- Pit River Tribe v. United States Forest Service*, 469 F.3d 768, 787 (9th Cir. 2006)
- historic properties of religious and cultural significance are frequently located on ancestral, aboriginal, or ceded lands of Indian tribes, and federal agencies should consider that when complying with the procedures in 10 C.F.R. Part 800; LBP-08-24, 68 NRC 722 n.161 (2008)
- Pittsburgh & W. Va. Ry. v. United States*, 281 U.S. 479, 486 (1930)
- because federal agencies are neither constrained by Article III nor governed by judicially created standing doctrines, the criteria for establishing administrative standing therefore may permissibly be less demanding than the criteria for judicial standing; LBP-08-24, 68 NRC 702 n.32 (2008)
- Portland Cement Association v. Ruckelshaus*, 486 F.2d 375, 394 (D.C. Cir. 1973), *cert. denied sub nom. Portland Cement Association v. Administrator, Environmental Protection Agency*, 417 U.S. 921 (1974)
- "materiality" requires that petitioner show why the alleged error or omission is of possible significance to the result of the proceeding; LBP-08-13, 68 NRC 62 (2008)
- Portland General Electric Co.* (Pebble Springs Nuclear Plant, Units 1 and 2), CLI-76-27, 4 NRC 610, 613 (1976)
- standing requirements in the federal courts need not be the exclusive model for those applicable to administrative proceedings; CLI-08-19, 68 NRC 265 (2008)
- Portland General Electric Co.* (Pebble Springs Nuclear Plant, Units 1 and 2), CLI-76-27, 4 NRC 610, 614-15 (1976)
- federal courts have long recognized the right of agencies to tailor their own standing requirements to fit their specific needs; CLI-08-19, 68 NRC 265 (2008)
- Portland General Electric Co.* (Trojan Nuclear Plant), ALAB-534, 9 NRC 287, 289-90 n.6 (1979)
- any contention that falls outside the specified scope of the proceeding must be rejected; LBP-08-13, 68 NRC 62 (2008); LBP-08-15, 68 NRC 314 (2008); LBP-08-16, 68 NRC 384 (2008); LBP-08-26, 68 NRC 916 (2008)
- Potomac Alliance v. NRC*, 682 F.2d 1030, 1036-37 (D.C. Cir. 1982)
- petitioner contends that NRC's assertion that the risk of an attack is not quantifiable does not preclude further consideration under the National Environmental Policy Act; LBP-08-13, 68 NRC 214 (2008)
- Potomac Electric Power Co.* (Douglas Point Nuclear Generating Station, Units 1 and 2), ALAB-218, 8 AEC 79, 85, 89 (1974)
- a contention that attacks a Commission rule, or that seeks to litigate a matter that is, or clearly is about to become, the subject of a rulemaking, is inadmissible; LBP-08-16, 68 NRC 383 (2008)
- Power Authority of the State of New York* (James A. FitzPatrick Nuclear Power Plant; Indian Point, Unit 3), CLI-00-22, 52 NRC 266, 286 n.1 (2000)
- license transfer applicants who have received Staff approval but are still awaiting the results of a Commission adjudication are free to act in reliance on the Staff's order but do so at their peril in the event that the Commission later determines that intervenors have raised valid objections to the license transfer application; CLI-08-19, 68 NRC 257 (2008)



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- Power Authority of the State of New York* (James A. FitzPatrick Nuclear Power Plant; Indian Point, Unit 3), CLI-00-22, 52 NRC 266, 293 (2000)  
any organization seeking representational standing must show that at least one of its members may be affected by the Commission's approval of the transfer, must identify that member by name, and must demonstrate that the member has authorized the organization to represent him or her and to request a hearing on his or her behalf; CLI-08-19, 68 NRC 259 (2008)  
petitioners in direct license transfer cases who qualified for proximity-based standing lived within a 5-1/2-mile radius of their plant; CLI-08-19, 68 NRC 269 (2008)  
to demonstrate standing, petitioner must identify an interest in the proceeding and specify the facts pertaining to that interest; CLI-08-19, 68 NRC 258 (2008)
- Power Authority of the State of New York* (James A. FitzPatrick Nuclear Power Plant; Indian Point, Unit 3), CLI-00-22, 52 NRC 266, 293-94 (2000)  
the principle regarding the representational standing of unions is also applicable to public interest groups, who also, in significant part, exist to represent the interests of their members; CLI-08-19, 68 NRC 265 n.48 (2008)
- Power Authority of the State of New York* (James A. FitzPatrick Nuclear Power Plant; Indian Point, Unit 3), CLI-00-22, 52 NRC 266, 294 (2000)  
requirements for representational standing apply to labor unions; CLI-08-19, 68 NRC 263 (2008)
- Power Authority of the State of New York* (James A. Fitzpatrick Nuclear Power Plant; Indian Point, Unit 3), CLI-00-22, 52 NRC 266, 296 (2000)  
unlike federal court practice, the Commission does not accept mere notice pleading in support of an admissible contention; LBP-08-24, 68 NRC 730 (2008)
- Power Authority of the State of New York* (James A. FitzPatrick Nuclear Power Plant; Indian Point, Unit 3), CLI-01-14, 53 NRC 488, 508 (2001)  
license transfer applicants who have received Staff approval but are still awaiting the results of a Commission adjudication are free to act in reliance on the Staff's order but do so at their peril in the event that the Commission later determines that intervenors have raised valid objections to the license transfer application; CLI-08-19, 68 NRC 257 (2008)
- Power Reactor Development Co. v. International Union of Electrical, Radio and Machine Workers*, 367 U.S. 396, 414 (1961)  
neither the Atomic Energy Act nor the regulations require totally risk-free siting; LBP-08-22, 68 NRC 647 (2008)  
"reasonable assurance" should not require a "compelling reasons" standard; LBP-08-22, 68 NRC 647 (2008)
- PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), CLI-07-25, 66 NRC 101, 104 (2007)  
the Commission gives substantial deference to board conclusions on standing and contention admissibility unless the appeal points to an error of law or abuse of discretion; CLI-08-17, 68 NRC 234 (2008)
- PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), CLI-07-25, 66 NRC 101, 106 (2007)  
a contention that simply states petitioner's views about what regulatory policy should be does not present a litigable issue; LBP-08-16, 68 NRC 384 (2008)
- PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-07-10, 66 NRC 1, 9 (2007)  
intervention petitioner must show an obvious potential for offsite consequences from the requested action that would justify recognizing any proximity presumption, much less one extending over 100 miles from the plant site; LBP-08-18, 68 NRC 537 (2008)  
petitioner must show a plausible chain of events that would result in offsite radiological consequences posing a distinct new harm or threat from a purely administrative license amendment; LBP-08-18, 68 NRC 537 (2008)
- PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-07-10, 66 NRC 1, 9-10 (2007)  
contentions that fail to satisfy the pleading requirements of 10 C.F.R. 2.309(f)(1) are inadmissible; LBP-08-18, 68 NRC 538 (2008)

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- PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-07-10, 66 NRC 1, 14 (2007)  
the proximity presumption extends to petitioners living in or having frequent contacts with an area within a 50-mile radius of a nuclear reactor; LBP-08-18, 68 NRC 539 (2008)
- PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-07-10, 66 NRC 1, 14-15 (2007)  
licensing boards have used a proximity presumption when resolving issues of standing for cases involving reactor licensing; LBP-08-14, 68 NRC 290 (2008)
- PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-07-10, 66 NRC 1, 15 (2007)  
petitioner's vague assertion that harm could result from operations at a nuclear power plant and failure to demonstrate that such injury would result from the challenged license amendment are insufficient to establish standing; LBP-08-18, 68 NRC 537 (2008)
- PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-07-10, 66 NRC 1, 19 n.9 (2007)  
the better practice for an intervention petitioner is to submit a fully developed showing regarding standing in each proceeding in which it seeks to intervene, regardless of whether it has previously been found to have standing relative to the facility that is the locus of the proceedings; LBP-08-24, 68 NRC 703 (2008)
- PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-07-4, 65 NRC 281, 302 (2007)  
it is appropriate for a board to take into account any information from a reply that legitimately amplifies issues presented in the original petition; LBP-08-26, 68 NRC 919 (2008)  
it is proper for a reply to respond to the legal, logical, and factual arguments presented in answers, as long as new issues are not raised; LBP-08-26, 68 NRC 919 (2008)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-98-13, 48 NRC 26, 30-31 (1998), *petition for review held in abeyance, Ohngo Gaudadeh Devia v. NRC*, 492 F.3d 421 (D.C. Cir. 2007)  
an organization's member seeking representation must qualify for standing in his or her own right, the interests must be germane to the organization's purpose, and neither the asserted claim nor the requested relief must require an individual member to participate in the organization's legal action; CLI-08-19, 68 NRC 259 (2008)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 323 (1999)  
an organization's member seeking representation must qualify for standing in his or her own right, the interests must be germane to the organization's purpose, and neither the asserted claim nor the requested relief must require an individual member to participate in the organization's legal action; CLI-08-19, 68 NRC 259 (2008)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999)  
failure to comply with any of the contention admission requirements is grounds for the dismissal of a contention; LBP-08-13, 68 NRC 61 (2008); LBP-08-14, 68 NRC 288 (2008); LBP-08-15, 68 NRC 312 (2008); LBP-08-16, 68 NRC 383 (2008); LBP-08-24, 68 NRC 716 (2008); LBP-08-26, 68 NRC 915 (2008)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-22, 54 NRC 255, 264 (2001)  
although NRC guidance documents are entitled to some weight, they do not have the force of a legally binding regulation and, like any guidance document, may be challenged in an adjudicatory proceeding such as this one; LBP-08-22, 68 NRC 614, 648 n.283 (2008)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-26, 54 NRC 376 (2001)  
requests to suspend proceedings or hold them in abeyance in the exercise of our inherent supervisory powers over proceedings in the wake of the September 11 terrorist attacks pending the Commission's comprehensive review of anti-terrorist measures at licensed facilities were rejected; CLI-08-23, 68 NRC 485 (2008)

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- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-02-20, 56 NRC 147, 153 (2002)  
the essence of an environmental justice claim under the National Environmental Policy Act is disparate environmental harm to a minority or low-income population; LBP-08-13, 68 NRC 199 (2008)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340 (2002)  
the National Environmental Policy Act imposes no legal duty on NRC to consider intentional malevolent acts on a case-by-case basis in conjunction with commercial power reactor license renewal applications; LBP-08-13, 68 NRC 142 (2008)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 139 (2004)  
petitioner does not have to prove its contention at the admissibility stage; LBP-08-13, 68 NRC 63 (2008); LBP-08-15, 68 NRC 335 (2008); LBP-08-17, 68 NRC 441 (2008); LBP-08-26, 68 NRC 917 (2008)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-05-12, 61 NRC 345, 350 (2005)  
a board's review of the expert opinion provided by NRC Staff supports the board's conclusion that a significant safety issue is not presented on the record; LBP-08-12, 68 NRC 20 n.12 (2008)  
a party seeking to reopen a closed record to raise a new matter faces an elevated burden to lay a proper foundation for its claim; LBP-08-12, 68 NRC 16 (2008)  
in evaluating a motion to reopen the record, a licensing board properly considers the movant's new allegations and the nonmovant's contrary evidence in determining whether there was a real issue at stake warranting a reopened hearing; LBP-08-12, 68 NRC 16 (2008)  
new information required to reopen a closed hearing record at the last minute must be significant and plausible enough to require reasonable minds to inquire further; CLI-08-28, 68 NRC 668 (2008)  
the standard for admitting a new contention after the record is closed is higher than for an ordinary late-filed contention; CLI-08-28, 68 NRC 668 (2008)  
to reopen a closed record to introduce a new issue, the movant has the burden of showing that the new information will likely trigger a different result; LBP-08-12, 68 NRC 22, 23 (2008)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-05-12, 61 NRC 345, 350 n.18 (2005)  
if standards for reopening were not strict and demanding, there would be little hope of completing administrative proceedings if each newly arising allegation required an agency to reopen its hearings; CLI-08-28, 68 NRC 668 n.38 (2008); LBP-08-12, 68 NRC 15 (2008)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-05-12, 61 NRC 345, 355 (2005)  
a motion to reopen is denied because the new contention is much too thinly supported to conclude that taking it to a hearing would likely cause a different result; LBP-08-12, 68 NRC 23 (2008)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-06-3, 63 NRC 19, 21-23 (2006)  
where newly discovered evidence relates to a contention that already has been decided adversely to the movant, the movant must demonstrate that the outcome of the adjudication would likely have been materially different had the tribunal considered the new evidence in the first instance; LBP-08-12, 68 NRC 22 (2008)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142 (1998), *aff'd in part*, CLI-98-13, 48 NRC 26 (1998)  
the purpose of NRC adjudicatory hearings is to consider claims of deficiencies in a license application, and such contentions are commonplace at the outset of NRC adjudications; CLI-08-15, 68 NRC 3 (2008); CLI-08-20, 68 NRC 274 (2008)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 179 (1998)  
contentions that advocate more stringent requirements than the NRC rules impose or that otherwise seek to litigate a generic determination that the Commission has established by rulemaking, or that raise a matter that is or is about to become the subject of rulemaking are barred; LBP-08-17, 68 NRC 441 (2008)

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- in establishing materiality of a contention, petitioner must show why the alleged error or omission is of possible significance to the result of the proceeding; LBP-08-15, 68 NRC 315 (2008); LBP-08-26, 68 NRC 916 (2008)
- petitioner does not need to prove its contention at the admission stage; LBP-08-13, 68 NRC 127 (2008)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 179-80 (1998), *aff'd as to other matters*, CLI-98-13, 48 NRC 26 (1998)
- the subject matter of a contention must impact the grant or denial of a pending license application; LBP-08-15, 68 NRC 315 (2008); LBP-08-26, 68 NRC 916 (2008)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 180 (1998), *aff'd as to other matters*, CLI-98-13, 48 NRC 26 (1998)
- there must be some significant link between the deficiency claimed in a contention and the agency's ultimate determination whether the license applicant will adequately protect the health and safety of the public and the environment; LBP-08-15, 68 NRC 315 (2008); LBP-08-26, 68 NRC 916 (2008)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-00-28, 52 NRC 226, 231 (2000)
- for filing new contentions, boards have generally established a deadline of 30 days to be timely after the receipt of new information; LBP-08-12, 68 NRC 33 n.2 (2008)
- Progress Energy Carolinas, Inc.* (Shearon Harris Nuclear Power Plant, Units 2 and 3), CLI-08-15, 68 NRC 1 (2008)
- the purpose of NRC adjudicatory hearings is to consider claims of deficiencies in a license application, and such contentions are commonplace at the outset of NRC adjudications; CLI-08-20, 68 NRC 274 (2008)
- Public Citizen v. Foreman*, 631 F.2d 969, 972 (D.C. Cir. 1980)
- a food additive is presumed to be unsafe until demonstrated otherwise; CLI-08-16, 68 NRC 224 (2008)
- Public Citizen v. Traffic Safety Administration*, 848 F.2d 256, 268 (D.C. Cir. 1988)
- an agency can presume that increases in emissions that still fall within Clean Air Act limits will be insignificant; CLI-08-16, 68 NRC 227 n.32 (2008)
- Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-461, 7 NRC 313, 318 (1978)
- key safety issues must be resolved in the hearing, not post-hearing by NRC Staff and applicant; LBP-08-25, 68 NRC 829 (2008)
- Public Service Co. of New Hampshire* (Seabrook Station, Unit 1), CLI-91-14, 34 NRC 261, 266-67 (1991)
- in determining whether an individual or organization should be granted party status in a proceeding based on standing "as of right," the agency has applied contemporaneous judicial standing concepts; LBP-08-26, 68 NRC 911 (2008)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-895, 28 NRC 7, 16, *aff'd*, CLI-88-10, 28 NRC 573, 597 (1988), *reconsideration denied*, CLI-89-3, 29 NRC 234 (1989)
- waiver of a rule can be granted only in unusual and compelling circumstances; LBP-08-17, 68 NRC 440 n.34 (2008)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-899, 28 NRC 93, 97 (1988), *aff'd sub nom. Massachusetts v. NRC*, 924 F.2d 311 (D.C. Cir.), *cert. denied*, 502 U.S. 899 (1991)
- although licensing boards generally are to litigate a "contention" rather than the "basis" that provides the issue statement's foundational support, the reach of a contention necessarily hinges upon its terms coupled with its stated basis; LBP-08-13, 68 NRC 61 (2008); LBP-08-16, 68 NRC 386 (2008)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-915, 29 NRC 427, 431-32 (1989)
- boards review the education, experience, and qualifications of the individuals offering expert opinions on behalf of the litigants to conclude that these individuals qualify as experts; LBP-08-12, 68 NRC 17 n.10 (2008)

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- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-915, 29 NRC 427, 432 (1989)  
the Commission expects its adjudicatory boards to enforce reopening requirements rigorously; LBP-08-12, 68 NRC 28 (2008)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-915, 29 NRC 427, 432-33 (1989)  
discovery is not permitted for the purpose of developing a motion to reopen the record or to assist a petitioner in the framing of contentions; LBP-08-12, 68 NRC 27 n.23 (2008)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-915, 29 NRC 427, 433 (1989)  
the burden of satisfying the reopening requirements is on the movant; CLI-08-28, 68 NRC 675 (2008)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-940, 32 NRC 225, 243 (1990)  
movants who seek to reopen the record must proffer a contention that raises a significant safety issue; LBP-08-12, 68 NRC 16 (2008)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-942, 32 NRC 395, 416-17 (1990)  
it is not the responsibility of the licensing board to supply the basis information necessary to sustain a contention; LBP-08-24, 68 NRC 742 (2008)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-78-1, 7 NRC 1, 28 (1978)  
the permitting agency for the Clean Water Act determines the cooling system required at a facility, and the NRC Staff factors the impacts that result from the use of that system into its National Environmental Policy Act analysis; LBP-08-13, 68 NRC 157 n.708 (2008)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-89-3, 29 NRC 234, 240-41 (1989)  
petitioner may not simply incorporate massive documents by reference as the basis for or as a statement of his contentions; LBP-08-21, 68 NRC 570 n.15 (2008)  
the Commission expects parties to bear their burden and to clearly identify the matters on which they intend to rely with reference to a specific point; LBP-08-24, 68 NRC 730 (2008)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-90-6, 31 NRC 483 (1990)  
timeliness as measured under NRC regulations is from the point at which new information is discovered relevant to the question; LBP-08-12, 68 NRC 32 (2008)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-90-6, 31 NRC 483, 487 (1990)  
a movant who seeks to reopen the record does not show the existence of a significant safety issue merely by showing that a plant component performs safety functions and thus has safety significance; CLI-08-28, 68 NRC 672 (2008); LBP-08-12, 68 NRC 18, 35 (2008)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-90-10, 32 NRC 218, 221 (1990)  
proponents of a reopening motion bear the burden of meeting all the requirements for reopening as well as the requirements for late-filed contentions set out in section 2.309(c); CLI-08-28, 68 NRC 669 (2008)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-90-10, 32 NRC 218, 222 (1990)  
a board's review of the expert opinion provided by NRC Staff supports the board's conclusion that a significant safety issue is not presented on the record; LBP-08-12, 68 NRC 20 n.12 (2008)  
the Commission weighs the competing evidence in concluding that a motion to reopen does not present a question of safety significance; LBP-08-12, 68 NRC 16 (2008)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-90-10, 32 NRC 218, 223 (1990)  
where a matter as presented is devoid of safety significance, there is no likelihood whatsoever that a materially different result would have been likely had the newly proffered evidence been considered initially; LBP-08-12, 68 NRC 23 n.17 (2008)

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- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), LBP-82-76, 16 NRC 1029, 1035 (1982)  
any contention that amounts to an attack on applicable regulatory requirements must be rejected; LBP-08-26, 68 NRC 916 (2008)  
any contention that amounts to an attack on applicable statutory requirements or represents a challenge to the basic structure of the Commission's regulatory process must be rejected; LBP-08-13, 68 NRC 64 (2008)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), LBP-82-106, 16 NRC 1649, 1654 (1982)  
determining whether the contention is adequately supported by a concise allegation of the facts or expert opinion is not a hearing on the merits; LBP-08-13, 68 NRC 63 (2008)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), LBP-82-106, 16 NRC 1649, 1656 (1982)  
contentions that advocate stricter requirements than agency rules impose or that otherwise seek to litigate a generic determination established by a Commission rulemaking are inadmissible; LBP-08-16, 68 NRC 383 (2008)
- Public Service Electric & Gas Co.* (Salem Nuclear Generating Station, Units 1 and 2), ALAB-136, 6 AEC 487 (1973)  
petitioners that are not represented by counsel will be held to less rigid standards for pleading, although a totally deficient petition will not be admitted; LBP-08-15, 68 NRC 320 (2008)
- Public Service Electric & Gas Co.* (Salem Nuclear Generating Station, Units 1 and 2), ALAB-136, 6 AEC 487, 489 (1973)  
the Commission's longstanding policy is for boards to provide latitude to pro se participants in their pleadings; LBP-08-16, 68 NRC 400 (2008)
- Quivira Mining Co.* (Ambrosia Lake Facility, Grants, New Mexico), CLI-98-11, 48 NRC 1, 6 (1998), *petition for review denied, Envirocare of Utah, Inc. v. NRC*, 194 F.3d 72 (D.C. Cir. 1999)  
the breadth of the applicable zone of interests will vary according to the particular statutory provisions at issue; LBP-08-24, 68 NRC 702 n.33 (2008)
- Quivira Mining Co.* (Ambrosia Lake Facility, Grants, New Mexico), CLI-98-11, 48 NRC 1, 6 n.2 (1998), *petition for review denied, Envirocare of Utah, Inc. v. NRC*, 194 F.3d 72 (D.C. Cir. 1999)  
although the Commission customarily follows judicial concepts of standing, it is not bound to do so given that it is not an Article III court; LBP-08-24, 68 NRC 701-02 n.32 (2008)
- Ranchers Cattlemen Action Legal Fund United Stockgrowers of America v. U.S. Department of Agriculture*, 415 F.3d 1078, 1103 (9th Cir. 2005)  
although the National Environmental Policy Act states its goals in sweeping terms of human health and welfare, these goals are ends that Congress has chosen to pursue by means of protecting the physical environment; CLI-08-16, 68 NRC 228 (2008)  
if a harm does not have a sufficiently close connection to the physical environment, the National Environmental Policy Act does not apply, regardless of the gravity of the harm; CLI-08-16, 68 NRC 229 (2008)  
the National Environmental Policy Act encompasses effects on health only when they are linked to a change in the environment; CLI-08-16, 68 NRC 228 (2008)  
the National Environmental Policy Act zone of interests does not encompass potential increased risk of "mad cow" disease from resumed importation of Canadian beef because asserted injury was not connected to injury to the physical environment; CLI-08-16, 68 NRC 228 (2008)
- Ranchers Cattlemen Action Legal Fund United Stockgrowers of America v. U.S. Department of Agriculture*, 415 F.3d 1078, 1103-04 (9th Cir. 2005)  
to be encompassed by the National Environmental Policy Act, there needs to be a reasonably close causal relationship between a change in the physical environment and the effect at issue; CLI-08-16, 68 NRC 228 (2008)
- Redland Soccer Club v. Department of the Army*, 55 F.3d 827, 854 (3d Cir. 1995), *cert. denied*, 516 U.S. 1071 (1996)  
to overcome deliberative process privilege, petitioners have to show that their need for the information outweighs potential harm to the agency from that disclosure; CLI-08-23, 68 NRC 483 n.103 (2008)

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- Reyes-Gaona v. North Carolina Growers Association*, 250 F.3d 851, 865 (4th Cir. 2001)  
the doctrine of *expressio unis est exclusio alterius* instructs that where a law expressly describes a particular situation to which it shall apply, what was omitted or excluded was intended to be omitted or excluded; LBP-08-24, 68 NRC 759 (2008)
- Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 339 (1989)  
the goals of the National Environmental Policy Act are to inform federal agencies and the public about the environmental effects of proposed projects; LBP-08-13, 68 NRC 199 (2008)
- Rulemaking Hearing: Acceptance Criteria for Emergency Core Cooling Systems for Light-Water-Cooled Nuclear Power Reactors*, CLI-73-39, 6 AEC 1085, 1091 (1973)  
protection against a highly unlikely loss-of-coolant accident has long been an essential part of the defense-in-depth concept used by the nuclear power industry and the AEC to ensure the safety of nuclear power plants; LBP-08-12, 68 NRC 40 (2008)
- Sacramento Municipal Utility District* (Rancho Seco Nuclear Generating Station), CLI-93-3, 37 NRC 135, 144-45 (1993)  
applicant in its environmental report need only consider the range of alternatives that are capable of achieving the goal of the proposed action; LBP-08-13, 68 NRC 92, 95, 204 (2008)
- Sacramento Municipal Utility District* (Rancho Seco Nuclear Generating Station), LBP-93-23, 38 NRC 200, 247-48 (1993), *review declined*, CLI-94-2, 39 NRC 91 (1994)  
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- Sacramento Municipal Utility District* (Rancho Seco Nuclear Generating Station), LBP-93-23, 38 NRC 200, 249 (1993), *petition for review denied*, CLI-94-2, 39 NRC 91 (1994)  
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- San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016 (9th Cir. 2006), *cert. denied sub. nom.*, *Pacific Gas and Electric Co. v. San Luis Obispo Mothers for Peace*, 127 S. Ct. 1124 (2007)  
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- Seminole Nation v. United States*, 316 U.S. 286, 296-97 (1942)  
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- Sequoyah Fuels Corp.*, CLI-95-2, 41 NRC 179, 190 (1995)  
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- Sequoyah Fuels Corp.* (Gore, Oklahoma Site Decommissioning), CLI-01-2, 53 NRC 9, 19-20 (2001)  
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- Sequoyah Fuels Corp.* (Gore, Oklahoma Site Decontamination and Decommissioning Funding), LBP-94-5, 39 NRC 54 (1994)  
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- Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-11, 40 NRC 55, 59 n.2 (1994)  
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- Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 72 (1994)  
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- Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 74 (1994)  
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- Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 75 (1994)  
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- Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 75 n.22 (1994)  
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- Shaw AREVA MOX Services* (Mixed Oxide Fuel Fabrication Facility), LBP-07-14, 66 NRC 169, 181 (2007)  
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- Shaw AREVA MOX Services* (Mixed Oxide Fuel Fabrication Facility), LBP-07-14, 66 NRC 169, 183 (2007)  
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- Shaw AREVA MOX Services* (Mixed Oxide Fuel fabrication Facility), LBP-07-14, 66 NRC 169, 205-06 (2007)  
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- Shaw AREVA MOX Services* (Mixed Oxide Fuel Fabrication Facility), LBP-07-14, 66 NRC 169, 210 n.95 (2007)  
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- Shaw AREVA MOX Services* (Mixed Oxide Fuel fabrication Facility), LBP-08-11, 67 NRC 460, 502-03 (2008)  
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- Shieldalloy Metallurgical Corp.* (Cambridge, Ohio Facility), CLI-99-12, 49 NRC 347, 354 (1999)  
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- Siegel v. AEC*, 400 F.2d 778, 784 (D.C. Cir. 1968)  
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- Sierra Club v. Morton*, 405 U.S. 727 (1972)  
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- Snoqualmie Indian Tribe v. Federal Energy Regulatory Commission*, 2008 WL 4478591 (9th Cir. 2008)  
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- Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-07-3, 65 NRC 237, 257 (2007)  
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- Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-07-3, 65 NRC 237, 262 (2007)  
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- Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-07-3, 65 NRC 237, 267-68 (2007)  
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- Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-07-3, 65 NRC 237, 269 & n.16 (2007)  
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- Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-07-3, 65 NRC 237, 271-72 (2007)  
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- Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC 18 (1998)  
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- Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC 18, 22 (1998)  
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- Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC 18, 24 (1998)  
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- Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452, 454 (1981)  
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- Steel Co. v. Citizens for a Better Environment*, 523 U.S. 83, 102-04 (1998)  
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- System Energy Resources, Inc.* (Early Site Permit for Grand Gulf ESP Site), CLI-05-4, 61 NRC 10, 13 (2005)  
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- System Energy Resources, Inc.* (Early Site Permit for Grand Gulf ESP Site), CLI-07-10, 65 NRC 144, 146-47 (2007)  
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- System Energy Resources, Inc.* (Early Site Permit for Grand Gulf ESP Site), LBP-04-19, 60 NRC 277, 296-97 (2004)  
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- System Energy Resources, Inc.* (Early Site Permit for Grand Gulf ESP Site), LBP-07-1, 65 NRC 27 (2007), *aff'd*, CLI-07-14, 65 NRC 216 (2007)  
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- Tennessee Valley Authority* (Bellefonte Nuclear Power Plant, Units 3 and 4), LBP-08-16, 68 NRC 361 (2008)  
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- Tennessee Valley Authority* (Bellefonte Nuclear Power Plant, Units 3 and 4), LBP-08-16, 68 NRC 361, 395 (2008)  
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- Tennessee Valley Authority* (Bellefonte Nuclear Power Plant, Units 3 and 4), LBP-08-16, 68 NRC 361, 416 (2008)  
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- Tennessee Valley Authority* (Hartsville Nuclear Plant, Units 1A, 2A, 1B, and 2B), ALAB-463, 7 NRC 341, 352 (1978)  
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- Tennessee Valley Authority* (Hartsville Nuclear Plant, Units 1A, 2A, 1B, and 2B), ALAB-463, 7 NRC 341, 360 (1978), *reconsideration denied*, ALAB-467, 7 NRC 459 (1978)  
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- Tennessee Valley Authority* (Watts Bar Nuclear Plant, Unit 1; Sequoyah Nuclear Plant, Units 1 and 2; Browns Ferry Nuclear Plant, Units 1, 2, and 3), CLI-04-24, 60 NRC 160, 204 (2004)  
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- Tesoro Hawaii Corp. v. United States*, 405 F.3d 1339, 1346 (Fed. Cir. 2005)  
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- Texas Utilities Electric Co.* (Comanche Peak Steam Electric Station, Unit 2), LBP-92-37, 36 NRC 370, 384 (1992)  
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- Texas Utilities Generating Co.* (Comanche Peak Steam Electric Station, Units 1 and 2), ALAB-714, 17 NRC 86, 94 (1983)  
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- Time Warner Entertainment Co. L.P. v. Everest Midwest Licensee, L.L.C.*, 381 F.3d 1039, 1051 (10th Cir. 2004)  
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- Township of Lower Alloways Creek v. Public Service Electric & Gas Co.*, 687 F.2d 732, 741 (3d Cir. 1982)  
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- U.S. Army* (Jefferson Proving Ground Site), LBP-04-1, 59 NRC 27, 29 (2004)  
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- U.S. Department of Energy* (High-Level Waste Repository), CLI-04-32, 60 NRC 469, 473 (2004)  
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- U.S. Department of Energy* (High-Level Waste Repository), CLI-06-5, 63 NRC 143 (2006)  
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- U.S. Department of Energy* (High-Level Waste Repository), CLI-06-5, 63 NRC 143, 154 (2006)  
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- Union of Concerned Scientists v. NRC*, 735 F.2d 1437 (D.C. Cir. 1984)  
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- Union of Concerned Scientists v. NRC*, 735 F.2d 1437, 1446 (D.C. Cir. 1984)  
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- Union of Concerned Scientists v. NRC*, 735 F.2d 1437, 1448 (D.C. Cir. 1984)  
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- Union of Concerned Scientists v. NRC*, 880 F.2d 552, 558 (D.C. Cir. 1989)  
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- United Church of Christ v. Federal Communications Commission*, 359 F.2d 994, 1005-06 (D.C. Cir. 1966)  
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- United Food and Commercial Workers Union Local 751 v. Brown Group, Inc.*, 517 U.S. 544, 552 (1996)  
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- United Food and Commercial Workers Union Local 751 v. Brown Group, Inc.*, 517 U.S. 544, 557 (1996)  
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- United States v. 29 Cartons of \*\*\* An Article of Food, Etc.*, 987 F.2d 33, 35 (1st Cir. 1993)  
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- United States v. AVX Corp.*, 962 F.2d 108, *passim* (1st Cir. 1992)  
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- United States v. Dion*, 476 U.S. 734, 738 n.4 (1986)  
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- United States v. Gemmill*, 535 F.2d 1145, 1147 (9th Cir. 1976)  
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- United States v. Mendoza*, 464 U.S. 154, 160 (1984)  
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- United States v. Mitchell*, 463 U.S. 206, 224 (1983)  
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- United States v. Pend Oreille County Public Utility District No. 1*, 585 F. Supp. 606 (D. Wash. 1984)  
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- United States v. Sioux Nation of Indians*, 448 U.S. 371 (1980)  
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- United States v. Sioux Nation of Indians*, 448 U.S. 371, 409-11 (1980)  
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- United States v. Sioux Nation of Indians*, 448 U.S. 371, 410-11 (1980)  
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- United States v. Stauffer Chemical Co.*, 464 U.S. 165, 169 (1984)  
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- United States v. Stauffer Chemical Co.*, 464 U.S. 165, 173 (1984)  
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- USEC Inc. (American Centrifuge Plant)*, CLI-05-11, 61 NRC 309, 311 (2005)  
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- USEC Inc. (American Centrifuge Plant)*, CLI-06-9, 63 NRC 433, 437 (2006)  
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- USEC Inc. (American Centrifuge Plant)*, CLI-06-10, 63 NRC 451, 458 (2006)  
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- USEC Inc. (American Centrifuge Plant)*, CLI-06-10, 63 NRC 451, 460 (2006)  
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- USEC Inc. (American Centrifuge Plant)*, CLI-06-10, 63 NRC 451, 472 (2006)  
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- USEC Inc. (American Centrifuge Plant)*, CLI-06-10, 63 NRC 451, 482 (2006)  
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- Ute Indians v. United States*, 28 Fed. Cl. 768 (Fed. Cl. 1993)  
Native Americans have tribal rights to, and interests in, aboriginal lands; LBP-08-24, 68 NRC 713 (2008)
- Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 551 (1978)  
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- Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 553-54 (1978)  
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- Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 554-55 (1978)  
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- Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 555 (1978)  
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- Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-124, 6 AEC 358, 360 (1973)  
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- Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-124, 6 AEC 358, 364 (1973)  
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- Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-124, 6 AEC 358, 365 n.10 (1973)  
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- Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-138, 6 AEC 520, 523 (1973)  
in denying a motion to reopen the record, the tribunal will necessarily have supplemented the record with, for example, the affidavits, letters, or other materials accompanying the motion and the responses thereto, but the hearing record will not have been reopened; LBP-08-12, 68 NRC 16 (2008)
- Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-138, 6 AEC 520, 528-29 (1973)  
applicant's failure to comply with applicable standards may have consequential import in evaluating whether to grant a motion to reopen the record; LBP-08-12, 68 NRC 25 n.19 (2008)
- Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-919, 30 NRC 29, 48 (1989), *vacated in part on other grounds and remanded*, CLI-90-4, 31 NRC 333 (1990)  
information, facts, and expert opinions provided by petitioner in support of a contention will be examined by the board to confirm that the petitioner does indeed supply adequate support for the contention; LBP-08-13, 68 NRC 64 (2008); LBP-08-16, 68 NRC 385 (2008); LBP-08-26, 68 NRC 918 (2008)
- Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), CLI-00-17, 52 NRC 79, 83 (2000)  
license transfer applicants who have received Staff approval but are still awaiting the results of a Commission adjudication are free to act in reliance on the Staff's order but do so at their peril in the event that the Commission later determines that intervenors have raised valid objections to the license transfer application; CLI-08-19, 68 NRC 257 (2008)
- Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), CLI-00-20, 52 NRC 151, 161 (2000)  
a direct license transfer application seeks authorization for the transfer of both ownership and operation of the facility; CLI-08-19, 68 NRC 255 n.3 (2008)
- Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), CLI-00-20, 52 NRC 151, 163 (2000)  
an organization that wants to intervene in a representational capacity must demonstrate that the licensing action will affect at least one of its members, identify that member by name and address, and show that it is authorized by that member to request a hearing on his or her behalf; CLI-08-19, 68 NRC 259 (2008); LBP-08-16, 68 NRC 378 (2008); LBP-08-17, 68 NRC 439 (2008); LBP-08-21, 68 NRC 559 n.2 (2008); LBP-08-26, 68 NRC 911 (2008)

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- Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), CLI-00-20, 52 NRC 151, 163-64 (2000)  
petitioners in direct license transfer cases who qualified for proximity-based standing lived within a 6-1/2-mile radius of their plant; CLI-08-19, 68 NRC 269 (2008)
- Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), CLI-00-20, 52 NRC 151, 165-66 (2000)  
petitioner may not demand a hearing to express generalized grievances about NRC policies or to attack the NRC's general competence; LBP-08-17, 68 NRC 452 (2008)
- Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), CLI-00-20, 52 NRC 151, 173-74 (2000)  
suspension of licensing proceedings is a drastic action that is not warranted absent immediate threats to public health and safety; CLI-08-23, 68 NRC 483 n.104 (2008)
- Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), LBP-08-15, 68 NRC 294, 304 (2008)  
if none of the affidavits submitted in support of petitioners' hearing request indicates that an organization represents the interests of the submitter, the organization has failed to establish that it has standing; LBP-08-16, 68 NRC 379-80 (2008)
- Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), LBP-08-15, 68 NRC 294, 313 n.86 (2008)  
because disposal of Greater-Than-Class-C waste is the responsibility of the federal government, the disposal of GTCC radioactive waste is not directly affected by the partial closure of the Barnwell disposal facility and so is not an admissible aspect of a contention; LBP-08-16, 68 NRC 414 (2008)
- Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), LBP-08-15, 68 NRC 294, 315-20 (2008)  
further inquiry is warranted into the safety-related matter of whether the FSAR has failed to include necessary information concerning applicant's plans for onsite management of Class B and C waste; LBP-08-16, 68 NRC 315-20 (2008)
- Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), LBP-08-15, 68 NRC 294, 316-17 (2008)  
because applicant did not apply for an early site permit, petitioners thus are not precluded from raising an environmental issue relative to failure of applicant's environmental report to assess the onsite impacts associated with the potential long-term storage of low-level waste; LBP-08-16, 68 NRC 316-17 (2008)
- Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), LBP-08-15, 68 NRC 294, 317 (2008)  
whether applicant might someday require a permit under 10 C.F.R. Part 61 for a disposal facility is too speculative and therefore not material to the findings the NRC must make to support the action that is involved; LBP-08-16, 68 NRC 414 (2008)
- Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), LBP-08-15, 68 NRC 294, 331-32 (2008)  
contention that fails to dispute dose calculations presented in the application or that those calculated doses fail to comply with all relevant NRC regulations is inadmissible; LBP-08-16, 68 NRC 396 (2008)
- Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), LBP-08-15, 68 NRC 294, 335 (2008)  
petitioner's failure to cite any document that supports its theory that uranium supplies will be insufficient to support the operation of the facility during its licensed period renders the contention inadmissible; LBP-08-16, 68 NRC 395 (2008); LBP-08-21, 68 NRC 574 (2008)
- Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), LBP-08-15, 68 NRC 294, 336 (2008)  
contention that challenges NRC's regulations is inadmissible; LBP-08-16, 68 NRC 390 (2008)
- Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), LBP-08-15, 68 NRC 294, 336-37 (2008)  
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the Waste Confidence Rule is applicable to all new reactor proceedings, and contentions challenging it or seeking its reconsideration are not admissible; LBP-08-16, 68 NRC 416 (2008); LBP-08-17, 68 NRC 456 (2008)

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- Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-342, 4 NRC 98, 105-06 (1976)  
damage to applicant's reputation does not constitute a threatened injury to the interests of union members; CLI-08-19, 68 NRC 266 (2008)
- Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-342, 4 NRC 98, 107 (1976)  
there is no relationship between the legislative purpose underlying the safety provisions of the Atomic Energy Act and petitioner's interest in protecting its reputation and avoiding damage suits; CLI-08-19, 68 NRC 266 (2008)
- Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), LBP-84-40A, 20 NRC 1195, 1199 (1984)  
boards have discretion to reframe contentions for purposes of clarity, succinctness, and a more efficient proceeding; LBP-08-12, 68 NRC 30 n.1 (2008)
- Washington Public Power Supply System* (Hanford No. 2 Nuclear Power Plant), ALAB-113, 6 AEC 251, 252 (1973)  
key safety issues must be resolved in the hearing, not post-hearing by NRC Staff and applicant; LBP-08-25, 68 NRC 829 (2008)
- Washington Public Power Supply System* (WPPSS Nuclear Project No. 3), ALAB-747, 18 NRC 1167 (1983)  
availability of Staff review outside the hearing process generally does not constitute adequate protection of a private party's rights when considering 10 C.F.R. 2.309(c)(1)(ii); LBP-08-12, 68 NRC 42 (2008)
- Washington Public Power Supply System* (WPPSS Nuclear Project No. 3), ALAB-747, 18 NRC 1167, 1175 (1983)  
a request for action under 10 C.F.R. 2.206 is not a substitute for participation in an adjudication; LBP-08-25, 68 NRC 828 (2008)
- Weinberger v. Catholic Action League*, 454 U.S. 139 (1981)  
the National Environmental Policy Act claims are governed by NEPA's own specific nondisclosure provision rather than by more general provisions in the Atomic Energy Act or in NRC regulations; CLI-08-26, 68 NRC 523 (2008)
- Weinberger v. Catholic Action League*, 454 U.S. 139, 142 (1981)  
to the fullest extent possible, all federal agencies shall include in every recommendation or report on proposals for legislation and other major federal actions significantly affecting the quality of the human environment, a detailed statement discussing the environmental impact of the proposed action and possible alternatives; CLI-08-26, 68 NRC 531 (2008)
- Winters v. United States*, 207 U.S. 564, 567 (1908)  
contamination of water on the reservation and depletion of a Tribe's water sources as a result of mining operations is asserted as a violation of the Tribe's Winters Rights, under which it is to receive a sufficient quantity of quality water on the Reservation; LBP-08-24, 68 NRC 743 n.291 (2008)
- Winters v. United States*, 207 U.S. 564, 567, 573 (1908)  
it is essential and necessary that all of the waters of the river flow down the channel uninterruptedly and undiminished in quantity and undeteriorated in quality and are to be fully protected against invasion by other parties; LBP-08-24, 68 NRC 743 n.292 (2008)
- Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 6 (1996)  
in determining standing as of right, NRC applies contemporaneous judicial concepts; LBP-08-16, 68 NRC 378 (2008); LBP-08-17, 68 NRC 438 (2008); LBP-08-21, 68 NRC 559 n.2 (2008); LBP-08-26, 68 NRC 911 (2008)  
to establish standing "as of right," petitioner must show that has suffered or will suffer a distinct and palpable harm that constitutes injury-in-fact within the zone of interests arguably protected by the governing statutes, the injury is fairly traceable to the challenged action, and the injury is likely to be redressed by a favorable decision; LBP-08-17, 68 NRC 438 (2008)
- Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 251 (1996)  
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- Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 195 (1998)  
for an organizational petitioner to establish standing, it must show immediate or threatened injury to either its organizational interests or to the interest of identified members; LBP-08-24, 68 NRC 702 (2008); LBP-08-26, 68 NRC 911 (2008)
- intervention petitioners must allege a concrete and particularized injury that is fairly traceable to the challenged action and is likely to be redressed by a favorable decision; LBP-08-14, 68 NRC 286 (2008); LBP-08-24, 68 NRC 701 (2008)
- NRC generally follows judicial concepts of standing; LBP-08-13, 68 NRC 59 (2008)
- Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 195-96 (1998)  
intervention petitioner's claimed injury must be arguably within the zone of interests protected by the governing statute; LBP-08-24, 68 NRC 701 (2008)
- Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 75-76 (1996), *rev'd in part on other grounds*, CLI-96-7, 43 NRC 235 (1996)  
the materiality requirement dictates that any contention alleging deficiencies or errors in an application also indicate some significant link between the claimed deficiency and either the health and safety of the public or the environment; LBP-08-13, 68 NRC 62 (2008); LBP-08-16, 68 NRC 385 (2008)
- Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 90 (1996), *rev'd in part on other grounds*, CLI-96-7, 43 NRC 235 (1996)  
any supporting material provided by petitioner, including those portions of material that are not relied upon, is subject to board scrutiny; LBP-08-13, 68 NRC 63 (2008); LBP-08-15, 68 NRC 334 n.207 (2008); LBP-08-16, 68 NRC 385 (2008); LBP-08-26, 68 NRC 917 (2008)

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- 10 C.F.R. 2.3(a)  
in any conflict between a general rule in Part 2, Subpart C, and a special rule in Part 2, the special rule governs; LBP-08-16, 68 NRC 382 n.6 (2008)
- 10 C.F.R. 2.101(e)(3)  
a docket number is assigned to an application if and when the Staff determines that the application is acceptable for docketing; CLI-08-20, 68 NRC 275 (2008)  
NRC regulations direct how an application for construction authorization for a high-level waste repository will be processed; CLI-08-20, 68 NRC 274 (2008)  
NRC Staff must review the construction authorization application to determine whether it is complete and acceptable for docketing; CLI-08-20, 68 NRC 276 (2008)  
should the Director of the Office of Nuclear Material Safety and Safeguards reject the high-level waste repository construction authorization application, applicant will be informed of this determination, and of the respects in which the application is deficient; CLI-08-20, 68 NRC 275 (2008)  
the Director of the Office of Nuclear Material Safety and Safeguards must determine whether the tendered high-level waste repository construction authorization application is complete and acceptable for docketing; CLI-08-20, 68 NRC 274 (2008)
- 10 C.F.R. 2.101(e)(8)  
NRC regulations direct how an application for construction authorization for a high-level waste repository will be processed; CLI-08-20, 68 NRC 274 (2008)
- 10 C.F.R. 2.104(b)  
the mandatory hearing board is required to answer six questions for the uncontested early site permit proceedings; LBP-08-15, 68 NRC 301 (2008)
- 10 C.F.R. 2.206  
a request for action is not a substitute for participation in an adjudication; LBP-08-25, 68 NRC 828 (2008)  
any person may file a petition for an enforcement action to address any perceived post-licensing problems that may present themselves; LBP-08-22, 68 NRC 652 n.295 (2008)  
anyone wishing to institute a proceeding to modify, suspend, or revoke a license, or to request other action, may do so through a request for enforcement action; CLI-08-23, 68 NRC 487 n.120 (2008)  
petitioner's concerns regarding underground leakage of contaminated water at Indian Point and failure to implement the new emergency notification siren system in a timely manner are addressed; DD-08-2, 68 NRC 340-49 (2008)  
the appropriate avenue for resolution of concerns regarding an ongoing operational issue at a facility is via a request for action under this section; CLI-08-23, 68 NRC 486 n.117 (2008)  
the proper avenue for challenging the adequacy of the Updated Final Safety Analysis Report would be to seek an enforcement action; LBP-08-13, 68 NRC 77, 119 (2008)  
to the extent that petitioners have any basis for claiming that there are current, ongoing excessive radiological releases from a facility, petitioners may seek NRC enforcement action; CLI-08-17, 68 NRC 245 n.77 (2008)
- 10 C.F.R. 2.206(a)  
petitioners are free to file a request to modify, suspend, or revoke a license, or for any other action as may be proper; LBP-08-12, 68 NRC 28 (2008)
- 10 C.F.R. 2.302(a)  
e-filing is mandatory; CLI-08-17, 68 NRC 235 n.19 (2008)

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- 10 C.F.R. 2.302(d)(1)  
a filing will be considered complete by electronic transmission when the filer performs the last act that it must perform to transmit a document, in its entirety, electronically; LBP-08-16, 68 NRC 381 (2008)
- 10 C.F.R. 2.304, 2.305  
the Commission may reject an appeal summarily for violating NRC procedural regulations; CLI-08-17, 68 NRC 235 n.18 (2008)
- 10 C.F.R. 2.306(c)(2)  
to be considered timely, a document must be submitted to the E-Filing system for docketing and service by 11:59 p.m. Eastern Time; LBP-08-16, 68 NRC 381 (2008)
- 10 C.F.R. 2.309  
a petitioner, including a potential party given access to the Licensing Support Network, may not be granted party status if the petitioner cannot demonstrate substantial and timely compliance with the requirements in section 2.1003 at the time of the request for participation in the high-level waste proceeding; CLI-08-25, 68 NRC 499-500 (2008)  
any person whose interest may be affected by the high-level waste proceeding and who desires to participate as a party must file a written petition for leave to intervene; CLI-08-25, 68 NRC 499 (2008)  
any person whose interest will be affected by a proposed combined operating license may file a request for a hearing and petition for leave to intervene within 60 days of the *Federal Register* notice of opportunity for hearing; LBP-08-16, 68 NRC 375 (2008)  
when assessing whether a petitioner has set forth a sufficient interest to intervene, licensing boards apply judicial concepts of standing; LBP-08-14, 68 NRC 286 (2008)
- 10 C.F.R. 2.309(a)  
any person who wishes to intervene as a party in an adjudicatory proceeding addressing a proposed licensing action must establish that it has standing and offer at least one admissible contention; CLI-08-17, 68 NRC 233 (2008); LBP-08-13, 68 NRC 59 (2008); LBP-08-17, 68 NRC 438 (2008); LBP-08-18, 68 NRC 542 (2008); LBP-08-19, 68 NRC 547 (2008); LBP-08-20, 68 NRC 551 (2008); LBP-08-26, 68 NRC 910, 914 (2008)  
because no petitioner has demonstrated standing, the Commission need not reach the question of whether either group has submitted at least one admissible contention; CLI-08-19, 68 NRC 255 n.2 (2008)  
reference to the term "hearing" suggests that it means an evidentiary hearing; LBP-08-23, 68 NRC 684 (2008)  
where petitioner has established standing to intervene, but has not submitted an admissible contention, its request for an evidentiary hearing is denied; LBP-08-17, 68 NRC 436 (2008)
- 10 C.F.R. 2.309(b)(2)  
the 30-day hearing petition and contention-filing deadlines set forth in this section have been modified for the high-level waste proceeding; CLI-08-25, 68 NRC 499 (2008)
- 10 C.F.R. 2.309(b)(3)  
petitioners have 60 days to file intervention petitions and hearing requests in NRC proceedings other than those for license transfer requests and a construction authorization application for a high-level waste repository; CLI-08-18, 68 NRC 249 n.18 (2008)
- 10 C.F.R. 2.309(c)  
new arguments not raised in the intervention petition can only be introduced into a proceeding pursuant to this section; LBP-08-13, 68 NRC 161 (2008)
- 10 C.F.R. 2.309(c)(1)  
if petitioner were to delay and submit contentions on National Environmental Policy Act topics addressed in the environmental report after issuance of the environmental impact statement, they would likely be characterized as late-filed contentions, subject to much more stringent admissibility standards; LBP-08-26, 68 NRC 932 (2008)  
nontimely contentions may be accepted under this section only upon a showing of good cause for failure to file in a timely manner and a weighing of a number of factors; LBP-08-27, 68 NRC 954-55 (2008)  
where a motion to reopen the record seeks to admit a new contention that has not previously been in controversy among the parties, the movant must show that a balancing of eight factors weighs in favor of reopening; LBP-08-12, 68 NRC 15, 28, 40-41 (2008)

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- 10 C.F.R. 2.309(c)(1)(i)-(viii)  
a nontimely petition or contention will not be entertained in the high-level waste proceeding unless the Commission, an Atomic Safety and Licensing Board, or a presiding officer designated to rule on the petition determines that the late petition or contention meets the late-filing requirements; CLI-08-25, 68 NRC 499 (2008)  
in the case of the yet-to-issue NRC rules for the high-level waste proceeding, the Commission is dispensing in advance with all late-filing factors except the "good cause" factor; CLI-08-25, 68 NRC 507 n.5 (2008)
- 10 C.F.R. 2.309(c)(1)(ii)-(viii)  
nontimely contentions may be accepted only upon a showing of good cause for failure to file in a timely manner and a weighing of a number of factors; LBP-08-27, 68 NRC 955 n.20 (2008)
- 10 C.F.R. 2.309(c)(1)(v)  
availability of Staff review outside the hearing process generally does not constitute adequate protection of a private party's rights; LBP-08-12, 68 NRC 42 (2008)
- 10 C.F.R. 2.309(d)  
a hearing may be held upon the request of any person whose interest may be affected by the proceeding; LBP-08-18, 68 NRC 538 (2008)  
a licensing board, in ruling on a request for a hearing, must determine whether petitioner has an interest potentially affected by the proceeding; LBP-08-14, 68 NRC 286 (2008)  
any person submitting a request for hearing on a confirmatory order shall set forth with particularity the manner in which his interest is adversely affected by the order and shall address the criteria set forth in this section; LBP-08-14, 68 NRC 285 (2008)  
in ruling on a petition to intervene in high-level waste proceeding, the presiding officer shall consider the factors on standing to intervene; CLI-08-25, 68 NRC 499 (2008)  
judicial concepts of standing are applied in NRC proceedings; LBP-08-15, 68 NRC 302 (2008)  
those seeking NRC hearings must show the nature and extent of their interest and the possible effect of the challenged NRC licensing action on that interest; CLI-08-19, 68 NRC 260 (2008)
- 10 C.F.R. 2.309(d)(1)  
intervention petitions must establish the nature of the petitioner's right under the governing statutes to be made a party, its interest in the proceeding, and the possible effect of any decision or order on the petitioner's interest; LBP-08-14, 68 NRC 286 (2008); LBP-08-15, 68 NRC 302 (2008); LBP-08-17, 68 NRC 438 (2008); LBP-08-18, 68 NRC 538 (2008); LBP-08-26, 68 NRC 910 (2008)  
the general requirements for standing to intervene on a confirmatory order are provided; LBP-08-14, 68 NRC 285 (2008)  
to demonstrate standing, petitioner must identify an interest in the proceeding and specify the facts pertaining to that interest; CLI-08-19, 68 NRC 258 (2008)
- 10 C.F.R. 2.309(d)(1)(ii)-(iv)  
a licensing board, in ruling on a request for a hearing, is to consider the nature of petitioner's right under the Atomic Energy Act or the National Environmental Policy Act to be made a party to the proceeding, the nature and extent of petitioner's property, financial, or other interest in the proceeding, and the possible effect of any decision or order that may be issued in the proceeding on petitioner's interest; LBP-08-24, 68 NRC 701 (2008)  
petitioner must provide basic information supporting its claim to standing in order to satisfy the requirements of this section; LBP-08-13, 68 NRC 59 (2008)
- 10 C.F.R. 2.309(d)(2)  
any state and local governmental body (county, municipality, or other subdivision) in which the geologic repository operations area is located, and any affected federally recognized Indian Tribe need not address the standing requirements; CLI-08-25, 68 NRC 502 (2008)
- 10 C.F.R. 2.309(d)(2)(i)-(ii)  
a state or local governmental entity that wishes to be a party in a proceeding that involves a facility located within its boundaries is automatically deemed to have standing; LBP-08-13, 68 NRC 60 (2008)
- 10 C.F.R. 2.309(d)(2)(iii)  
the Commission shall permit intervention by the state and local governmental body (county, municipality, or other subdivision) in which the geologic repository operations area is located, and by any affected

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- federally recognized Indian Tribe if the contention requirements in section 2.309(f) are satisfied with respect to at least one contention; CLI-08-25, 68 NRC 502 (2008)
- 10 C.F.R. 2.309(d)(3)  
even if neither applicant nor NRC Staff challenges petitioner's standing, the board must make its own determination; LBP-08-15, 68 NRC 303 (2008)
- 10 C.F.R. 2.309(e)  
the Commission may consider a request for discretionary intervention when at least one requestor/petitioner has established standing and at least one admissible contention has been admitted so that a hearing will be held; CLI-08-19, 68 NRC 267 (2008)
- 10 C.F.R. 2.309(f)  
any person submitting a request for hearing on a confirmatory order shall set forth with particularity the manner in which his interest is adversely affected by the order and shall address the criteria set forth in this section; LBP-08-14, 68 NRC 285 (2008)  
contention admissibility requirements for a hearing on a confirmatory order are addressed; LBP-08-14, 68 NRC 285 (2008)  
in addition to meeting NRC's regular contention admissibility requirements in this section, environmental contentions addressing any DOE environmental impact statement or supplement must also conform to the requirements and address the applicable factors outlined in section 51.109; CLI-08-25, 68 NRC 502 (2008)  
issues that raise legal or factual challenges related to an application are appropriately considered as proposed contentions in the context of a merits hearing on the application; CLI-08-20, 68 NRC 274 (2008)
- 10 C.F.R. 2.309(f)(1)  
all of the contention admissibility requirements must be met for a contention to be admissible; LBP-08-19, 68 NRC 546-47 (2008); LBP-08-20, 68 NRC 551 (2008); LBP-08-21, 68 NRC 560 (2008); LBP-08-25, 68 NRC 787 (2008)  
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to participate as a party in a materials license renewal proceeding, intervention petitioner must not only establish standing, but also proffer at least one admissible contention; LBP-08-24, 68 NRC 715-16 (2008)
- 10 C.F.R. 2.309(f)(1)(i)  
a contention aimed broadly at all buried systems, structures, and components that may convey or contain radioactively contaminated water is inadmissible; LBP-08-26, 68 NRC 944 (2008)  
in ruling on contention admissibility, the board first must consider whether the contention provides a specific statement of the legal or factual issue to be raised; LBP-08-15, 68 NRC 313 (2008)
- 10 C.F.R. 2.309(f)(1)(i)-(ii)  
although petitioner should provide a separate statement of contention and basis, the board does not rely upon this drafting flaw as a reason for rejecting these contentions; LBP-08-16, 68 NRC 387 n.9 (2008)  
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- 10 C.F.R. 2.309(f)(1)(i)-(vi)  
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the purpose of this contention rule is to focus litigation on concrete issues and result in a clearer and more focused record for decision; LBP-08-26, 68 NRC 914-15 (2008)
- 10 C.F.R. 2.309(f)(1)(ii)  
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- a contention challenging cost estimates for site remediation after a severe accident is admissible; LBP-08-26, 68 NRC 925 (2008)
- it is not the responsibility of the licensing board to supply the basis information necessary to sustain a contention; LBP-08-24, 68 NRC 742 (2008)
- 10 C.F.R. 2.309(f)(1)(iii)
- a contention is inadmissible because its support is either inaccurate or inadequate to establish that the issue raised is material to the proceeding or is insufficient to show that a genuine dispute on a material factual or legal issue exists so as to warrant admission of the contention; LBP-08-16, 68 NRC 390, 402 (2008)
- an admissible contention must raise an issue that is within the scope of the proceeding, normally defined by the hearing notice; LBP-08-13, 68 NRC 62 (2008); LBP-08-15, 68 NRC 314, 329 (2008); LBP-08-16, 68 NRC 384 (2008); LBP-08-17, 68 NRC 440 (2008)
- challenge to NRC's authority to engage in alternative dispute resolution is beyond the scope of an enforcement proceeding; LBP-08-14, 68 NRC 292 (2008)
- contentions pertaining to issues dealing with the Updated Final Safety Analysis Report are not within the scope of license renewal review; LBP-08-13, 68 NRC 74 (2008)
- contentions that challenge the basic structure of the Commission's regulatory program are not within the scope of the proceeding and fail to establish a genuine dispute on a material issue of law or fact; LBP-08-16, 68 NRC 386, 387, 388, 389, 394, 397, 412 (2008)
- contentions that raise a matter that is not within the scope of the proceeding and impermissibly challenge Commission regulatory requirements are inadmissible; LBP-08-16, 68 NRC 390, 396, 416, 423 (2008)
- for a hearing on a confirmatory order, petitioner must demonstrate that the issue raised in the contention is within the scope of the proceeding, which is whether the confirmatory order should be sustained; LBP-08-14, 68 NRC 291 (2008)
- offsite radiological impacts are a Category 1 issue, which the Commission has determined to be "small" for all nuclear power plants seeking a renewed license; LBP-08-26, 68 NRC 929 (2008)
- petitioner must demonstrate that the issue raised in the contention is within the scope of the proceeding; LBP-08-21, 68 NRC 560, 565, 567-68, 569, 571, 572, 582-83, 585-86 (2008); LBP-08-26, 68 NRC 915 (2008)
- petitioner's questioning of the adequacy of applicant's aging management plan for containment coatings has stated a genuine, material dispute with the application that falls within the scope of a license renewal proceeding; LBP-08-26, 68 NRC 934 (2008)
- petitioners' generalized claims about energy policy are outside the scope of the proceeding; LBP-08-16, 68 NRC 402 (2008)
- terrorism-related events are outside the scope of of a combined license proceeding; LBP-08-21, 68 NRC 572 (2008)
- the portion of a contention challenging the use of the one-fire assumption is inadmissible because it is outside the scope of a combined license proceeding; LBP-08-21, 68 NRC 565, 566 (2008)
- 10 C.F.R. 2.309(f)(1)(iii)-(iv)
- allegations that mining activities may cause harm to public health and safety are within the scope of a materials license renewal proceeding and material to the findings the NRC must make; LBP-08-27, 68 NRC 956 (2008)
- petitioner must demonstrate that the issue raised in a contention is both within the scope of the proceeding and material to the findings the NRC must make to support the action that is involved in the proceeding; LBP-08-21, 68 NRC 560 (2008)
- 10 C.F.R. 2.309(f)(1)(iv)
- applicant's plan for low-level radioactive waste storage onsite is material to the findings the NRC must make to support the action that is involved in the combined license proceeding; LBP-08-15, 68 NRC 315 (2008)
- contention questioning the likelihood that power generation benefits will be realized is potentially material to the findings the NRC must make to support the action that is involved in a combined license proceeding; LBP-08-15, 68 NRC 333 (2008)
- contentions must assert an issue of law or fact that is material to the outcome of a licensing proceeding, meaning that the subject matter of the contention must impact the grant or denial of a pending license

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- application; LBP-08-13, 68 NRC 62 (2008); LBP-08-15, 68 NRC 315 (2008); LBP-08-16, 68 NRC 385 (2008); LBP-08-17, 68 NRC 440 (2008)
- ensuring that NRC Staff meets its consultation obligations under section 106 of the National Historic Preservation Act is an issue material to the findings the NRC must make in support of the action involved in a materials license renewal proceeding; LBP-08-24, 68 NRC 723 (2008)
- petitioners' request for various additional analyses by applicant are inadmissible because petitioners have made no showing as to how the analyses might make a material contribution to the environmental report or the NRC's National Environmental Policy Act analysis; LBP-08-16, 68 NRC 405, 407 (2008)
- that applicant might someday require a permit under Part 61 for a disposal facility is too speculative an issue for admission in a combined license proceeding; LBP-08-15, 68 NRC 317 (2008); LBP-08-16, 68 NRC 414 (2008)
- the subject matter of a contention must impact the grant or denial of a pending license application; LBP-08-26, 68 NRC 916 (2008)
- 10 C.F.R. 2.309(f)(1)(v)
- a contention that is unsupported and has no foundation in the law is inadmissible; LBP-08-21, 68 NRC 560, 565-66, 571, 573, 574, 576, 578, 581, 582, 583 (2008)
- contentions must be supported by a concise statement of the alleged facts or expert opinions that support the requestor's/petitioner's position on the issue together with references to the specific sources and documents on which it intends to rely to support its position; LBP-08-13, 68 NRC 62 (2008); LBP-08-15, 68 NRC 317 (2008); LBP-08-26, 68 NRC 916-17 (2008)
- contentions that fail to provide expert opinion, documents, or other sources to support petitioner's position are inadmissible; LBP-08-15, 68 NRC 333 (2008); LBP-08-16, 68 NRC 384, 390, 395, 402, 403, 404, 417 (2008); LBP-08-19, 68 NRC 547 (2008); LBP-08-21, 68 NRC 571 (2008)
- failure to provide any technical support for a claim that the water supply will not be sufficient for plant cooling purposes renders a contention inadmissible; LBP-08-15, 68 NRC 330 n.191 (2008)
- petitioner's challenge to the EPRI/SOG model for earthquakes is inadmissible because it lacks expert or documentary support; LBP-08-16, 68 NRC 393 (2008)
- petitioners' bare assertion that the original analysis for a recirculation nozzle is noncompliant with the ASME Code is inadequate to support admission of the contention, much less to support reopening of the record; LBP-08-12, 68 NRC 27 n.22 (2008)
- petitioners' complaint that the environmental report's discussion of the no-action alternative is deficient is itself wanting, both in its support and as to its showing that there is a genuine dispute on a material issue of law or fact; LBP-08-16, 68 NRC 403 (2008)
- speculative assertions that lack expert opinion or documentary support are inadmissible; LBP-08-16, 68 NRC 394, 405, 410 (2008)
- the requirement for a recitation of facts or expert opinion supporting an issue raised are inapplicable to a contention of omission beyond identifying the regulatively required missing information; LBP-08-15, 68 NRC 317 (2008)
- the requirement of factual support is not intended to prevent intervention when material and concrete issues exist; LBP-08-27, 68 NRC 956 (2008)
- 10 C.F.R. 2.309(f)(1)(vi)
- a contention of omission is inadmissible if the purportedly missing analysis is indeed present; LBP-08-21, 68 NRC 573-74 (2008)
- a contention of omission is one that claims that the application fails to contain information on a relevant matter as required by law and provides the supporting reasons for the petitioner's belief; LBP-08-15, 68 NRC 313-14 (2008)
- a contention that fails to allege any current deficiency in the agency's ongoing National Environmental Policy Act review process, which includes a need-for-power review, fails to establish a genuine dispute regarding a material legal or factual issue; LBP-08-16, 68 NRC 413 (2008)
- any contention that identifies deficiencies in an application and provides supporting reasons for its position presents a genuine dispute with the applicant on a material issue; LBP-08-15, 68 NRC 319 (2008)
- applicant's failure to describe its aging management plan to the extent required by section 54.21 is an admissible issue; LBP-08-26, 68 NRC 940 (2008)

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- contention alleging that the license renewal application fails to supply sufficient details of the aging management program for flow accelerated corrosion to demonstrate that its effects will be adequately managed is admitted; LBP-08-26, 68 NRC 956 (2008)
- contention is inadmissible because its support is either inaccurate or inadequate to establish that the issue raised is material to the proceeding or is insufficient to show a genuine dispute on a material factual or legal issue exists so as to warrant admission of the contention; LBP-08-16, 68 NRC 390, 402 (2008)
- contentions must show that a genuine dispute exists with regard to the license application in question, challenge and identify either specific portions of, or alleged omissions from, the application, and provide the supporting reasons for each dispute; CLI-08-23, 68 NRC 477 (2008); LBP-08-13, 68 NRC 64 (2008); LBP-08-15, 68 NRC 319 (2008); LBP-08-16, 68 NRC 385 (2008); LBP-08-19, 68 NRC 547 (2008); LBP-08-26, 68 NRC 918 (2008)
- contentions that challenge the basic structure of the Commission's regulatory program are not within the scope of the proceeding and fail to establish a genuine dispute on a material issue of law or fact; LBP-08-16, 68 NRC 386, 387, 388, 389, 394, 397, 412 (2008)
- contentions that fail to provide expert opinion, documents, or other sources sufficient to supply an adequate basis for the contentions and do not present a genuine dispute regarding a material issue of law or fact are inadmissible; LBP-08-16, 68 NRC 395, 402, 403, 404, 417 (2008)
- contentions that label items as omissions from the application but do not identify possible inadequacies in the relevant analyses that are included so as to establish the requisite genuine disputed issue are inadmissible; LBP-08-16, 68 NRC 393 (2008)
- for a contention of omission, it is sufficient for the petitioner to provide an identification of each failure and the supporting reasons for the petitioner's belief; LBP-08-15, 68 NRC 320 (2008)
- petitioner is not required to provide supporting facts or expert opinion for a contention of omission at the admissibility stage; LBP-08-26, 68 NRC 932 (2008)
- petitioner is obligated to review the application and point to specific portions that are either deficient or do not comply with the Commission's regulations; LBP-08-21, 68 NRC 560, 565, 566, 570, 571, 573, 574, 576, 578, 579, 581, 582, 583, 584-85 (2008)
- petitioner's concerns about possible impacts of applicant's as-yet-to-be-completed strategic plan or a still-to-be-developed state energy plan are inappropriate bases for admitting a contention; LBP-08-16, 68 NRC 410-11 (2008)
- petitioner's contention that applicant's severe accident mitigation alternatives analysis does not accurately reflect the cost of cleanup at the site because it relies on outdated assumptions and it undervalues the land occupied by the Indian Community is admissible; LBP-08-26, 68 NRC 922 (2008)
- petitioner's questioning of the adequacy of applicant's aging management plan for containment coatings has stated a genuine, material dispute with the application that falls within the scope of a license renewal proceeding; LBP-08-26, 68 NRC 934 (2008)
- petitioners' assertion that there needs to be an independent assessment by the NRC Staff of the applicant's power projections and service area electricity consumption growth and peak load demand forecasts fails to allege any current deficiency in the environmental report or the agency's environmental review process; LBP-08-16, 68 NRC 404 (2008)
- petitioners' complaint that the environmental report's discussion of the no-action alternative is deficient is itself wanting, both in its support and as to its showing that there is a genuine dispute on a material issue of law or fact; LBP-08-16, 68 NRC 403 (2008)
- portions of a contention that are based on a mischaracterization of the discussion in an existing environmental report are inadmissible; LBP-08-16, 68 NRC 401 (2008)
- that a newly proffered contention is moot also means that a motion to reopen must be denied on the ground that the contention is inadmissible because, insofar as it fails to raise a live controversy, it fails to raise a genuine dispute on a material issue of law or fact; LBP-08-12, 68 NRC 22 n.15 (2008)
- 10 C.F.R. 2.309(f)(2)
- a newly filed contention must meet the requirements of this section as well as the six basic contention admissibility standards set forth in 10 C.F.R. 2.309(f)(1)(i)-(vi); LBP-08-27, 68 NRC 955 (2008)
- contentions must be based on documents or other information available at the time the petition is to be filed; LBP-08-27, 68 NRC 954 (2008)
- on issues arising under the National Environmental Policy Act, petitioner shall file contentions based on the applicant's environmental report; LBP-08-26, 68 NRC 931 n.180 (2008)



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- petitioner may amend contentions after the initial filing only with leave of the presiding officer upon a proper showing of the elements of this section; LBP-08-18, 68 NRC 542 (2008)
- petitioners may not seek to skirt contention rules by initially filing unsupported contentions, and later recasting or modifying their contentions on appeal with new arguments never raised before the board; CLI-08-17, 68 NRC 234 (2008)
- the standard for filing a new or amended contention outside the National Environmental Policy Act context is described; LBP-08-26, 68 NRC 919 (2008)
- under the National Environmental Policy Act, petitioner can file new contentions if there are data or conclusions in the NRC draft or final environmental impact statement, environmental assessment, or any supplements relating thereto, that differ significantly from the data or conclusions in the applicant's documents; LBP-08-26, 68 NRC 919 (2008)
- 10 C.F.R. 2.309(f)(2)(i)-(iii)  
new or amended contentions can be filed with leave of the board if the information upon which the amended or new contention is based was not previously available, the information is materially different from information previously available, and the contention has been submitted in a timely fashion based on the availability of the subsequent information; LBP-08-27, 68 NRC 954 (2008)
- 10 C.F.R. 2.309(f)(3)  
petitioner who has established standing and proffered a separate admissible contention of its own, is eligible to adopt contentions of other parties; LBP-08-13, 68 NRC 65 n.53, 203, 204, 207 (2008)
- 10 C.F.R. 2.309(g)  
petitioner requesting a Subpart G hearing must demonstrate, by reference to the contention and the bases provided and the specific procedures in Subpart G of Part 2, that resolution of the contention necessitates resolution of material issues of fact which may be best determined through the use of the identified procedures; LBP-08-24, 68 NRC 758 n.383 (2008)
- 10 C.F.R. 2.309(h)  
only three pleadings can be filed as of right regarding standing and admissibility of contentions; CLI-08-19, 68 NRC 261 (2008)
- 10 C.F.R. 2.309(h)(1) & (h)(2)  
the Commission doubles the existing time permitted to file answers and replies in the high-level waste proceeding to 50 and 14 days, respectively; CLI-08-18, 68 NRC 249-50 (2008)
- 10 C.F.R. 2.309(h)(2)  
petitioner may file a reply to any answer to a hearing petition within 7 days after service of that answer; LBP-08-26, 68 NRC 918 (2008)
- 10 C.F.R. 2.310  
reference to the term "hearing" suggests that it means an evidentiary hearing; LBP-08-23, 68 NRC 684 (2008)
- 10 C.F.R. 2.310(a)  
the permissive term "may" is used in describing a board's authority to select the appropriate hearing procedures; LBP-08-24, 68 NRC 759 n.390 (2008)
- 10 C.F.R. 2.310(d)  
a board would only be allowed to choose a Subpart G hearing process if issues of motive or intent of the party or eyewitness material to the resolution of the contested matter are in dispute; LBP-08-24, 68 NRC 759 (2008)
- petitioner requesting a Subpart G hearing must demonstrate, by reference to the contention and the bases provided and the specific procedures in Subpart G of Part 2, that resolution of the contention necessitates resolution of material issues of fact which may be best determined through the use of the identified procedures; LBP-08-24, 68 NRC 758 n.383 (2008)
- 10 C.F.R. 2.311(a)  
the Commission may reject an appeal summarily for noncompliance with the formatting requirements of this section; CLI-08-17, 68 NRC 235 n.18 (2008)
- 10 C.F.R. 2.311(b)  
appeal of a board decision denying a petition to intervene is permitted; CLI-08-17, 68 NRC 234 (2008)
- 10 C.F.R. 2.314  
Notice of Appearance of a tribal official who is an attorney in good standing is sufficient in itself for him to represent the tribe; LBP-08-26, 68 NRC 913 (2008)

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- 10 C.F.R. 2.314(b)  
the distinction between representation by an attorney and representation by a nonattorney is discussed; LBP-08-26, 68 NRC 913 (2008)
- 10 C.F.R. 2.314(c)  
dismissal due to counsel's malfeasance is a logical extension of the board's disciplinary authority to reprimand, censure, or suspend from a proceeding any party or representative who refuses to comply with its directions; CLI-08-29, 68 NRC 900-01 (2008)
- 10 C.F.R. 2.315  
a petitioner, including a potential party given access to the Licensing Support Network, may not be granted status as an interested governmental participant under section 2.315 if the petitioner cannot demonstrate substantial and timely compliance with the requirements in section 2.1003 at the time of the request for participation in the high-level waste proceeding; CLI-08-25, 68 NRC 500 (2008)
- 10 C.F.R. 2.315(a)  
when boards conduct limited appearance sessions, in which members of the general public may make oral statements to the board, such sessions are generally conducted in person near the site; LBP-08-23, 68 NRC 682-83 (2008)
- 10 C.F.R. 2.315(c)  
an interested local governmental body may introduce evidence, interrogate witnesses in circumstances where cross-examination by the parties is allowed, advise the Commission without being required to take a position on any issue, file proposed findings where such are allowed, and seek Commission review on admitted contentions; LBP-08-24, 68 NRC 715 (2008)  
an interested local governmental body that is not a party to the proceeding must be accorded a reasonable opportunity to participate, through a single representative, in the hearing of one or more of the admitted contentions; LBP-08-13, 68 NRC 59 (2008); LBP-08-15, 68 NRC 304 (2008); LBP-08-21, 68 NRC 560 (2008); LBP-08-24, 68 NRC 715 (2008)  
state petitioner who has not submitted an admissible contention of its own is barred from adopting the contentions of any other party, but may participate as an interested state; LBP-08-13, 68 NRC 162 (2008)  
state utility commissions may be allowed to participate as nonparty interested states; LBP-08-15, 68 NRC 304 n.44 (2008)  
the representative of an interested local governmental body must identify those contentions on which it will participate in advance of any hearing held; LBP-08-24, 68 NRC 715 (2008)
- 10 C.F.R. 2.315(d)  
an amicus brief must be filed by the same deadline as the brief of the party whose side the amicus brief supports, unless the Commission provides otherwise; CLI-08-22, 68 NRC 359 (2008)  
permission to file an amicus brief is at the discretion of the Commission; CLI-08-22, 68 NRC 359 (2008)  
this general rule on amicus briefs, as a formal matter, applies only to petitions for review filed under 10 C.F.R. 2.341 or to matters taken up by the Commission *sua sponte*, not to appeals filed under 10 C.F.R. 2.1015; CLI-08-22, 68 NRC 359 (2008)
- 10 C.F.R. 2.316  
licensing boards have authority to further define admitted contentions when redrafting would clarify the scope of the contention; LBP-08-16, 68 NRC 386 (2008)
- 10 C.F.R. 2.319  
dismissal of a party falls within the spectrum of sanctions available to the boards to assist in the management of proceedings, although dismissal should be reserved for severe cases; CLI-08-29, 68 NRC 900 (2008)  
licensing boards have authority to further define admitted contentions when redrafting would clarify the scope of the contention; LBP-08-16, 68 NRC 386 (2008)
- 10 C.F.R. 2.319(g)  
the presiding officer has the power to regulate the course of the hearing and the conduct of participants; CLI-08-29, 68 NRC 900 (2008)
- 10 C.F.R. 2.323  
a party in the high-level waste proceeding who files a motion must certify that he or she has made a reasonable effort to consult with counsel for the other parties in an effort to resolve the matter in advance of filing the motion; CLI-08-25, 68 NRC 504 (2008)

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- all motions, including a motion for leave to file an amicus brief, are required to include a certification that the sponsor of the motion has made a sincere effort to contact the other parties and to resolve the issues raised in the motion; CLI-08-22, 68 NRC 359 (2008)
- petitioners' requests that do not fit cleanly within any of the procedures described within the rules of practice are treated as general motions brought under the procedural requirements of this section; CLI-08-23, 68 NRC 476 (2008)
- 10 C.F.R. 2.323(a)  
motions must be initially addressed to the presiding officer when a proceeding is pending; CLI-08-23, 68 NRC 476 (2008)
- 10 C.F.R. 2.323(b)  
a motion to strike was rejected on the grounds that counsel failed to comply with the certification requirements regarding consultation with opposing counsel and also failed to state with particularity the grounds for the motion; CLI-08-29, 68 NRC 902 n.12 (2008)  
petitioners must certify that they have attempted to contact the nonmoving participants in order to resolve a dispute prior to filing a motion; CLI-08-23, 68 NRC 475 (2008)
- 10 C.F.R. 2.323(c)  
a moving party has no right to reply except as permitted by the presiding officer; CLI-08-23, 68 NRC 475-76 n.59 (2008)
- 10 C.F.R. 2.323(e)  
a motion for reconsideration may not be filed except with leave of the licensing board, upon a showing of compelling circumstances, such as the existence of a clear and material error in a decision, which could not reasonably have been anticipated, that renders the decision invalid; LBP-08-23, 68 NRC 681 (2008)
- 10 C.F.R. 2.323(f)  
novel issues warrant referral to the Commission for its immediate consideration; LBP-08-16, 68 NRC 415, 420, 429 (2008); LBP-08-17, 68 NRC 436, 445, 458 (2008)
- 10 C.F.R. 2.325  
applicant has the burden of proving that it has met the reasonable assurance standard by a preponderance of the evidence; LBP-08-25, 68 NRC 788 (2008)
- 10 C.F.R. 2.326  
a presiding officer considering environmental contentions in the high-level waste proceeding should apply NRC reopening procedures and standards in this section to the extent possible; CLI-08-25, 68 NRC 503 (2008)  
an exceptionally grave issue may be considered in the discretion of the presiding officer even if untimely presented; LBP-08-12, 68 NRC 33 n.3 (2008)  
because petitioners' motion to reopen fails to satisfy the requirements of paragraphs (a)(2) and (a)(3) of this section, the board need not consider whether it satisfies the requirements of paragraphs (a)(1) and (d) for reopening the record; LBP-08-12, 68 NRC 25 n.20 (2008)  
it is not applicant's or NRC Staff's burden to defeat a motion to reopen, but rather is petitioner's burden, through its motion to reopen and in its accompanying affidavit, to demonstrate that the motion should be granted; CLI-08-28, 68 NRC 674 (2008)  
licensing boards may grant a motion to reopen only if the demanding requirements of this section are satisfied; LBP-08-12, 68 NRC 9 (2008)  
the goal of this section is to maintain "finality" of the hearing process while still enabling participants to bring to light new post-hearing information concerning significant safety situations; LBP-08-12, 68 NRC 42 (2008)  
the standards governing motions to reopen are described; CLI-08-28, 68 NRC 667-68 (2008)
- 10 C.F.R. 2.326(a)  
proponents of motions to reopen the record must satisfy a multifactor test; LBP-08-12, 68 NRC 15 (2008)
- 10 C.F.R. 2.326(a)(1)  
a newly proffered contention submitted after the close of the record must meet timeliness standards as well as the requirements of section 2.309(c); LBP-08-12, 68 NRC 28, 30-31, 40 (2008)
- 10 C.F.R. 2.326(a)(1)-(3)  
motions to reopen a closed record to consider additional evidence will not be granted unless the criteria of this section are satisfied; LBP-08-12, 68 NRC 15 (2008)

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- 10 C.F.R. 2.326(a)(2)  
a motion to reopen must address a significant safety or environmental issue; CLI-08-23, 68 NRC 486 (2008)  
affidavits must provide sufficient information to support a prima facie showing that a deficiency exists in the license renewal application and the deficiency presents a significant safety issue; LBP-08-12, 68 NRC 17 (2008)  
movants who seek to reopen the record must proffer a contention that raises a significant safety issue; LBP-08-12, 68 NRC 16 (2008)
- 10 C.F.R. 2.326(a)(3)  
a decision by NRC Staff to revise the Final Safety Evaluation Report to account for applicant's confirmatory analysis would not, standing alone, be a materially different result that justifies reopening the record, because it would neither change the outcome of the renewal proceeding nor impose a different licensing condition on applicant; LBP-08-12, 68 NRC 28 n.24 (2008)  
motions to reopen the record must demonstrate that a materially different result would have been likely had the newly proffered evidence been considered initially; CLI-08-23, 68 NRC 486 (2008); LBP-08-12, 68 NRC 22 nn.16 & 17 (2008)  
that petitioners have not had the opportunity to examine licensee's underlying safety analysis does not obviate petitioners' burden to demonstrate the likelihood of a materially different result; LBP-08-12, 68 NRC 24 (2008)  
the term "likely" is construed to be synonymous with "probable" or "more likely than not"; LBP-08-12, 68 NRC 22 n.16 (2008)
- 10 C.F.R. 2.326(b)  
a dissenting judicial opinion cannot substitute for the affidavit required by this section; CLI-08-28, 68 NRC 672 n.55 (2008)  
a motion to reopen must be supported by affidavits that set forth the factual and/or technical basis for the movants' claim that a significant and material safety or environmental issue exists; CLI-08-23, 68 NRC 486 (2008); LBP-08-12, 68 NRC 15, 16, 17, 22 n.16, 33 (2008)  
affidavits supporting motions to reopen must be given by competent individuals with knowledge of the facts alleged, or by experts in the disciplines appropriate to the issues raised; LBP-08-12, 68 NRC 17 (2008)  
an expert's failure to testify as to the consequence of an alleged safety issue fails to adequately provide the factual and/or technical bases for a motion to reopen; LBP-08-12, 68 NRC 19 n.12 (2008)  
evidence contained in affidavits must be relevant, material, and reliable; LBP-08-12, 68 NRC 16 (2008)  
failure to provide the evidentiary support regarding an alleged deficiency in a license renewal application is fatal to petitioners' effort to present a significant safety issue; LBP-08-12, 68 NRC 17 n.11 (2008)  
the affidavit supporting a motion to reopen must provide sufficient information to support a prima facie showing that a deficiency exists in the license renewal application and the deficiency presents a significant safety issue; LBP-08-12, 68 NRC 33 (2008)
- 10 C.F.R. 2.326(d)  
where a motion to reopen proposes a contention not previously part of the proceeding, the requirements for late-filed contentions set out in section 2.309(c) must also be satisfied; CLI-08-28, 68 NRC 668 (2008); LBP-08-12, 68 NRC 15 (2008)
- 10 C.F.R. 2.327(a)  
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- 10 C.F.R. 2.328  
except as may be requested under section 181 of the Atomic Energy Act, all hearings will be public unless otherwise ordered by the Commission; LBP-08-23, 68 NRC 684 (2008)
- 10 C.F.R. 2.329  
licensing boards have authority to further define admitted contentions when redrafting would clarify the scope of the contention; LBP-08-16, 68 NRC 386 (2008)
- 10 C.F.R. 2.331  
although licensing boards frequently hold oral arguments on contention admissibility, a board may instead elect to dispense with oral argument entirely; LBP-08-23, 68 NRC 683 (2008)

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- 10 C.F.R. 2.332(d)  
the board is to consider the Staff's projected schedule for completion of its safety and environmental evaluations in developing the hearing schedule; LBP-08-16, 68 NRC 426 (2008)
- 10 C.F.R. 2.335  
a claim that the Commission is required to promulgate a more stringent standard for radionuclides is an inadmissible challenge to the agency's rules; LBP-08-15, 68 NRC 332 (2008); LBP-08-16, 68 NRC 397 (2008)  
a contention that attacks a Commission rule, or that seeks to litigate a matter that is, or clearly is about to become, the subject of a rulemaking, is inadmissible; LBP-08-16, 68 NRC 383 (2008); LBP-08-21, 68 NRC 587 (2008)  
a contention that challenges applicant's reliance on a pending design certification fundamentally on procedural grounds, constitutes an impermissible challenge to NRC regulations that allow the procedure applicant has chosen; LBP-08-17, 68 NRC 443 (2008); LBP-08-21, 68 NRC 569 (2008)  
absent a rule waiver request, contentions that challenge NRC regulations are inadmissible; LBP-08-15, 68 NRC 336 (2008); LBP-08-16, 68 NRC 390, 396, 416, 423 (2008)  
absent a waiver pursuant to this section, Category 1 issues cannot be addressed in a license renewal proceeding; LBP-08-13, 68 NRC 67 (2008)  
contentions that challenge the Waste Confidence Rule are inadmissible; LBP-08-23, 68 NRC 686 (2008)  
if a certified design is referenced in a COL proceeding, in the absence of a petition for a waiver under this section, the Commission will treat the certified design as resolving all matters that could have been raised during the rulemaking process in which the certified design was reviewed and approved; LBP-08-16, 68 NRC 374 (2008)  
request for waiver is required for contentions that challenges the Commission's regulations; LBP-08-21, 68 NRC 562, 569, 571, 587 (2008)
- 10 C.F.R. 2.335(a)  
absent a waiver, no rule or regulation of the Commission is subject to attack in any adjudicatory proceeding; CLI-08-15, 68 NRC 3-4 (2008); LBP-08-13, 68 NRC 64, 99, 185 (2008); LBP-08-14, 68 NRC 287 (2008); LBP-08-15, 68 NRC 312 (2008); LBP-08-16, 68 NRC 384 (2008); LBP-08-17, 68 NRC 440, 452 (2008); LBP-08-21, 68 NRC 587 (2008); LBP-08-26, 68 NRC 915, 916 (2008)
- 10 C.F.R. 2.335(b)  
a Commission rule or regulation may be waived or an exception made for a particular proceeding; LBP-08-21, 68 NRC 587 (2008)  
any request for waiver of or exception to a rule must be accompanied by an affidavit that identifies with particularity the special circumstances alleged to justify the waiver or exception requested; LBP-08-17, 68 NRC 441 n.34 (2008)  
contentions that advocate more stringent requirements than the NRC rules impose or that otherwise seek to litigate a generic determination that the Commission has established by rulemaking, or that raise a matter that is or is about to become the subject of rulemaking are barred; LBP-08-17, 68 NRC 441 n.34 (2008)  
if petitioner wishes to challenge a generic determination in an adjudicatory proceeding, it must seek and receive a waiver of the rule; LBP-08-26, 68 NRC 929 (2008)  
the sole ground for petition of waiver or exception is that special circumstances with respect to the subject matter of the particular proceeding are such that the application of the rule or regulation would not serve the purposes for which the rule or regulation was adopted; LBP-08-17, 68 NRC 441 n.34 (2008); LBP-08-26, 68 NRC 929 n.168 (2008)
- 10 C.F.R. 2.335(d)  
immediate certification to the Commission is provided only when the board finds a prima facie case in favor of a waiver; CLI-08-27, 68 NRC 656 (2008)
- 10 C.F.R. 2.336  
discovery is not available until after a request for hearing or petition to intervene has been granted; CLI-08-28, 68 NRC 676 n.73 (2008)
- 10 C.F.R. 2.336(a)(3), (b)(5)  
claims of privilege and identification of privileged materials must occur within the time provided for disclosing withheld materials; LBP-08-16, 68 NRC 426 n.23 (2008)

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- 10 C.F.R. 2.336(e)  
if NRC Staff docket DOE's license application and a hearing ensues, the presiding officer may impose appropriate sanctions for any failure to fully comply with Licensing Support Network requirements; CLI-08-22, 68 NRC 358 (2008)
- 10 C.F.R. 2.337(a)  
relevant, material, and reliable evidence of a significant safety issue in the form of expert affidavit, Staff reports, and statements by the Commission and the NRC must be provided to support a motion to reopen; LBP-08-12, 68 NRC 16, 35 (2008)
- 10 C.F.R. 2.337(f)  
the board takes official notice of parts of the license renewal application that were not introduced into evidence because they provide factual information; LBP-08-25, 68 NRC 865, 896 n.122 (2008)
- 10 C.F.R. 2.341(b)(4)  
the criteria to be considered by the Commission for discretionary grant of a petition for review are described; CLI-08-28, 68 NRC 667 (2008)
- 10 C.F.R. 2.341(c)(2)  
the Commission may reject an appeal summarily for noncompliance with the formatting requirements of this section; CLI-08-17, 68 NRC 235 n.18 (2008)
- 10 C.F.R. 2.341(f)  
novel issues warrant referral to the Commission for its immediate consideration; LBP-08-16, 68 NRC 415, 420, 429 (2008)
- 10 C.F.R. 2.390  
if litigation over a contention brings into play financial or other information that has been designated as nonpublic, petitioners must request that the board issue a protective order that permits access; LBP-08-16, 68 NRC 422 (2008)  
if petitioners believe that information that would provide the basis for their contentions is being withheld from public disclosure improperly, they may contest applicant's assertion about its proprietary nature; LBP-08-16, 68 NRC 411 (2008)
- 10 C.F.R. 2.710(c)  
the contention admissibility threshold is less than is required at the summary disposition stage; LBP-08-13, 68 NRC 63 (2008)
- 10 C.F.R. 2.715(c)  
state utility commissions may be allowed to participate as nonparty interested states; LBP-08-15, 68 NRC 304 n.44 (2008)
- 10 C.F.R. 2.802  
any person may file a petition for rulemaking to address any perceived post-licensing problems that may present themselves; LBP-08-22, 68 NRC 652 n.295 (2008)  
challenges to the adequacy of Table S-3, which was initially prepared more than 25 years ago, may be made through a petition for rulemaking; LBP-08-17, 68 NRC 444-45 (2008)  
if petitioner believes that current NRC regulations are inadequate, the venue for raising such a concern is a petition to institute a rulemaking action; LBP-08-13, 68 NRC 126 (2008)  
petition for rulemaking is denied because it did not provide any new information that was not previously considered by the NRC; DD-08-2, 68 NRC 341 (2008)
- 10 C.F.R. 2.802(d)  
a participant in an ongoing adjudicatory proceeding that has filed a rulemaking petition should be provided an opportunity to seek a stay of the adjudication pending a resolution of the rulemaking petition; LBP-08-16, 68 NRC 424 n.21 (2008)  
the purpose of obtaining "interested state" status was so that a state could request a suspension of the license renewal proceeding; LBP-08-25, 68 NRC 783 n.13 (2008)
- 10 C.F.R. 2.804, 2.805  
concerns relating specifically to the AP1000 reactor design amendment may be raised by filing comments on the proposed rule when it is issued; LBP-08-17, 68 NRC 443 (2008)
- 10 C.F.R. 2.900 *et seq.*  
nothing in NRC's procedural hearing rules requires greater disclosure of the agency's environmental analysis; CLI-08-26, 68 NRC 523 (2008)

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- 10 C.F.R. 2.905  
access to classified information for introduction into a proceeding or for the preparation of a party's case is controlled by this section; CLI-08-21, 68 NRC 353 n.9 (2008)
- 10 C.F.R. 2.905(h)(2)  
Commission authority to direct the Department of Energy to disclose classified information to cleared representatives of Nevada over DOE's objection as the originating agency is disputed; CLI-08-21, 68 NRC 352 (2008)
- 10 C.F.R. 2.907(a)  
NRC Staff must include a notice of intent to introduce classified information in the notice of hearing, if it would be impracticable to avoid such introduction; CLI-08-21, 68 NRC 353 n.9 (2008)
- 10 C.F.R. 2.907(b)  
a party filing a response to a notice of hearing must state in its answer its intent to introduce classified information into the proceeding, if it appears to the party that it will be impracticable to avoid such introduction; CLI-08-21, 68 NRC 353 n.9 (2008)
- 10 C.F.R. Part 2, Subpart J  
electronic production, filing, and service of all documents are required in the high-level waste proceeding; CLI-08-25, 68 NRC 499 (2008)  
in ruling on a petition to intervene in high-level waste proceeding, the presiding officer shall consider any failure of the petitioner to participate as a potential party in the pre-license application phase; CLI-08-25, 68 NRC 499 (2008)
- 10 C.F.R. 2.1003  
a person denied party or interested governmental participant status may request such status upon a showing of subsequent compliance with the requirements of this section; CLI-08-25, 68 NRC 500 n.1 (2008)  
a petitioner, including a potential party given access to the Licensing Support Network, may not be granted party status under section 2.309, or status as an interested governmental participant under section 2.315, if the petitioner cannot demonstrate substantial and timely compliance with the requirements in this section at the time of the request for participation in the high-level waste proceeding; CLI-08-25, 68 NRC 500 (2008)  
potential parties other than NRC Staff, interested governmental participants, and parties must make available all documentary material no later than 9 days after the DOE certification of compliance; CLI-08-22, 68 NRC 357 (2008)
- 10 C.F.R. 2.1003(a)  
NRC Staff has 30 days to provide its documentary material; CLI-08-22, 68 NRC 357 (2008)
- 10 C.F.R. 2.1009(a)(2) & (b)  
potential parties, interested governmental participants, and parties must certify that they have established procedures for implementing the requirements of section 2.1003, that they have trained their personnel to comply with these procedures, and that the documentary material specified in section 2.1003 has been made available; CLI-08-22, 68 NRC 357 (2008)
- 10 C.F.R. 2.1012(b)(1)  
a person denied party or interested governmental participant status may request such status upon a showing of subsequent compliance with the requirements of section 2.1003; CLI-08-25, 68 NRC 500 n.1 (2008)  
a petitioner, including a potential party given access to the Licensing Support Network, may not be granted party status under section 2.309, or status as an interested governmental participant under section 2.315, if the petitioner cannot demonstrate substantial and timely compliance with the requirements in section 2.1003 at the time of the request for participation in the high-level waste proceeding; CLI-08-25, 68 NRC 499 (2008)
- 10 C.F.R. 2.1013(c)  
service is completed when the filer/sender receives electronic acknowledgment (delivery receipt) that the electronic submission has been placed in the recipient's electronic mailbox; CLI-08-25, 68 NRC 501 (2008)
- 10 C.F.R. 2.1013(c)(1)  
a petition for leave to intervene, and all filings in the high-level waste proceeding, must be filed electronically; CLI-08-25, 68 NRC 500 (2008)

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- 10 C.F.R. 2.1021(a) & (d)  
the Commission extends the period for the First Prehearing Conference from 8 to 16 days after the deadline for filing replies, and to extend the period for issuance of the First Prehearing Conference Order from 30 to 60 days after the First Prehearing Conference; CLI-08-18, 68 NRC 250 (2008)
- 10 C.F.R. 2.1023(c)(2)  
the presiding officer has no authority or duty to resolve uncontested issues in the high-level waste proceeding; CLI-08-25, 68 NRC 503 (2008)
- 10 C.F.R. 2.1026(b) & (c)  
the presiding officer may grant extensions of time for individual milestones for the participants' filings, and may delay its own issuances for up to 30 days beyond the date of the milestone set in the hearing schedule; CLI-08-18, 68 NRC 248 n.11 (2008)
- 10 C.F.R. 2.1027  
in any initial decision on the application for construction authorization for the high-level waste repository, the presiding officer shall make findings of fact and conclusions of law on, and otherwise give consideration to, only material issues put into controversy by the parties and determined to be litigable in the proceeding; CLI-08-25, 68 NRC 503 (2008)  
the presiding officer has no authority or duty to resolve uncontested issues in the high-level waste proceeding; CLI-08-25, 68 NRC 503 (2008)
- 10 C.F.R. 2.1115(b)  
the presiding officer is required to issue a written order based on due consideration of the parties' oral arguments and written filings; CLI-08-26, 68 NRC 513 (2008)
- 10 C.F.R. 2.1204(b)  
a board has discretion to allow parties to cross-examine witnesses in Subpart L proceedings if the board deems this practice necessary to establish an adequate record; LBP-08-24, 68 NRC 760 (2008)  
parties may file motions with the board to request cross-examination if they choose; LBP-08-24, 68 NRC 760 n.395 (2008)
- 10 C.F.R. 2.1327  
license transfer applicants who have received Staff approval but are still awaiting the results of a Commission adjudication are free to act in reliance on the Staff's order; CLI-08-19, 68 NRC 257 n.8 (2008)
- 10 C.F.R. Part 2, Appendix D  
hearing schedule milestones have been modified for the high-level-waste proceeding; CLI-08-25, 68 NRC 499 (2008)  
modifications to the schedule for a hearing on the construction authorization application for a geologic repository at Yucca Mountain, currently codified in this Appendix, are proposed; CLI-08-18, 68 NRC 247 (2008)
- 10 C.F.R. 20.1201(a)(1)(i)  
the total effective dose equivalent for adult occupational exposures is set at 5 rem; CLI-08-26, 68 NRC 517 n.45, 526 (2008)
- 10 C.F.R. 20.1302  
a substantial regulatory framework governs release limits on radioactive gases and requires calculations or measurements of radioactive releases; CLI-08-17, 68 NRC 243 n.70 (2008)  
licensee's efforts to maintain compliance with dose limits for individual members of the public in light of radiological effluent release from a cracked spent fuel pool are described; DD-08-2, 68 NRC 346 (2008)
- 10 C.F.R. 20.1501  
licensee's actions to survey an abnormal radiological effluent release affecting groundwater conform to regulatory requirements; DD-08-2, 68 NRC 345-36 (2008)
- 10 C.F.R. 40.4  
"corporation" is defined as "The United States Enrichment Corporation or its successor"; LBP-08-24, 68 NRC 751 n.340 (2008)
- 10 C.F.R. 40.9  
applicants must provide complete and accurate information, in recognition of the NRC's need to receive complete, accurate, and timely communications from its applicants, which, in turn, enables the NRC to fulfill its responsibilities to ensure that utilization of radioactive material is consistent with the health and safety of the public and the common defense and security; LBP-08-24, 68 NRC 745 (2008)



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- violation of this section is subject to civil penalties and sanctions through an enforcement proceeding, but that does not mean that it is necessarily beyond consideration in a license proceeding; LBP-08-24, 68 NRC 745 (2008)
- 10 C.F.R. 40.9(a)  
reliability of scientific evidence is verified by assessing whether the reasoning or methodology underlying the evidence is scientifically valid; LBP-08-24, 68 NRC 739 n.267 (2008)
- 10 C.F.R. 40.32(d)  
NRC Staff is required to consider whether renewing a license would be inimical to the common defense and security or the public health and safety; LBP-08-24, 68 NRC 747 (2008)  
prior to granting a license renewal, NRC must ensure that the issuance of the license will not be inimical to the common defense and security or to the health and safety of the public; LBP-08-24, 68 NRC 747 (2008)
- 10 C.F.R. 40.38  
the reach of this section is limited to uranium enrichment facilities, not ISL mining; LBP-08-24, 68 NRC 751 n.340 (2008)
- 10 C.F.R. Part 40, Appendix A, Criterion 9  
applicant is required to establish a surety arrangement that ensures sufficient funds will be available for decommissioning and decontamination of an NRC-licensed source materials site; LBP-08-24, 68 NRC 755 (2008)
- 10 C.F.R. 50.9  
failure to document a falsified work order is a violation; LBP-08-14, 68 NRC 283-84 (2008)  
Staff should not abandon all reliance on a license renewal applicant's regulatory obligation to submit complete and accurate information; CLI-08-23, 68 NRC 479 (2008)
- 10 C.F.R. 50.9(a)  
information provided to the Commission by an applicant for a license or required to be maintained by the applicant or the licensee shall be complete and accurate in all material respects; LBP-08-14, 68 NRC 284 n.8 (2008)
- 10 C.F.R. 50.10(e)  
if applicant includes a satisfactory site redress plan, an early site permit holder may conduct certain site preparation activities under a limited work authorization; LBP-08-15, 68 NRC 307 n.58 (2008)
- 10 C.F.R. 50.33(d)(3)  
a corporate applicant must include the state where it is incorporated or organized, the citizenship of its directors and its principal officers, and whether it is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government; LBP-08-24, 68 NRC 747 n.316 (2008)
- 10 C.F.R. 50.33(f)  
electric utilities are presumed to be financially qualified to operate nuclear power plants and thus the Commission has exempted them from NRC review of their financial qualifications to cover operational costs; LBP-08-17, 68 NRC 448 (2008)
- 10 C.F.R. 50.47  
contention alleging the applicant's environmental report violates the National Environmental Policy Act and NRC regulations by failing to address the environmental impacts of emergency preparedness and evacuation planning is rejected as outside the scope of the proceeding; LBP-08-13, 68 NRC 147-48 (2008)
- 10 C.F.R. 50.47(a)(1)(i)  
no new finding on emergency preparedness will be made as part of a license renewal decision; LBP-08-13, 68 NRC 149, 165 (2008)
- 10 C.F.R. 50.47(a)(1)(ii)  
consideration of emergency plans in license renewal proceedings is precluded because they are already covered by ongoing regulatory review; LBP-08-13, 68 NRC 164 (2008)
- 10 C.F.R. 50.47(b)(10)  
evacuation planning is required only in regard to the 10-mile plume-exposure pathway EPZ; LBP-08-21, 68 NRC 584 (2008)

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- 10 C.F.R. 50.48  
transformers necessary for compliance with this section nominally perform their safety-related function without moving parts and without a change in configuration or properties and thus are subject to aging management review; LBP-08-13, 68 NRC 87 (2008)
- 10 C.F.R. 50.55a  
use of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code in assessing metal fatigue is endorsed; LBP-08-25, 68 NRC 801 (2008)
- 10 C.F.R. 50.55a(c)  
components that are part of the reactor coolant pressure boundary must meet the requirements for Class 1 components in Section III of the ASME Boiler and Pressure Vessel Code; LBP-08-25, 68 NRC 801 (2008)
- 10 C.F.R. 50.55a(c)(1)  
components such as the recirculation outlet nozzle, which is part of the reactor coolant pressure boundary, must meet the requirements for Class 1 components in Section III of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code; CLI-08-28, 68 NRC 663 (2008)
- 10 C.F.R. 50.55a(g)(4)-(5)  
because licensee's construction permit was issued prior to January 1, 1971, licensee is required to implement an in-service inspection program that complies with this section; LBP-08-22, 68 NRC 635 (2008)
- 10 C.F.R. 50.58(b)(6)  
a petition or other request for review of or hearing on Staff's significant hazards consideration determination will not be entertained by the Commission; LBP-08-18, 68 NRC 537, 539, 541 (2008); LBP-08-19, 68 NRC 546, 547 (2008); LBP-08-20, 68 NRC 550 (2008)  
for significant hazards consideration determinations, the Staff's determination is final, subject only to the Commission's discretion, on its own initiative, to review the determination; LBP-08-18, 68 NRC 539 (2008); LBP-08-20, 68 NRC 551 n.4 (2008)
- 10 C.F.R. 50.63  
transformers necessary for compliance with this section nominally perform their safety-related function without moving parts and without a change in configuration or properties and thus are subject to aging management review; LBP-08-13, 68 NRC 87 (2008)
- 10 C.F.R. 50.71(e)  
the UFSAR supplement must be included in the next UFSAR update; LBP-08-25, 68 NRC 866, 868 (2008)
- 10 C.F.R. 50.71(e)(4)  
the Updated Final Safety Analysis Report is part of the current licensing basis and must be updated annually; LBP-08-13, 68 NRC 73 (2008)
- 10 C.F.R. 50.75  
condition reports, survey records, radiological liquid effluent and environmental monitoring reports, records of historical spills and leaks must be maintained by licensees; DD-08-2, 68 NRC 346 (2008)
- 10 C.F.R. 50.90, 50.92  
a request for a power uprate requires an amendment to the facility's operating license, and therefore must meet the NRC's regulatory requirements for issuance of a license amendment; CLI-08-17, 68 NRC 233 (2008)
- 10 C.F.R. 50.92(c)  
contentions challenging the standard for significant hazards consideration determinations are inadmissible; LBP-08-20, 68 NRC 550 (2008)
- 10 C.F.R. 50.109  
Staff is expected over the period of license renewal to require, as appropriate, any modification to systems, structures, or components that is necessary to assure adequate protection of the public health and safety, or to bring the facility into compliance with a license, or the rules and orders of the Commission; CLI-08-23, 68 NRC 485 (2008)
- 10 C.F.R. Part 50, Appendix A, GDC 1  
requirement to perform metal fatigue CUFs for reactor components is established; LBP-08-25, 68 NRC 801 (2008)

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- 10 C.F.R. Part 50, Appendix A, GDC 30  
components that are part of the reactor coolant pressure boundary shall be designed, fabricated, erected, and tested to the highest quality standards practical; LBP-08-25, 68 NRC 801 (2008)  
the core spray and reactor recirculation outlet nozzles are part of the reactor coolant pressure boundary and are subject to the highest quality standards practical; LBP-08-25, 68 NRC 824 (2008)
- 10 C.F.R. Part 50, Appendix B  
quality assurance requirements apply to license renewal aging management plans; LBP-08-22, 68 NRC 624 (2008)
- 10 C.F.R. Part 50, Appendix B, § XI  
quality assurance programs must include written test procedures that incorporate the requirements and acceptance limits contained in applicable design documents, and, as appropriate, proof tests prior to installation, preoperational tests, and operational tests during nuclear power plant operation, of structures, systems, and components; LBP-08-22, 68 NRC 635 (2008)
- 10 C.F.R. Part 51  
contention alleging the applicant's environmental report violates the National Environmental Policy Act and NRC regulations by failing to address the environmental impacts of emergency preparedness and evacuation planning is rejected as outside the scope of the proceeding; LBP-08-13, 68 NRC 147, 149 (2008)  
environmental issues for license renewal are divided into generic and site-specific components; LBP-08-13, 68 NRC 67 (2008)  
petitioner presents sufficient information and expert opinion to question whether applicant's conclusions in its environmental report regarding the significance of the groundwater contamination are complete and legally sufficient; LBP-08-13, 68 NRC 189 (2008)
- 10 C.F.R. 51.14(a)  
"finding of no significant impact" is defined; CLI-08-26, 68 NRC 514 (2008)  
the purpose and scope of an environmental assessment are described; CLI-08-26, 68 NRC 514 (2008)
- 10 C.F.R. 51.20(b)(2)  
an environmental impact statement must be prepared for a combined operating license; LBP-08-15, 68 NRC 309 n.67 (2008)
- 10 C.F.R. 51.22(c)(14)(vii)  
irradiators are categorically excluded from the requirement to prepare an environmental analysis; CLI-08-16, 68 NRC 222 (2008)
- 10 C.F.R. 51.23  
contentions challenging NRC's Waste Confidence Rule are inadmissible; LBP-08-21, 68 NRC 586 (2008)
- 10 C.F.R. 51.23(a)  
the Commission has made a determination, on a generic basis, that spent fuel generated by any reactor can be safely managed and that sufficient repository capacity will be available; LBP-08-17, 68 NRC 456 (2008)  
the Waste Confidence rule applies to new reactors; LBP-08-21, 68 NRC 586-87 (2008)
- 10 C.F.R. 51.45(b)(1), (4)  
climate change would clearly fall within any reasonable consideration of the concepts expressed in this subsection; LBP-08-24, 68 NRC 732 n.220 (2008)
- 10 C.F.R. 51.45(c)  
an environmental report prepared for a license renewal need not discuss the economic or technical benefits and costs of the proposed action or alternatives except as they are either essential for determining whether an alternative should be included or relevant to mitigation; LBP-08-13, 68 NRC 212 (2008)  
an environmental report submitted for agency review must contain analysis of economic, technical, and other benefits; LBP-08-16, 68 NRC 412 (2008)  
applicant's environmental report must include an analysis that considers and balances the environmental effects of the proposed action; LBP-08-21, 68 NRC 576 (2008)  
the Commission did not intend, and NRC regulations do not require, that costs be considered in applicant's environmental report; LBP-08-21, 68 NRC 576 (2008)

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- the environmental report should contain sufficient information to aid the Commission in development of an independent analysis of whether any historic or archaeological properties will be affected by the proposed project; LBP-08-26, 68 NRC 922 (2008)
- under the National Environmental Policy Act, the Commission is ultimately responsible for evaluating impacts on minority groups, but applicant is required to assist the Commission with that evaluation; LBP-08-26, 68 NRC 931 (2008)
- where quantification is not possible, the Commission expects license applicants and NRC Staff to assess pertinent factors in qualitative terms; CLI-08-26, 68 NRC 521 (2008)
- 10 C.F.R. 51.50(b)(2)
- the environmental report submitted with the early site permit application must address all environmental effects of construction and operation necessary to determine whether there is any obviously superior alternative to the site proposed; LBP-08-15, 68 NRC 324 (2008)
- 10 C.F.R. 51.50(c)
- an environmental report for a combined operating license application must include information required by section 51.45(c); LBP-08-16, 68 NRC 412 (2008)
- 10 C.F.R. 51.50(c)(1)
- an issue can be “resolved” within the meaning of this section even though there might have been no litigation concerning that issue; LBP-08-15, 68 NRC 309 (2008)
- the environmental report at the combined license stage need not contain information or analyses submitted to the Commission in applicant’s environmental report or resolved in the Commission’s early site permit environmental impact statement; LBP-08-15, 68 NRC 308, 309 (2008) LBP-08-15, 68 NRC 309 (2008)
- 10 C.F.R. 51.50(c)(1)(i)-(iii)
- required content of the environmental report for the combined operating license stage is described; LBP-08-15, 68 NRC 308 (2008)
- 10 C.F.R. 51.51
- contention challenging the applicant’s use of Table S-3 of 10 C.F.R. Part 51 in its environmental report is inadmissible; LBP-08-16, 68 NRC 423 (2008)
- 10 C.F.R. 51.51(a)
- the environmental report prepared for a combined license application must address the environmental costs of management of low-level wastes and high-level wastes related to uranium fuel cycle activities; LBP-08-15, 68 NRC 316 (2008)
- 10 C.F.R. 51.51(b)
- health effects from radioactive effluents may be the subject of litigation in individual combined license proceedings; LBP-08-15, 68 NRC 316 (2008)
- 10 C.F.R. 51.51, Table S-3
- unless there is a viable alternative that has an extremely low carbon footprint, the footprint of the nuclear fuel cycle is immaterial to the decision NRC must make, and therefore such a contention fails to create a genuine issue of material fact; LBP-08-21, 68 NRC 579 (2008)
- 10 C.F.R. 51.53(c)
- an environmental report prepared for a license renewal need not discuss the economic or technical benefits and costs of the proposed action or alternatives except as they are either essential for determining whether an alternative should be included or relevant to mitigation; LBP-08-13, 68 NRC 213 (2008)
- 10 C.F.R. 51.53(c)(1)
- contention asserting that applicant failed to provide a separate environmental report for each license for which an extension is sought is dismissed; LBP-08-13, 68 NRC 77 (2008)
- 10 C.F.R. 51.53(c)(3)(ii)(A)-(L)
- the scope of a license renewal proceeding is limited to the detrimental effects of aging on plant structures, systems, and components and to the environmental issues listed in this section and designated as Category 2 in the generic environmental impact statement; LBP-08-13, 68 NRC 165 (2008)
- 10 C.F.R. 51.53(c)(3)(ii)(B)
- applicant must provide in its environmental report a site-specific analysis of entrainment, impingement, and heat shock/thermal discharge impacts from its once-through cooling systems; LBP-08-13, 68 NRC 155, 182 (2008)

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- applicants whose plants use a once-through cooling system must provide in their environmental report a current copy of a Clean Water Act § 316(b) determination, showing that their intake structure incorporates the best technology available to minimize adverse environmental impacts or a waiver or the equivalent state permit and supporting documents; LBP-08-13, 68 NRC 151, 182 (2008)
- as long as the applicant can provide a copy of its current Clean Water Act 316(b) determinations, applicant does not need to assess the impact of the proposed action on fish and shellfish resources resulting from heat shock and impingement and entrainment; LBP-08-26, 68 NRC 926 n.140, 927 n.152 (2008)
- meeting the submittal requirements of this section does not excuse applicant from providing in its environmental report the descriptions and discussions required by section 51.53(c)(2) relating to environmental impacts from the proposed action; LBP-08-13, 68 NRC 157 n.708 (2008)
- petitioner's challenge to the validity of applicant's SPDES permit is inadmissible because it is considered an attack on this regulation; LBP-08-13, 68 NRC 158 (2008)
- 10 C.F.R. 51.53(c)(3)(ii)(I)  
a license renewal application must be accompanied by an environmental report that includes an assessment of the impact of the proposed action on land use within the vicinity of the plant; LBP-08-13, 68 NRC 115 (2008)
- 10 C.F.R. 51.53(c)(3)(ii)(K)  
applicant must assess whether any historic or archaeological properties will be affected by the proposed project; LBP-08-26, 68 NRC 920 (2008)
- expansion of an independent spent fuel storage installation is a project separate from license renewal and thus applicant has no obligation to discuss its potential impacts in its environmental report; LBP-08-26, 68 NRC 922 (2008)
- 10 C.F.R. 51.53(c)(3)(ii)(L)  
a contention related to emergency planning that touches on the adequacy of a severe accident mitigation alternatives analysis in the context of environmental review during license renewal proceedings is admissible; LBP-08-13, 68 NRC 165 (2008)
- 10 C.F.R. 51.53(c)(3)(iv)  
petitioner asserts that the potential for a terrorist attack is new and significant information that should be included in the environmental report; LBP-08-13, 68 NRC 214 (2008)
- 10 C.F.R. 51.71 n.3  
compliance with the Clean Water Act limits imposed by a designated permitting state is not a substitute for, and does not negate the requirements for, NRC's obligation to weigh all environmental effects of a proposed action; LBP-08-13, 68 NRC 157 n.708 (2008)
- 10 C.F.R. 51.71(a)  
review of environmental issues in a license renewal proceeding is limited to site-specific environmental impacts; LBP-08-13, 68 NRC 66 (2008)
- 10 C.F.R. 51.71(d)  
where quantification is not possible, the Commission expects license applicants and NRC Staff to assess pertinent factors in qualitative terms; CLI-08-26, 68 NRC 521 (2008)
- 10 C.F.R. 51.75(b)  
the draft environmental impact statement prepared at the early site permit stage must include an evaluation of the environmental effects of construction and operation of a reactor that has design characteristics that fall within the site characteristics and design parameters for the early site permit application to the extent addressed in the ESP environmental report; LBP-08-15, 68 NRC 324 (2008)
- 10 C.F.R. 51.91(a)(1)  
when NRC Staff received comments criticizing the failure of the draft environmental impact statement to take into account the impact of the partial closure of the Barnwell facility, Staff was required to respond to those comments in the FEIS; LBP-08-15, 68 NRC 324 (2008)
- 10 C.F.R. 51.95(c)  
review of environmental issues in a license renewal proceeding is limited to site-specific environmental impacts; LBP-08-13, 68 NRC 66 (2008)
- 10 C.F.R. 51.105(a)(1)-(3)  
the mandatory hearing board is required to answer six questions for the uncontested early site permit proceedings; LBP-08-15, 68 NRC 301 (2008)

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- 10 C.F.R. 51.107(a)(1)-(3)  
determinations that the licensing board must make in a combined operating license proceeding are described; LBP-08-15, 68 NRC 333 (2008)  
power generation benefits that applicant asserts a new unit will provide are relevant to the findings required by this section; LBP-08-15, 68 NRC 333 (2008)
- 10 C.F.R. 51.109  
in addition to meeting NRC's regular contention admissibility requirements in section 2.309(f), environmental contentions addressing any DOE environmental impact statement or supplement must also conform to the requirements and address the applicable factors outlined in this section; CLI-08-25, 68 NRC 502 (2008)
- 10 C.F.R. 51.109(a)(2)  
a presiding officer considering environmental contentions in the high-level waste proceeding should apply NRC reopening procedures and standards in section 2.326 to the extent possible; CLI-08-25, 68 NRC 503 (2008)  
the 30-day hearing petition and contention-filing deadlines set forth in this section have been modified for the high-level waste proceeding; CLI-08-25, 68 NRC 499 (2008)
- 10 C.F.R. 51.109(c)  
the presiding officer should treat as a cognizable "new consideration" an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate; CLI-08-25, 68 NRC 502-03 (2008)  
the presiding officer in the high-level waste proceeding shall make the environmental findings required by this section, even on uncontested issues, to the extent it is not practicable to adopt the environmental impact statement prepared by the Secretary of Energy; CLI-08-25, 68 NRC 503 (2008)
- 10 C.F.R. Part 51, Appendix B, Subpart A, Table B-1  
offsite radiological impacts are a Category 1 issue, which the Commission has determined to be "small" for all nuclear power plants seeking a renewed license; LBP-08-26, 68 NRC 929 (2008)  
the impact on offsite land use during the license renewal term cannot be assessed generically and, accordingly, it is a Category 2 environmental issue that is within the scope of a license renewal proceeding; LBP-08-13, 68 NRC 115 (2008)
- 10 C.F.R. Part 51, Subpart A, Appendix B, Table B-1 n.3  
license renewal impacts that do not exceed permissible regulatory levels are to be considered "small"; LBP-08-16, 68 NRC 425 (2008)
- 10 C.F.R. 52.1  
an early site permit is categorized as a partial construction permit; LBP-08-15, 68 NRC 307 (2008)
- 10 C.F.R. 52.1(a), 52.3(b)  
an early site permit focuses on the suitability of a proposed site, and is defined as a Commission approval for a site or sites for one or more nuclear power facilities; LBP-08-15, 68 NRC 299-300 (2008)
- 10 C.F.R. 52.12  
an early site permit authorizes approval of a site for one or more nuclear power facilities; LBP-08-15, 68 NRC 323 (2008)
- 10 C.F.R. 52.15(a)  
an early site permit may be sought even though an application for a construction permit or combined license has not been filed; LBP-08-15, 68 NRC 307 (2008)
- 10 C.F.R. 52.16  
a corporate applicant must include the state where it is incorporated or organized, the citizenship of its directors and its principal officers, and whether it is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government; LBP-08-24, 68 NRC 747 n.316 (2008)
- 10 C.F.R. 52.17(a)(1)(i)  
applicant need not have selected a particular reactor design at the ESP stage or applied for a construction permit or COL, but it must include in the application the specific number, type, and thermal power level of the facilities, or range of possible facilities, for which the site may be used; LBP-08-15, 68 NRC 322 (2008)

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- 10 C.F.R. 52.18  
an environmental impact statement must be prepared for an early site permit; LBP-08-15, 68 NRC 309 (2008)
- 10 C.F.R. 52.21  
an early site permit is a partial construction permit whose issuance does not authorize an applicant to construct nuclear power reactors; LBP-08-15, 68 NRC 299 (2008)  
an uncontested proceeding is subject to the mandatory hearing requirements; LBP-08-15, 68 NRC 301 (2008)
- 10 C.F.R. 52.25  
if applicant includes a satisfactory site redress plan, an early site permit holder may conduct certain site preparation activities under a limited work authorization; LBP-08-15, 68 NRC 307 n.58 (2008)
- 10 C.F.R. 52.38(c)(1)(iv)  
a safety contention arising from a matter resolved in an early site permit proceeding is within the scope of a combined license proceeding that references the ESP if it concerns whether emergency planning matters resolved in the ESP should be revisited; LBP-08-15, 68 NRC 308 (2008)
- 10 C.F.R. 52.39  
litigation of matters resolved in an early site permit proceeding is barred in the combined license proceeding; LBP-08-15, 68 NRC 326 (2008)
- 10 C.F.R. 52.39(a)(2)  
an issue can be “resolved” within the meaning of this section even though there might have been no litigation concerning that issue, if the NRC Staff adequately addressed the matter in an environmental impact statement; LBP-08-15, 68 NRC 305, 310 (2008)  
matters resolved in an early site permit proceeding are considered resolved in a subsequent combined license proceeding when the COL application references the ESP; LBP-08-15, 68 NRC 305 n.45 (2008); LBP-08-23, 68 NRC 686 (2008)
- 10 C.F.R. 52.39(c)(1)  
matters resolved in an early site permit proceeding are considered resolved in a subsequent combined operating license proceeding when the combined license application references the ESP, but are subject to certain exceptions; LBP-08-15, 68 NRC 305 n.45 (2008)
- 10 C.F.R. 52.39(c)(1)(i)-(ii)  
a safety contention arising from a matter resolved in an early site permit proceeding is within the scope of a combined license proceeding that references the ESP if it concerns whether a term or condition in the ESP has been met; LBP-08-15, 68 NRC 308 (2008)
- 10 C.F.R. 52.39(c)(1)(iii)  
a safety contention arising from a matter resolved in an early site permit proceeding is within the scope of a combined license proceeding that references the ESP if it concerns whether a variance from the ESP requested by the COL applicant is unwarranted or should be modified; LBP-08-15, 68 NRC 308 (2008)
- 10 C.F.R. 52.39(c)(1)(v)  
an environmental contention may be admitted during the combined operating license proceeding if it concerns a significant environmental issue that was not resolved in the early site permit proceeding, or if it involves the impacts of construction and operation of the facility and significant new information has been identified; LBP-08-15, 68 NRC 309 (2008)
- 10 C.F.R. 52.55(c)  
in its combined license application, applicant may reference a reactor design for which a design certification application has been docketed but not yet granted, but does so at its own risk; CLI-08-15, 68 NRC 3 (2008); LBP-08-17, 68 NRC 443 (2008)
- 10 C.F.R. 52.63(a)(1)  
design of the auxiliary building, the spent fuel pools, spent fuel storage racks, spent fuel pool makeup water systems, spent fuel pool cooling water systems, and design basis accidents are all addressed in the AP1000 DC Rule and w are therefore not subject to challenge in the COLA proceeding; LBP-08-21, 68 NRC 571 (2008)
- 10 C.F.R. 52.63(a)(5)  
in the absence of a waiver petition, any challenge brought to aspects of a referenced certified reactor design is outside the scope of the licensing proceeding; LBP-08-16, 68 NRC 388, 397 (2008)

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- 10 C.F.R. 52.77-52.80  
applicants are not required to address or demonstrate whether the issuance of a combined license will improve the general welfare, increase the standard of living, or strengthen free competition in private enterprise; LBP-08-17, 68 NRC 451 (2008)
- 10 C.F.R. 52.79(a)(3)  
combined license applications must address the kinds and quantities of radioactive materials expected to be produced in the operation and the means for controlling and limiting radioactive effluents and radiation exposures; LBP-08-15, 68 NRC 316 (2008)
- 10 C.F.R. 52.79(b)(1)  
information on radioactive waste disposal need not be submitted again in a combined license application if it was previously provided to the Commission in connection with an early site permit and certain other conditions are satisfied; LBP-08-15, 68 NRC 316 (2008)  
the final safety analysis report need not contain information or analyses submitted to the Commission in connection with the early site permit, but must either include or incorporate by reference the ESP safety analysis report; LBP-08-15, 68 NRC 308 (2008)
- 10 C.F.R. 52.79(b)(3)  
the combined operating license application must demonstrate that the design of the chosen reactor falls within the site characteristics and design parameters in the early site permit, identify any necessary variances from the ESP, and demonstrate that all terms and conditions that have been included in the ESP, other than those imposed under section 50.36b, will be satisfied by the date of issuance of the combined license; LBP-08-15, 68 NRC 308 (2008)
- 10 C.F.R. 52.97  
NRC is not required to make a finding that applicants will improve the general welfare, increase the standard of living, or strengthen free competition prior to granting a COL; LBP-08-17, 68 NRC 451 (2008)
- 10 C.F.R. 52.97(a)(1)  
during that mandatory hearing, the presiding officer explores issues associated with the COL application that are not the subject of the contested proceeding, and makes a determination concerning the adequacy of Staff's safety and environmental reviews, as well as certain independent National Environmental Policy Act findings; LBP-08-16, 68 NRC 376 n.2 (2008)
- 10 C.F.R. Part 52, Appendix D  
a challenge to the single-fire assumption is an impermissible challenge to NRC's regulations; LBP-08-21, 68 NRC 565, 566 (2008)
- 10 C.F.R. Part 54  
a comprehensive baseline inspection is not required, no matter how sensible such a requirement might seem; LBP-08-13, 68 NRC 126 (2008)
- 10 C.F.R. 54.3  
the current licensing basis includes all modifications and additions to such commitments over the life of the license; LBP-08-25, 68 NRC 830 n.94 (2008)  
"current licensing basis" is defined; LBP-08-22, 68 NRC 600 n.44 (2008)  
"time-limited aging analysis" is defined; LBP-08-25, 68 NRC 786 (2008)
- 10 C.F.R. 54.3(a)  
"current licensing basis" is defined; LBP-08-13, 68 NRC 70 n.83 (2008); LBP-08-25, 68 NRC 786 (2008); LBP-08-26, 68 NRC 940 (2008)  
environmentally adjusted cumulative usage factor analyses are time-limited aging analyses; LBP-08-25, 68 NRC 789 (2008)  
the Updated Final Safety Analysis Report is part of the current licensing basis and must be updated annually; LBP-08-13, 68 NRC 73 (2008)  
"time-limited aging analysis" is defined; CLI-08-28, 68 NRC 664 n.23 (2008)
- 10 C.F.R. 54.4  
a license renewal application must demonstrate that the effects of aging will be adequately managed so that the direct and indirect safety-related functions enumerated in this section will be maintained consistent with the current licensing basis for the period of extended operation; LBP-08-22, 68 NRC 601 (2008)



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- aging management programs for buried structures, systems, and components that convey or contain radioactively contaminated water or other fluids are systems, structures, and components within the scope of license renewal proceedings; LBP-08-13, 68 NRC 82 (2008)
- if a component falls within the scope of this section and meets the requirements of 10 C.F.R. 54.21 such that aging of the component is a relicensing issue, applicant may address the issue in one of two ways; LBP-08-26, 68 NRC 937 (2008)
- the scope of license renewal proceedings is limited to a review of the plant structures and components that will require an aging management review for the period of extended operation and the plant's systems, structures, and components that are subject to an evaluation of time-limited aging analysis; LBP-08-13, 68 NRC 66 (2008)
- 10 C.F.R. 54.4(a)  
plant systems, structures, and components relevant to license renewal are those that are safety-related, or whose failure could affect safety-related functions, or that are relied on to demonstrate compliance with the NRC's regulations for fire protection, environmental qualification, pressurized thermal shock, anticipated transients without scram, and station blackout; CLI-08-23, 68 NRC 466 n.8 (2008)
- 10 C.F.R. 54.4(a)(2)  
approval of an aging management plan for license renewal includes all nonsafety-related systems, structures, and components whose failure could prevent safety-related systems, structures, and components from performing their safety-related functions; LBP-08-25, 68 NRC 834 (2008); LBP-08-26, 68 NRC 932 (2008)
- 10 C.F.R. 54.4(a)(3)  
the condensate storage system buried pipes are outside the scope of a license renewal proceeding with respect to their "safety" functionality, but that does not eliminate the need for consideration of potential leaks from those buried pipes because of their role in fire protection; LBP-08-22, 68 NRC 606 (2008)
- 10 C.F.R. 54.13  
contention requesting that the board should suspend the hearing until the applicant files an amended application is inadmissible; LBP-08-13, 68 NRC 68 (2008)  
information provided to the Commission by a license renewal applicant for a renewed license must be complete and accurate in all material respects; CLI-08-23, 68 NRC 481 (2008)  
Staff should not abandon all reliance on a license renewal applicant's regulatory obligation to submit complete and accurate information; CLI-08-23, 68 NRC 479 (2008)
- 10 C.F.R. 54.21  
contention alleging that the aging management plan does not provide adequate inspection and monitoring for corrosion or leaks in all buried systems, structures, and components that may convey or contain radioactively contaminated water or other fluids is admissible; LBP-08-13, 68 NRC 79 (2008)  
contention asserting that because information from safety analyses and evaluations performed at the NRC's request are not identified or included in the UFSAR, the license renewal application should be denied is inadmissible; LBP-08-13, 68 NRC 72 (2008)  
each license renewal application must include an integrated plant assessment identifying structures and components subject to aging management review, an evaluation of time-limited aging analyses, and a final safety analysis report supplement describing the plant's aging management programs; CLI-08-23, 68 NRC 466 (2008)  
if an applicant submits an aging management plan that shows how it addresses the recommendations of NUREG-1801, then it will have provided the demonstration required by this section; LBP-08-25, 68 NRC 870 (2008)  
impacts of metal fatigue, corrosion, and embrittlement are directly related to the detrimental results of aging and are the focus of the Staff's technical review of the application for license renewal; LBP-08-13, 68 NRC 67 (2008)  
licensees should address the effects of the coolant environment on component fatigue life as aging management programs are formulated in support of license renewal; LBP-08-25, 68 NRC 799 (2008)  
the scope of a license renewal proceeding is limited to the detrimental effects of aging on plant structures, systems, and components; LBP-08-13, 68 NRC 165 (2008)  
the term "demonstrate" in is a strong, definitive verb that logically requires an applicant to provide a reasonably thorough description of its aging management plan to show conclusively how this program

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- will ensure that the effects of aging will be managed for its specific plant; LBP-08-25, 68 NRC 870 (2008)
- 10 C.F.R. 54.21(a)
- a license renewal application must demonstrate that the effects of aging will be managed in such a way that the intended functions of passive and long-lived structures and components will be maintained for the period of extended operation; CLI-08-23, 68 NRC 466 (2008)
- license renewal proceedings are limited to a review of the plant structures and components that will require an aging management review for the period of extended operation and the plant's systems, structures, and components that are subject to an evaluation of time-limited aging analyses; LBP-08-22, 68 NRC 599 (2008)
- the license renewal application fails to comply with this section because it lacks a specific plan for the aging management of non-environmentally-qualified inaccessible medium-voltage cables and wiring; LBP-08-13, 68 NRC 83 (2008)
- the license renewal application must identify and demonstrate an aging management program for structures and components that perform an intended function, as described in section 54.4; LBP-08-26, 68 NRC 932 (2008)
- the scope of license renewal proceedings is limited to a review of the plant structures, systems, and components that will require an aging management review for the period of extended operation and the plant's systems, structures, and components that are subject to an evaluation of time-limited aging analysis; LBP-08-13, 68 NRC 66 (2008)
- 10 C.F.R. 54.21(a)(1)
- aging management review does not cover active components because routine surveillance and maintenance programs detect and manage the effects of aging on these components; CLI-08-23, 68 NRC 467 (2008)
- an aging management plan is required only for structures and components that perform an intended function without moving parts or without a change in configuration or properties; LBP-08-26, 68 NRC 945-46 (2008)
- failure to account for the effects of a pressure shock on reactor vessel internals in the license renewal application is an admissible issue; LBP-08-26, 68 NRC 937 (2008)
- systems, structures, and components relevant to aging-related review for license renewal are described; LBP-08-22, 68 NRC 600 (2008)
- transformers are subject to aging management review; LBP-08-13, 68 NRC 88 (2008)
- 10 C.F.R. 54.21(a)(3)
- a license renewal application must demonstrate that the effects of aging will be adequately managed so that the direct and indirect safety-related functions enumerated in section 54.4 will be maintained consistent with the current licensing basis for the period of extended operation; LBP-08-22, 68 NRC 601 (2008)
- actual cumulative usage factor calculations must be included in the license renewal application to meet the time-limited aging analysis requirements; LBP-08-13, 68 NRC 138 (2008)
- applicant is required to demonstrate that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB for the period of extended operation; LBP-08-26, 68 NRC 940 (2008)
- applicant must establish an aging management program that is adequate to provide reasonable assurance that the intended function of the piping subject to flow accelerated corrosion will be maintained in accordance with the current licensing basis for the period of extended operation; LBP-08-25, 68 NRC 856 (2008)
- applicant's flow accelerated corrosion programs supply sufficient specificity to meet the demonstration requirement; LBP-08-25, 68 NRC 893 (2008)
- applicant's proposed aging management program for the steam dryer will adequately manage the effects of aging during the 20-year license renewal period; LBP-08-25, 68 NRC 895-96 (2008)
- contention alleging that the license renewal application fails to supply sufficient details of the aging management program for flow accelerated corrosion to demonstrate that its effects will be adequately managed is admitted; LBP-08-26, 68 NRC 948-49 (2008)
- each application must contain an integrated plant assessment for which specified components will demonstrate that the effects of aging will be adequately managed so that the intended function(s) will

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- be maintained consistent with the current licensing basis for the period of extended operation; LBP-08-13, 68 NRC 86 (2008); LBP-08-25, 68 NRC 786 (2008)
- petitioner's contention that applicant's program for management of flow accelerated corrosion fails to comply with this section is admissible; LBP-08-13, 68 NRC 174 (2008)
- the level of information that an aging management program must contain in order to satisfy the legal requirements of this section is discussed; LBP-08-25, 68 NRC 785 (2008)
- 10 C.F.R. 54.21(b)
- a license renewal application must be periodically amended to reflect any changes to the plant's current licensing basis made after the license renewal application was submitted; CLI-08-23, 68 NRC 466 (2008)
- 10 C.F.R. 54.21(c)
- a license renewal application that fails to broaden its time-limited aging analysis beyond the scope of representative components to identify other components whose CUF may be greater than 1 does not meet the requirements of this section; LBP-08-13, 68 NRC 166 n.772 (2008)
- adequate time-limited aging analyses are a required component of the license renewal application and a necessary prerequisite to license renewal; LBP-08-25, 68 NRC 787 (2008)
- calculations to determine valid cumulative usage factors less than 1 when accounting for the effects of reactor water environment are the fundamental fatigue analyses for time-limited aging required to be included in the license renewal application; LBP-08-13, 68 NRC 138 (2008); LBP-08-25, 68 NRC 827 (2008)
- each license renewal application must contain an evaluation of time-limited aging analyses, a list of TLAAs, and a demonstration relating to TLAAs; LBP-08-25, 68 NRC 793 (2008)
- the scope of license renewal proceedings is limited to a review of the plant systems, structures, and components that will require an aging management review for the period of extended operation and the plant's systems, structures, and components that are subject to an evaluation of time-limited aging analysis; LBP-08-13, 68 NRC 66 (2008); LBP-08-22, 68 NRC 599 (2008)
- the timing of the performance and submission of time-limited aging analyses is discussed; LBP-08-25, 68 NRC 785 (2008)
- 10 C.F.R. 54.21(c)(1)
- a license renewal application must contain an evaluation of time-limited aging analyses; LBP-08-25, 68 NRC 825 (2008)
- applicant for a license renewal must demonstrate in the license renewal application that the evaluation of time-limited aging analyses has been completed; LBP-08-25, 68 NRC 825 (2008)
- applicant is not allowed to postpone the demonstration until after the license has been renewed; LBP-08-25, 68 NRC 794 (2008)
- applicant's metal fatigue analyses of the core spray and reactor recirculation outlet nozzles do not comply with relevant requirements and do not provide the reasonable assurance of safety and thus license renewal is not authorized; LBP-08-25, 68 NRC 780 (2008)
- applicants' obligations regarding time-limited aging analyses are described; CLI-08-23, 68 NRC 467 (2008)
- calculation of the cumulative usage factors is a time-limited aging analysis for metal fatigue that must be included in a license renewal application; LBP-08-13, 68 NRC 137 (2008)
- compliance cannot be achieved by repackaging and postponing a TLAA analysis-of-record and calling it an aging management plan; LBP-08-25, 68 NRC 826 (2008)
- contention identifying four representative reactor coolant components for which Entergy's evaluation of time-limited aging analyses is facially noncompliant is admissible; LBP-08-13, 68 NRC 167 (2008)
- Staff did not accept applicant's commitment to complete the evaluation of time-limited aging analysis prior to entering the period of extended operations, but required applicant to calculate the cumulative usage factor for its license renewal application; LBP-08-13, 68 NRC 137 n.576 (2008)
- technical information that must be included in a license renewal application as part of the time-limited aging analyses is described; CLI-08-28, 68 NRC 664 (2008)
- 10 C.F.R. 54.21(c)(1)(i)
- a license renewal application analysis of metal fatigue that ignored the known and substantial effects of the light-water reactor environment (the Fen) would be insufficient, as both a technical matter and a legal matter; LBP-08-25, 68 NRC 824 (2008)

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- a technically accurate time-limited aging analysis that shows that the component will fail during the period of extended operation is not enough to satisfy this section; LBP-08-25, 68 NRC 794 (2008)
- 10 C.F.R. 54.21(c)(1)(i)-(ii)  
time-limited aging analyses for components are incomplete if they omit consideration of the exacerbating effects of environmental conditions on the fatigue of metal components; LBP-08-13, 68 NRC 166 n.772 (2008)
- 10 C.F.R. 54.21(c)(1)(i)-(iii)  
applicant has three options for demonstrating time-limited aging analyses; LBP-08-25, 68 NRC 793 (2008)  
each time-limited aging analysis in a license renewal application must demonstrate that the analyses remain valid for the period of extended operation, or have been projected to the end of the period of extended operation, or the effects of aging on the intended function(s) will be adequately managed for the period of extended operation; LBP-08-25, 68 NRC 787 (2008)
- 10 C.F.R. 54.21(c)(1)(ii)  
a license renewal applicant demonstrates compliance with the ASME Code by projecting the fatigue analysis for the nozzle through the extended operating period; CLI-08-28, 68 NRC 664 n.24 (2008)  
a license renewal application analysis of metal fatigue that ignored the known and substantial effects of the light-water reactor environment (the Fen) would be insufficient, as both a technical matter and a legal matter; LBP-08-25, 68 NRC 824 (2008)  
a list of time-limited aging analyses together with a demonstration that the analyses have been projected to the end of the period of extended operation must be included in the license renewal application; CLI-08-28, 68 NRC 671 (2008)  
a technically accurate projection of the time-limited aging analysis that predicts that the component will fail due to aging during the 20-year period of extended operation is not enough to satisfy this section; LBP-08-25, 68 NRC 794 (2008)  
if a license renewal applicant seeks to demonstrate that its time-limited aging analysis has been projected to the period of extended operation, it must perform a CUFen calculation, not just a CUF calculation; LBP-08-25, 68 NRC 802 (2008)
- 10 C.F.R. 54.21(c)(1)(iii)  
actual cumulative usage factor calculations must be included in the license renewal application to provide the specificity needed to achieve the demonstration required of an aging management plan; LBP-08-13, 68 NRC 138 (2008)  
applicant can use an aging management plan either when the time-limited aging analyses predict that the component in question will fail due to aging during the period of extended operation or the applicant foregoes the TLAAs and assumes that aging is a problem; LBP-08-25, 68 NRC 794 (2008)  
applicant must establish an aging management program that is adequate to provide reasonable assurance that the intended function of the piping subject to flow accelerated corrosion will be maintained in accordance with the current licensing basis for the period of extended operation; LBP-08-25, 68 NRC 856 (2008)  
applicant's commitment to repair or replace the affected locations before exceeding a cumulative usage factor of 1.0 does not meet the "demonstration" requirement of the regulations; LBP-08-13, 68 NRC 138 (2008)  
applicant's flow accelerated corrosion program for the period of extended operation will be effective in managing the effects of aging; LBP-08-25, 68 NRC 893 (2008)  
applicant's proposed aging management program for the steam dryer will adequately manage the effects of aging during the 20-year license renewal period; LBP-08-25, 68 NRC 895-96 (2008)  
if metal fatigue will not exceed regulatory limits, then an aging management plan is not required; LBP-08-25, 68 NRC 790 (2008)  
in evaluating metal fatigue, a component's cumulative usage factor is the fundamental parameter used to determine whether it will likely develop cracks during the license renewal period and, as a result, be subject to an aging management plan; LBP-08-13, 68 NRC 137 (2008)  
license renewal applicant commits to an aging management program that would satisfy the requirements of this section; CLI-08-28, 68 NRC 664 n.24 (2008)  
mere reference to a NUREG as the sole support for the aging management does not adequately demonstrate that the effects of aging will be adequately managed; LBP-08-25, 68 NRC 868 (2008)

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- the level of information that an aging management program must contain in order to satisfy the legal requirements of this section is discussed; LBP-08-25, 68 NRC 785 (2008)
- 10 C.F.R. 54.23
- in addition to information supplied for the technical safety review, a license renewal applicant is required to submit a supplemental environmental report that complies with 10 C.F.R. Part 51; CLI-08-23, 68 NRC 467 (2008)
- 10 C.F.R. 54.29
- applicant's metal fatigue analyses of the core spray and reactor recirculation outlet nozzles do not comply with relevant requirements and do not provide the reasonable assurance of safety and thus license renewal is not authorized; LBP-08-25, 68 NRC 780 (2008)
- impacts of metal fatigue, corrosion, and embrittlement are directly related to the detrimental results of aging and are the focus of the Staff's technical review of the application for license renewal; LBP-08-13, 68 NRC 67 (2008)
- the Commission may issue the renewed license if it finds that, with respect to the structures and components identified under section 54.21(a)(1), there is reasonable assurance of ongoing conformity to the current licensing basis; CLI-08-23, 68 NRC 468 (2008); LBP-08-22, 68 NRC 599-600 (2008)
- the license renewal application fails to comply with this section because it lacks a specific plan for the aging management of non-environmentally-qualified inaccessible medium-voltage cables and wiring; LBP-08-13, 68 NRC 83 (2008)
- the phrase "reasonable assurance" is not defined, but requires, at a minimum, that an applicant demonstrate compliance with all of NRC's safety regulations; LBP-08-25, 68 NRC 787 (2008)
- the timing of the performance and submission of time-limited aging analyses is discussed; LBP-08-25, 68 NRC 785 (2008)
- 10 C.F.R. 54.29(a)
- a license renewal application analysis of metal fatigue that ignores the known and substantial effects of the light-water reactor environment would be insufficient, as both a technical matter and a legal matter; LBP-08-25, 68 NRC 824 (2008)
- applicant's use of NUREG/CR-5704 and -6583 in the calculation of the CUFen reanalyses and the confirmatory CUFen analyses is sufficient to provide the reasonable assurance required by this section; LBP-08-25, 68 NRC 806 (2008)
- because the CUFen reanalyses for the feedwater, core spray, and reactor recirculation outlet nozzles used a simplified Green's function methodology, they are inconsistent with the ASME Code, cannot be validated, could underestimate the nature and extent of metal fatigue, cannot be the analysis-of-record, and do not satisfy the requirements of this section; LBP-08-25, 68 NRC 822 (2008)
- contention alleging that the aging management plan does not provide adequate inspection and monitoring for corrosion or leaks in all buried systems, structures, and components that may convey or contain radioactively contaminated water or other fluids is admissible; LBP-08-13, 68 NRC 79 (2008)
- findings that the Commission must make regarding aging management plans and time-limited aging analyses in order to grant a license renewal are discussed; LBP-08-25, 68 NRC 787 (2008)
- license renewals cannot be issued unless there is reasonable assurance that licensed activities will be conducted in accordance with any changes made to the plant's current licensing basis ; LBP-08-25, 68 NRC 830 (2008)
- the "reasonable assurance" standard must be determined on a case-by-case basis; LBP-08-22, 68 NRC 646 (2008)
- the future-tense phrase "will be taken" is simply a recognition that aging management plans described in the license renewal application are necessarily implemented during the period of extended operation, not an authorization to perform TLAAs analyses-of-record in the future; LBP-08-25, 68 NRC 827 (2008)
- the term, "reasonable assurance," is interpreted; LBP-08-22, 68 NRC 644, 645, 645 (2008)
- 10 C.F.R. 54.29(a)(1)
- contention asserting noncompliance of a license renewal application because it is not possible to ascertain if all relevant equipment, components, and systems that are required to have aging management have been identified is inadmissible; LBP-08-13, 68 NRC 75 (2008)
- contention asserting that because information from safety analyses and evaluations performed at the NRC's request are not identified or included in the UFSAR, the license renewal application should be denied is inadmissible; LBP-08-13, 68 NRC 72 (2008)

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- the relevant matters of concern in a license renewal proceeding relate to managing the effects of the aging of critical systems, structures, and components; LBP-08-22, 68 NRC 601 (2008)
- 10 C.F.R. 54.29(a)(2)  
contention asserting noncompliance of license renewal application because it is not possible to ascertain if all relevant equipment, components, and systems that are required to have aging management have been identified is inadmissible; LBP-08-13, 68 NRC 75 (2008)
- 10 C.F.R. 54.29(c)(1)  
because the CUFen reanalyses for the feedwater, core spray, and reactor recirculation outlet nozzles used a simplified Green's function methodology, they are inconsistent with the ASME Code, cannot be validated, could underestimate the nature and extent of metal fatigue, cannot be the analysis-of-record, and do not satisfy the requirements of this section; LBP-08-25, 68 NRC 822 (2008)
- 10 C.F.R. 54.30(b)  
the current licensing basis and questions regarding its ascertainability are current operation issues which are outside the scope of a license renewal proceeding; LBP-08-13, 68 NRC 70 (2008); LBP-08-22, 68 NRC 601 (2008)
- 10 C.F.R. 54.31  
a renewed license takes effect immediately, with a term of up to 20 years plus the number of years remaining on the initial operating license; CLI-08-23, 68 NRC 469 (2008)
- 10 C.F.R. 54.31(c)  
the current plant licensing remains in effect pending final outcome of any hearing on renewal; LBP-08-12, 68 NRC 42 (2008)
- 10 C.F.R. 54.33 & 54.35  
in the license renewal context, regulations established under Part 50, including compliance with the ASME Code, must be followed during the period of extended operation; CLI-08-28, 68 NRC 664 (2008)
- 10 C.F.R. 61.10  
a permit for the land disposal of radioactive waste is required for those who receive from others, possess, and dispose of wastes containing or contaminated with source, byproduct, or special nuclear material; LBP-08-15, 68 NRC 317 (2008)
- 10 C.F.R. 63.21  
the required contents of an application for a high-level waste repository are specified, including a wide variety of matters relevant to protection from radiation; CLI-08-20, 68 NRC 276 (2008)
- 10 C.F.R. 63.21(c)  
the Safety Analysis Report included in the high-level waste repository application must contain information relating to the evaluation of potential exposures during the post-closure period beyond 10,000 years following disposal; CLI-08-20, 68 NRC 276 (2008)
- 10 C.F.R. 63.21(c)(1)  
the high-level waste repository application must include a description of the site, with appropriate attention to matters that might affect the performance of the geological repository, which is essential to evaluation of exposures in the period beyond 10,000 years after disposal; CLI-08-20, 68 NRC 276 (2008)
- 10 C.F.R. 63.21(c)(3)(ii)  
the high-level waste repository application must describe the engineered barrier system, including the design criteria used and their relationships to the post-closure performance objectives specified in section 63.113(b); CLI-08-20, 68 NRC 276 (2008)
- 10 C.F.R. 63.21(c)(9)  
the high-level waste repository application must include an assessment to determine the degree to which features, events, and processes of the site that are expected to materially affect compliance with section 63.113 have been characterized, and the extent to which they affect waste isolation; CLI-08-20, 68 NRC 276 (2008)
- 10 C.F.R. 63.21(c)(10)  
the high-level waste repository application must include an assessment of the anticipated response of the geomechanical, hydrogeologic, and geochemical systems to the range of design thermal loadings under consideration; CLI-08-20, 68 NRC 276 (2008)

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- 10 C.F.R. 63.21(c)(11)  
the high-level waste repository application must include an assessment of the ability of the proposed geologic repository to limit radiological exposures to the reasonably maximally exposed individual for the period after permanent closure; CLI-08-20, 68 NRC 276 (2008)
- 10 C.F.R. 63.21(c)(12)  
the high-level waste repository application must set forth an assessment of the ability of the proposed geologic repository to limit releases of radionuclides into the accessible environment; CLI-08-20, 68 NRC 277 (2008)
- 10 C.F.R. 63.21(c)(13)  
the application must set forth an assessment of the ability of the proposed geologic repository to limit radiological exposures to the reasonably maximally exposed individual for the period after permanent closure in the event of human intrusion into the engineered barrier system; CLI-08-20, 68 NRC 277 (2008)
- 10 C.F.R. 63.21(c)(14)  
the high-level waste repository application must set forth an evaluation of the natural features of the geologic setting and design features of the engineered barrier system that are considered barriers important to waste isolation; CLI-08-20, 68 NRC 277 (2008)
- 10 C.F.R. 63.21(c)(15)  
the application must provide an explanation of measures used to support the models used to provide the information required in section 63.21(c)(9)-(14); CLI-08-20, 68 NRC 277 (2008)
- 10 C.F.R. 63.113(b), (c)  
the high-level waste repository application must include an assessment of the ability of the proposed geologic repository to limit radiological exposures to the reasonably maximally exposed individual for the period after permanent closure; CLI-08-20, 68 NRC 276 (2008)
- 10 C.F.R. 63.113(c)  
the high-level waste repository application must set forth an assessment of the ability of the proposed geologic repository to limit releases of radionuclides into the accessible environment; CLI-08-20, 68 NRC 277 (2008)
- 10 C.F.R. 63.115  
the high-level waste repository application must set forth an evaluation of the natural features of the geologic setting and design features of the engineered barrier system that are considered barriers important to waste isolation; CLI-08-20, 68 NRC 277 (2008)
- 10 C.F.R. 63.311  
the limits in this section must be consistent with the final EPA radiation protection standards, pursuant to the Energy Policy Act of 1992, which requires the NRC to modify its technical requirements and criteria, as necessary, to be consistent with final EPA standards; CLI-08-20, 68 NRC 277 (2008)
- 10 C.F.R. 72.106(b)  
the dose limit at the boundary of an independent spent fuel storage installation as a result of any design basis accident is set at 5 rem; CLI-08-26, 68 NRC 517 n.45, 526 (2008)
- 10 C.F.R. 73.56(b)(1)  
a senior plant supervisor's deliberate failure to contact the appropriate site security manager in order to initiate an assessment of the trustworthiness and reliability of the two contract technicians who falsified a maintenance report is a violation; LBP-08-14, 68 NRC 284 (2008)  
high assurance must be provided that individuals granted unescorted access are trustworthy and reliable, and do not constitute an unreasonable risk to the public health and safety, including a potential to commit radiological sabotage; LBP-08-14, 68 NRC 283 (2008)
- 10 C.F.R. 76.33(a)(2)  
a corporate applicant must include the state where it is incorporated or organized, the citizenship of its directors and its principal officers, and whether it is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government; LBP-08-24, 68 NRC 747 n.316 (2008)
- 10 C.F.R. 110.45(b)  
findings the Commission must make to issue a low-level waste import license are discussed; CLI-08-24, 68 NRC 494 (2008)

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- NRC will not grant an import license for waste intended for disposal unless it is clear that the waste will be accepted by a disposal facility, host state, and compact (where applicable); CLI-08-24, 68 NRC 495 (2008)
- 21 C.F.R. 10.30  
FDA can revoke a food additive regulation if it changes its conclusions on the safety of the additive, and members of the public can petition the FDA to revoke a regulation authorizing a particular food additive; CLI-08-16, 68 NRC 224 (2008)
- 21 C.F.R. 170.3(i)  
to determine that a food additive is safe, FDA must find, after a fair evaluation of the data, that there is a reasonable certainty in the minds of competent scientists that the substance is not harmful under all intended conditions of use; CLI-08-16, 68 NRC 224 (2008)
- 21 C.F.R. 179.26  
ionizing radiation to treat fresh fruits is safe if the radiation dose does not exceed 1 kGy (100 krad); CLI-08-16, 68 NRC 226 (2008)
- 21 C.F.R. 570.3(i)  
to determine that a food additive is safe, FDA must consider the probable consumption of the additive and of any substance formed in or on food because of its use and the cumulative effect of the additive in the diet, taking into account any chemically or pharmacologically related substance or substances in the diet; CLI-08-16, 68 NRC 224 (2008)
- 21 C.F.R. 570.20(a)  
a decision on the safety of a food additive must give due weight to the anticipated levels and patterns of consumption of the additive; CLI-08-16, 68 NRC 224 (2008)
- 36 C.F.R. 800.1(c)(2)(iii)  
federal agencies should be sensitive to the special concerns of Indian tribes in historic preservation issues, which often extend beyond Indian lands to other historic properties, and should invite the governing body of the responsible tribe to be a consulting party and to concur in any agreement; LBP-08-24, 68 NRC 714 (2008)
- 36 C.F.R. 800.2(a)  
it is the statutory obligation of the federal agency to fulfill the requirements of section 106; LBP-08-24, 68 NRC 723 n.167 (2008)
- 36 C.F.R. 800.2(a)(3)  
if a document or study is prepared by a nonfederal party, the agency official is responsible for ensuring that its content meets applicable standards and guidelines; LBP-08-24, 68 NRC 723 n.167 (2008)
- 36 C.F.R. 800.2(c)(2)(ii)  
a tribe may become a consulting party where its property, potentially affected by a federal undertaking, has religious or cultural significance; LBP-08-24, 68 NRC 714 (2008)
- 36 C.F.R. 800.2(c)(2)(ii)(A)  
a consulting tribe is entitled to a reasonable opportunity to identify its concerns about historic properties, advise on the identification and evaluation of historic properties, articulate its views on the undertaking's effects on such properties, and participate in the resolution of adverse effects; LBP-08-24, 68 NRC 714 (2008)
- 36 C.F.R. 800.2(c)(2)(ii)(A)-(D), 800.3(f)(2)  
in initiating the section 106 process, the agency is required to make a reasonable and good faith effort to identify Indian tribes who may attach religious and cultural significance to historic properties that may be affected by the proposed undertaking and invite them to participate as consulting parties in the section 106 process; LBP-08-24, 68 NRC 722 n.166 (2008)
- 36 C.F.R. 800.2(c)(2)(ii)(D)  
federal agencies are to consult with a tribe if that tribe ascribes cultural or religious significance to properties not on tribal lands; LBP-08-24, 68 NRC 722 n.161 (2008)
- 36 C.F.R. 1220.14  
agency "records" are defined; CLI-08-23, 68 NRC 482 (2008)
- 36 C.F.R. 1222.34(c)  
to constitute an agency record, a working file must contain unique information that underlies an agency decision, and it must also have been made available to other agency employees for purposes of helping to reach or support that decision; CLI-08-23, 68 NRC 483 (2008)



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- 36 C.F.R. 1228.24(b)(5)  
nonrecords may be discarded in accordance with instructions in the agency's published records control guidelines; CLI-08-23, 68 NRC 483 n.101 (2008)
- 40 C.F.R. 1508.8(b)  
only those indirect effects that can be said to be reasonably foreseeable need to be analyzed under the National Environmental Policy Act; CLI-08-16, 68 NRC 226 n.31 (2008)
- 40 C.F.R. 1508.9  
the purpose and scope of an environmental assessment are described; CLI-08-26, 68 NRC 514 (2008)

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- 2 U.S.C. § 441b(b)(1)  
courts' refusal to grant automatic standing to unions may lie in the fact that unions are formed to represent their members in collective bargaining and other employment-related negotiations, not in administrative or judicial litigation; CLI-08-19, 68 NRC 264 n.47 (2008)
- 5 U.S.C. § 553  
concerns relating specifically to the AP1000 reactor design amendment may be raised by filing comments on the proposed rule when it is issued; LBP-08-17, 68 NRC 443 (2008)
- Administrative Dispute Resolution Act of 1996, 5 U.S.C. §§ 571-584  
each federal agency must promote the use of alternative dispute resolution; LBP-08-14, 68 NRC 292 (2008)
- Archaeological Resources Protection Act, 16 U.S.C. § 470aa *et seq.*  
criteria and procedures pursuant to which a federal land manager may issue excavation permits for federal lands and requirements for notification to Indian Tribe if permits may result in harm to cultural or religious sites are established; LBP-08-24, 68 NRC 713 n.105 (2008)
- Atomic Energy Act, 42 U.S.C. § 2011  
general policy for use of nuclear power in the United States is stated; LBP-08-17, 68 NRC 451 (2008)
- Atomic Energy Act, 42 U.S.C. § 2021c(b)(1)(D)  
disposal of Greater-Than-Class-C waste is the responsibility of the federal government; LBP-08-15, 68 NRC 313 n.86 (2008); LBP-08-16, 68 NRC 414 (2008)
- Atomic Energy Act, 103, 42 U.S.C. § 2133  
standards for issuance of a license for a particular nuclear power reactor do not require applicants to improve the general welfare, increase the standard of living, or strengthen free competition; LBP-08-17, 68 NRC 451 (2008)
- Atomic Energy Act, 182, 42 U.S.C. § 2232  
applicants must include information in an application that the Commission determines to be necessary; LBP-08-24, 68 NRC 750 n.333 (2008)
- Atomic Energy Act, 182a, 42 U.S.C. § 2232(a)  
application for a source materials license must specifically state the citizenship of the applicant; LBP-08-24, 68 NRC 746 (2008)  
the Commission may issue a license only after finding that it is in accord with the common defense and security and will provide adequate protection to the health and safety of the public; CLI-08-23, 68 NRC 473 (2008); LBP-08-25, 68 NRC 785 (2008)
- Atomic Energy Act, 184, 42 U.S.C. § 2234  
this section is applicable only to licenses to possess or use special nuclear material, and therefore does not apply to source material licensees; LBP-08-24, 68 NRC 750 n.333 (2008)
- Atomic Energy Act, 189a, 42 U.S.C. § 2239(a)  
members of the public with a cognizable interest in the particular license renewal application may obtain an independent adjudicatory review of their challenges to the application; CLI-08-23, 68 NRC 468 (2008)  
the role of "private attorney general" is not contemplated under this section; CLI-08-19, 68 NRC 270 (2008)  
to intervene as of right in any Commission licensing proceeding, petitioner must demonstrate that its interest may be affected by the proceeding; CLI-08-19, 68 NRC 258 (2008)

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- Atomic Energy Act, 189a(1)(A), 42 U.S.C. § 2239(a)(1)(A)  
a hearing may be granted upon the request of any person whose interest may be affected by the proceeding; LBP-08-14, 68 NRC 286 (2008); LBP-08-15, 68 NRC 302, 311 (2008); LBP-08-18, 68 NRC 538 (2008); LBP-08-24, 68 NRC 701 (2008); LBP-08-26, 68 NRC 910 (2008)  
an uncontested proceeding is subject to the mandatory hearing requirement; LBP-08-15, 68 NRC 301 (2008)  
postponement of consideration of important and material nuclear safety issues until after the license is issued improperly abridges hearing rights; LBP-08-25, 68 NRC 827 (2008)
- Clean Air Act, 112(c)(2), 42 U.S.C. § 7412  
the Environmental Protection Agency Administrator is responsible for establishing national emission standards for hazardous air pollutants, which are to be based upon EPA's determination of the maximum achievable control technology; LBP-08-15, 68 NRC 331 (2008)
- Clean Air Act, 112(d)(9), 42 U.S.C. § 7412(d)(9)  
no NRC radionuclide emission standards need to be promulgated under CAA § 112 if the Environmental Protection Agency Administrator determines that the NRC regulatory program provides an ample margin of safety to protect public health; LBP-08-15, 68 NRC 331 (2008); LBP-08-16, 68 NRC 397 (2008)
- Clean Water Act, 402(b)(1)(B)  
state-issued SPDES permits must be renewed every 5 years; LBP-08-13, 68 NRC 156 (2008)
- Energy Policy Act of 1992, 801(b)(1)  
NRC must modify its technical requirements and criteria for the high-level waste repository as necessary to be consistent with final EPA standards; CLI-08-20, 68 NRC 277 (2008)
- Environmental Conservation Law, 17-0101, 17-0301, 17-0303, 17-0809  
applicant does not have the right to decide the current and future uses of groundwater for the residents of a state; LBP-08-13, 68 NRC 145 (2008)
- Federal Food, Drug, and Cosmetic Act § 201(s), 21 U.S.C. § 321(s)  
sources of irradiation, including radioactive isotopes, particle accelerators, and X-ray machines, intended for use in processing food are included in the term "food additives"; CLI-08-16, 68 NRC 223 (2008)
- Federal Food, Drug, and Cosmetic Act, 402(a)(7), 21 U.S.C. § 342 (a)(7)  
any food that has been intentionally subjected to irradiation is considered adulterated and unsafe, and therefore cannot be marketed legally, unless the FDA Secretary has issued a regulation finding the specific use of the food irradiation safe, and prescribing the conditions under which the irradiation source (the food additive) may be safely used; CLI-08-16, 68 NRC 223 (2008)
- Federal Food, Drug, and Cosmetic Act, 409(c)(3)(A), 21 U.S.C. § 348(c)(3)(A)  
for FDA to determine that a food additive is safe, it must find, after a fair evaluation of the data, that there is a reasonable certainty in the minds of competent scientists that the substance is not harmful under all intended conditions of use; CLI-08-16, 68 NRC 224 (2008)  
no food additive shall be deemed to be safe if it is found to induce cancer when ingested by man or animal, or if it is found, after tests that are appropriate for the evaluation of the safety of food additives, to induce cancer in man or animal; CLI-08-16, 68 NRC 224 (2008)
- Federal Food, Drug, and Cosmetic Act, 409(c)(5), 21 U.S.C. § 348(c)(5)  
to determine that a food additive is safe, FDA must consider the probable consumption of the additive and of any substance formed in or on food because of its use and the cumulative effect of the additive in the diet, taking into account any chemically or pharmacologically related substance or substances in the diet; CLI-08-16, 68 NRC 224 (2008)
- Federal Records Act, 44 U.S.C. §§ 2101-2118, 2901-2909, 3101-3107, 3301-3324  
this series of statutes governs the creation, management, and disposal of records by federal agencies; CLI-08-23, 68 NRC 482 (2008)
- Federal Records Act, 44 U.S.C. § 3301  
agency "records" are defined; CLI-08-23, 68 NRC 482 (2008)
- Freedom of Information Act, 5 U.S.C. § 552(b)(5)  
intra-agency memoranda developed during the decisionmaking process are protected under the deliberative process privilege; CLI-08-23, 68 NRC 483 n.103 (2008)

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- Low-Level Radioactive Waste Policy Amendments Act of 1985, 4(a)(1), 42 U.S.C. § 2021d(a)(1)  
states' responsibilities to dispose of low-level radioactive waste can be best handled on a regional basis; CLI-08-24, 68 NRC 494 (2008)
- Low-Level Radioactive Waste Policy Amendments Act of 1985, 4(a)(2), 42 U.S.C. § 2021d(a)(2)  
creation of interstate compacts is authorized as may be necessary to provide for the establishment and operation of regional disposal facilities for low-level radioactive waste; CLI-08-24, 68 NRC 494 (2008)
- Low-Level Radioactive Waste Policy Amendments Act of 1985, 4(c), 42 U.S.C. § 2021d(c)  
when authorized by Congress, interstate compacts are allowed to restrict the use of regional disposal facilities under the compact to the disposal of low-level radioactive waste generated within the compact region; CLI-08-24, 68 NRC 494 (2008)
- N.Y. Comp. Codes R. & Regs. tit. 6, Parts 701, 703  
applicant does not have the right to decide the current and future uses of groundwater for the residents of New York State; LBP-08-13, 68 NRC 145 (2008)
- National Environmental Policy Act, 102(2)(C), 42 U.S.C. § 4332(2)(C)  
a more detailed environmental impact statement is not required unless the contemplated action is a major federal action significantly affecting the quality of the human environment; CLI-08-26, 68 NRC 514 (2008)  
NRC may withhold from public disclosure any information that is exempt under the Freedom of Information Act; CLI-08-26, 68 NRC 523 (2008)  
to the fullest extent possible, all federal agencies shall include in every recommendation or report on proposals for legislation and other major federal actions significantly affecting the quality of the human environment, a detailed statement discussing the environmental impact of the proposed action and possible alternatives; CLI-08-26, 68 NRC 531 (2008)
- National Historic Preservation Act, 16 U.S.C. § 470 *et seq.*  
notification and consultation procedures that federal agencies must follow prior to a federal undertaking to consider the undertaking's effect on historic properties are provided; LBP-08-24, 68 NRC 713 n.105 (2008)
- National Historic Preservation Act, 106, 16 U.S.C. § 470f  
a federal agency, prior to the issuance of any license, is required to take into account the effect of the federal action on any area eligible for inclusion in the National Register of Historic Places; LBP-08-24, 68 NRC 714 (2008)
- National Historic Preservation Act, 16 U.S.C. § 470(b)(4)  
the nation's historical heritage is in the public interest so that its vital legacy of cultural, educational, aesthetic, inspirational, economic, and energy benefits will be maintained and enriched for future generations of Americans; LBP-08-24, 68 NRC 713 (2008)
- Native American Graves Protection and Repatriation Act, 25 U.S.C. § 3001 *et seq.*  
notification and inventory procedures are provided so that Indian cultural objects and burial remains found on federal lands will be repatriated to the appropriate tribe; LBP-08-24, 68 NRC 713 n.105 (2008)
- Northwest Interstate Compact on Low-Level Radioactive Waste Management, art. IV(2)  
no facility located in any party state may accept low-level waste generated outside the region comprised of the party states, except under a specific procedure requiring approval by the member states; CLI-08-24, 68 NRC 494 (2008)
- Nuclear Waste Policy Act of 1982, 121, 42 U.S.C. § 10141  
a challenge to the pending EPA proposed rule setting standards for offsite releases from radioactive materials that would be stored in the proposed Yucca Mountain high-level waste geologic repository is inadmissible; LBP-08-16, 68 NRC 422 (2008)
- Nuclear Waste Policy Act, 42 U.S.C. § 10154  
Subpart K implements the totally new procedure established for adjudicating spent fuel storage controversies expeditiously; CLI-08-26, 68 NRC 513 (2008)
- Tennessee Valley Authority Act of 1933, 16 U.S.C. § 831d(1)  
TVA is authorized to produce, distribute, and sell electric power as well as manage water use in the Tennessee River Basin, and NRC has no authority to implement the act or enforce any of its provisions; LBP-08-16, 68 NRC 398 (2008)

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Uranium Mill Tailings Radiation Control Act, 42 U.S.C. § 2114(a)(1) (2008)

NRC Staff must take appropriate steps to protect the public health and safety and the environment from radiological and nonradiological hazards associated with mining operations; LBP-08-24, 68 NRC 718 n.138 (2008)

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- Black's Law Dictionary 328 (7th ed. 1999)  
an ambiguous provision is construed most strongly against the person who selected the language;  
LBP-08-16, 68 NRC 382 (2008)
- 18 Charles Alan Wright et al., Federal Practice & Procedure §§ 4416, 4419 (2d ed. 2002)  
collateral estoppel bars parties from relitigating issues actually and necessarily decided in prior litigation  
between the same parties; LBP-08-15, 68 NRC 310 (2008)
- Fed. R. Evid. 201(e)  
because the board's decision rests in part on its official notice of parts of the license renewal application  
that were not introduced into evidence, any party wishing to controvert the facts officially noticed may  
do so by filing a motion for reconsideration or an appeal from the partial initial decision; LBP-08-25,  
68 NRC 865 n.122, 896 (2008)
- S. Rep. No. 85-2422, at 6 (1958)  
FDA's review does not take into account commercial interests or whether such approval will be  
beneficial to the producer of the additive, but is squarely focused upon assuring that there is proof of  
a reasonable certainty that no harm will result from a proposed use of an additive; CLI-08-16, 68  
NRC 226 n.27 (2008)
- S. Rep. No. 85-2422, at 63 (1958)  
sources of irradiation, including radioactive isotopes, particle accelerators, and X-ray machines, intended  
for use in processing food are included in the term "food additives"; CLI-08-16, 68 NRC 223 (2008)
- Webster's Third New International Dictionary* 1310 (1976)  
the term "likely" in 10 C.F.R. 2.326(a)(3) is construed to be synonymous with "probable" or "more  
likely than not"; LBP-08-12, 68 NRC 23 n.16 (2008)
- Webster's Third International Dictionary* 1933 (1976)  
the relevant definition of "resolve" is to reach a decision about or make an official determination  
concerning an issue; LBP-08-15, 68 NRC 305-306 (2008)

## SUBJECT INDEX

### ABEYANCE OF CONTENTION RULING

licensing boards should refer contention challenging a reactor design certification to the Staff for consideration in the design certification rulemaking, and hold that contention in abeyance, if it is otherwise admissible; CLI-08-15, 68 NRC 1 (2008)

### ABEYANCE OF HEARING REQUEST

application for license to import low-level radioactive waste from Italy for processing and ultimate disposal in Utah is held in abeyance; CLI-08-24, 68 NRC 491 (2008)

### ACCIDENTS, LOSS-OF-COOLANT

protection against a highly unlikely LOCA has long been an essential part of the defense-in-depth concept used by the nuclear power industry and the AEC to ensure the safety of nuclear power plants; LBP-08-12, 68 NRC 5 (2008)

See also Severe Accident Mitigation Alternatives Analysis

### ADJUDICATORY PROCEEDINGS

although NRC guidance documents are entitled to some weight, they do not have the force of a legally binding regulation and, like any guidance document, may be challenged; LBP-08-22, 68 NRC 590 (2008)

compliance with NRC guidance documents is neither necessary nor necessarily sufficient to satisfy the legal requirements that each application must meet under the Atomic Energy Act; LBP-08-25, 68 NRC 763 (2008)

petitioner cannot seek to use a specific adjudicatory proceeding to attack generic NRC regulations and requirements or express generalized grievances about NRC policies; CLI-08-15, 68 NRC 1 (2008); CLI-08-17, 68 NRC 231 (2008)

See also Combined License Proceedings; Delay of Proceeding; Early Site Permit Proceedings; High-Level Waste Repository Proceeding; License Renewal Proceedings; License Transfer Proceedings; NRC Proceedings

### ADMINISTRATIVE DISPUTE RESOLUTION

challenges to NRC's authority to engage in ADR is beyond the scope of enforcement proceedings; LBP-08-14, 68 NRC 279 (2008)

### ADOPTION OF CONTENTIONS

petitioner who has not submitted an admissible contention is not allowed adopt the contentions of other petitioners; LBP-08-13, 68 NRC 43 (2008)

### ADVISORY OPINIONS

issuance of advisory opinions is generally disfavored by the Commission; CLI-08-21, 68 NRC 351 (2008)

### AFFIDAVITS

an affidavit supporting representational standing must describe precisely how the affiant is aggrieved, whether based on employment, residence, or activities; CLI-08-19, 68 NRC 251 (2008)

any request for waiver of or exception to a rule must be accompanied by an affidavit that identifies with particularity the special circumstances alleged to justify the waiver or exception requested; LBP-08-17, 68 NRC 431 (2008)

bare assertions and speculation do not supply the requisite support and a judge's dissenting opinion cannot substitute for the affidavit required to be submitted to the board, with a motion to reopen, in the first instance; CLI-08-28, 68 NRC 658 (2008)

evidence supporting motions to reopen must meet the regulatory admissibility standards of relevance, materiality, and reliability; LBP-08-12, 68 NRC 5 (2008)

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if none of the affidavits submitted in support of a hearing request indicates that an organization seeking to intervene represents the interests of the submitter, the organization has failed to establish that it has standing; LBP-08-16, 68 NRC 361 (2008)

motions to reopen must be accompanied by affidavits of qualified experts presenting the factual and/or technical bases for the claim that there is a significant safety issue, together with evidence that satisfies the admissibility standards; CLI-08-28, 68 NRC 658 (2008)

motions to reopen must be accompanied by affidavits that set forth the factual and/or technical bases for the movant's claim that the criteria in 10 C.F.R. 2.326(a) have been satisfied; LBP-08-12, 68 NRC 5 (2008)

support for a motion to reopen must provide a prima facie showing that a deficiency exists in the license renewal application and the deficiency presents a significant safety issue; LBP-08-12, 68 NRC 5 (2008) were the Commission to accept and consider a belatedly submitted representative-standing affidavit attached to a reply brief, the applicant would be deprived of the right to challenge the substantive sufficiency of the affidavit; CLI-08-19, 68 NRC 251 (2008)

### AGING MANAGEMENT

a list of time-limited aging analyses together with a demonstration that the analyses have been projected to the end of the period of extended operation must be included in the license renewal application; CLI-08-28, 68 NRC 658 (2008)

a program that consists solely of bald statements does not satisfy the requirement that an applicant demonstrate that it will adequately manage aging; LBP-08-25, 68 NRC 763 (2008)

AMPs are both a required element of the license renewal application and a central finding that NRC must make before it can issue a license renewal; LBP-08-25, 68 NRC 763 (2008)

an analysis may be performed showing that the aging mechanism will not cause failure of the component; LBP-08-26, 68 NRC 905 (2008)

analysis and management of age-related degradation must be elevated before a renewed operating license is issued and will be critical to safety during the term of the renewed license; LBP-08-25, 68 NRC 763 (2008)

applicant must establish an AMP that is adequate to provide reasonable assurance that the intended function of the piping subject to flow accelerated corrosion will be maintained in accordance with the current licensing basis for the period of extended operation; LBP-08-25, 68 NRC 763 (2008)

applicant's commitment to repair or replace affected locations before exceeding a cumulative usage factor of 1.0 does not meet the "demonstration" requirement of the regulations; LBP-08-13, 68 NRC 43 (2008)

applicants for license renewal must demonstrate how their programs will be effective during the period of extended operations and identify any additional actions that will need to be taken; LBP-08-22, 68 NRC 590 (2008)

burden is on applicant to show that concrete in containment structures will maintain its integrity during the extended period of operations or to develop an aging management plan that ensures that any indication of degradation is detected and remediated; LBP-08-13, 68 NRC 43 (2008)

conservatism in use of Green's function to determine cumulative usage factor for metal fatigue in the recirculation nozzle is discussed; LBP-08-12, 68 NRC 5 (2008)

cracking of a nonsafety-related steam dryer could cause a release of loose parts that could have an adverse impact on safety-related equipment and thus it is within the scope of aging management review in a license renewal proceeding; LBP-08-25, 68 NRC 763 (2008)

each application must contain an Integrated Plant Assessment for which specified components will demonstrate that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the current licensing basis for the period of extended operation; LBP-08-13, 68 NRC 43 (2008)

even if a particular system falls within the scope of Part 54, not all structures and components comprising that system will necessarily be subject to Part 54 aging management requirements; LBP-08-22, 68 NRC 590 (2008)

even if the TLAAs predict that the component will fail during the period of extended operation, a license renewal can still be granted if applicant demonstrates that the effects of aging will be adequately managed during the period of extended operation; LBP-08-25, 68 NRC 763 (2008)



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- for systems, structures, and components subject to aging management review, discussion of proposed inspection and monitoring details will come before a board only as they are needed to demonstrate that the intended function of relevant SSCs will be maintained for the license renewal period; LBP-08-13, 68 NRC 43 (2008)
- if aging-related analysis fails, then the application must include a specific aging program to manage the effects of aging on that component; LBP-08-26, 68 NRC 905 (2008)
- in evaluating metal fatigue, a component's cumulative usage factor is the fundamental parameter used to determine whether it will likely develop cracks during the license renewal period and thus is subject to an aging management plan; LBP-08-13, 68 NRC 43 (2008)
- licensees and applicants are expected to adjust their programs to reflect lessons learned in the future through individual and industrywide experiences; CLI-08-23, 68 NRC 461 (2008)
- NUREG-1801 identifies generic aging management programs that the Staff has determined to be acceptable, based on the experiences and analyses of existing programs at operating plants during the initial license period; CLI-08-23, 68 NRC 461 (2008)
- quality assurance programs must include written test procedures that incorporate the requirements and acceptance limits contained in applicable design documents, and, as appropriate, proof tests prior to installation, preoperational tests, and operational tests during nuclear power plant operation, of structures, systems, and components; LBP-08-22, 68 NRC 590 (2008)
- quality assurance requirements apply to license renewals; LBP-08-22, 68 NRC 590 (2008)
- review does not cover active components because routine surveillance and maintenance programs detect and manage the effects of aging on these components; CLI-08-23, 68 NRC 461 (2008)
- section 54.21(c)(1)(i)-(iii) requires that the applicant make its demonstration that the effects of aging will be adequately managed during the period of extended operation in the application, which is necessarily before the license may be granted; LBP-08-25, 68 NRC 763 (2008)
- Staff's audit, or sampling, method of verifying a license renewal applicant's aging management programs, together with the other components of its review, enables the Staff to make the safety findings necessary for issuance of a renewed license; CLI-08-23, 68 NRC 461 (2008)
- technical information that must be included in a license renewal application as part of the time-limited aging analyses is described; CLI-08-28, 68 NRC 658 (2008)
- the licensing basis for a nuclear power plant during the renewal term consists of the current licensing basis together with new commitments to monitor, manage, and correct age-related degradation unique to license renewal; LBP-08-25, 68 NRC 763 (2008)
- the statutory conditions for grant of a license renewal are described; LBP-08-25, 68 NRC 763 (2008)
- the ten elements of an effective aging management program must be addressed only when an applicant's AMP differs from the relevant AMP identified in the GALL Report; LBP-08-26, 68 NRC 905 (2008)
- the term "demonstrate" as used in 10 C.F.R. 54.21 is a strong, definitive verb that logically requires an applicant to provide a reasonably thorough description of its aging management program and to show conclusively how this program will ensure that the effects of aging will be managed for its specific plant; LBP-08-25, 68 NRC 763 (2008)
- whether a plan is necessary to manage the cumulative effects of embrittlement of the reactor pressure vessels and associated internals is within the scope of a license renewal proceeding; LBP-08-13, 68 NRC 43 (2008)
- AIRCRAFT CRASHES**
- contention challenging applicant's failure to consider deliberate and malicious crashes in its environmental report is inadmissible in a combined license proceeding; LBP-08-21, 68 NRC 554 (2008)
- AMENDMENT**
- See Amendment of Contentions; Operating License Amendment Applications; Operating License Amendments
- AMENDMENT OF CONTENTIONS**
- a reply cannot be used to substantively supplement or amend a contention; LBP-08-18, 68 NRC 533 (2008)
- contentions must be based on documents or other information available at the time the petition is to be filed; LBP-08-27, 68 NRC 951 (2008)
- new or amended contentions can be filed with leave of the board if the information upon which the amended or new contention is based was not previously available, the information is materially different

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from information previously available, and the contention has been submitted in a timely fashion based on the availability of the subsequent information; LBP-08-27, 68 NRC 951 (2008)  
when new contentions are based on breaking developments of information, they are to be treated as new or amended, not as nontimely; LBP-08-27, 68 NRC 951 (2008)

### AMICUS PLEADINGS

all motions are required to include a certification that the sponsor of the motion has made a sincere effort to contact the other parties and to resolve the issues raised in the motion; CLI-08-22, 68 NRC 355 (2008)  
briefs must be filed by the same deadline as the brief of the party whose side the amicus brief supports, unless the Commission provides otherwise; CLI-08-22, 68 NRC 355 (2008)  
permission to file an amicus brief under 10 C.F.R. 2.315(d) is at the discretion of the Commission; CLI-08-22, 68 NRC 355 (2008)  
the general rule, 10 C.F.R. 2.315(d), as a formal matter applies only to petitions for review filed under section 2.341 or to matters taken up by the Commission *sua sponte*, not to appeals filed under section 2.1015; CLI-08-22, 68 NRC 355 (2008)

### APPEAL BOARDS

although the Commission abolished the Atomic Safety and Licensing Appeal Board in 1991, its decisions still carry precedential weight; CLI-08-19, 68 NRC 251 (2008)

### APPEALS

petitioners may not seek to skirt contention rules by initially filing unsupported contentions, and later recasting or modifying their contentions on appeal with new arguments never raised before the board; CLI-08-17, 68 NRC 231 (2008)  
the Commission is generally loath to interfere with the board's management of its cases, absent an abuse of power; CLI-08-29, 68 NRC 899 (2008)  
the Commission may reject an appeal summarily for violating NRC procedural regulations; CLI-08-17, 68 NRC 231 (2008)  
where a board's decision rests in part on facts officially noticed, any party wishing to controvert the facts officially noticed may do so by filing a motion for reconsideration or an appeal from the decision; LBP-08-25, 68 NRC 763 (2008)

### APPEALS, INTERLOCUTORY

as a general matter, a board ruling denying a waiver request is interlocutory in nature, and therefore not appealable until the board has issued a final decision resolving the case; CLI-08-27, 68 NRC 655 (2008)  
when considering whether to undertake pendent appellate review of otherwise unappealable issues, the Commission has expressed a willingness to take up otherwise unappealable issues that are "inextricably intertwined" with appealable issues; CLI-08-27, 68 NRC 655 (2008)

### APPELLATE REVIEW

the Commission gives substantial deference to board conclusions on standing and contention admissibility unless the appeal points to an error of law or abuse of discretion; CLI-08-17, 68 NRC 231 (2008)  
the Commission may grant a petition for review at its discretion, giving due weight to the existence of a substantial question with respect to the five considerations listed in 10 C.F.R. 2.341(b)(4); CLI-08-28, 68 NRC 658 (2008)  
where a party merely complains that the board improperly weighed the evidence and identifies no clear board factual or legal error requiring further Commission consideration on appellate review, the Commission is disinclined to second-guess the board's assessment of the party's affidavits; CLI-08-28, 68 NRC 658 (2008)

### APPLICANTS

applicants must demonstrate that all important systems, structures, and components will continue to perform their intended function in the period of extended operation and must identify any additional actions that will need to be taken to adequately manage the detrimental effects of aging; LBP-08-22, 68 NRC 590 (2008)  
burden is on applicant to show that concrete in containment structures will maintain its integrity during the extended period of operations or to develop an aging management plan that ensures that any indication of degradation is detected and remediated; LBP-08-13, 68 NRC 43 (2008)

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commitment of one party to fulfill its statutory duties in the application process is not enough to demonstrate that the issue will be properly addressed; LBP-08-24, 68 NRC 691 (2008)  
information provided to the Commission by an applicant must be complete and accurate in all material respects; CLI-08-23, 68 NRC 461 (2008)  
it is applicant, not NRC Staff, that has the burden of proof in litigation; CLI-08-23, 68 NRC 461 (2008)  
under 10 C.F.R. 2.325, applicant has the burden of proving that it has met the reasonable assurance standard of 10 C.F.R. 54.29; LBP-08-25, 68 NRC 763 (2008)

### AQUATIC IMPACTS

asserted deficiencies in the environmental report intake/discharge impact discussion as it is associated with the baseline discussion of aquatic resources, if properly supported, can be admitted for further litigation; LBP-08-16, 68 NRC 361 (2008)

### ASME CODE

as Class I components, the feedwater, reactor recirculation, and core spray outlet nozzles on a boiling water reactor must be designed, fabricated, erected, and tested to the highest quality standards practical as specified in Part 50, Appendix A, GDC 30; LBP-08-25, 68 NRC 763 (2008)  
components that are part of the reactor coolant pressure boundary must meet the requirements of Class 1 components in Section III of the ASME Boiler and Pressure Vessel Code; LBP-08-25, 68 NRC 763 (2008)  
if applicant's metal fatigue analyses on Class I components do not comply with the ASME Code and do not provide reasonable assurance as required by 10 C.F.R. 54.21(c)(1) and 54.29(a), then a license renewal cannot be issued; LBP-08-25, 68 NRC 763 (2008)  
in the license renewal context, regulations established under Part 50, including compliance with the ASME Code, must be followed during the period of extended operation; CLI-08-28, 68 NRC 658 (2008)  
license renewal applicant demonstrates compliance with the ASME Code by projecting the fatigue analysis for the nozzle through the extended operating period; CLI-08-28, 68 NRC 658 (2008)  
use of a simplified Green's function methodology for the environmentally adjusted cumulative usage factor metal fatigue analyses for the core spray and reactor recirculation outlet nozzles is inconsistent with the ASME Code and thus cannot serve as the analysis-of-record and does not satisfy the requirements of 10 C.F.R. 54.21(c)(1) or 54.29(a); LBP-08-25, 68 NRC 763 (2008)

### ATOMIC ENERGY ACT

allowing applicant to postpone the performance of an analysis-of-record time-limited aging analysis until after the license renewal is issued would violate the intervenor's hearing rights; LBP-08-25, 68 NRC 763 (2008)  
an application to renew the operating license of a commercial nuclear power plant may be granted only if the Commission finds that the continued operation of the facility will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public; LBP-08-25, 68 NRC 763 (2008)  
NRC is to provide a hearing upon the request of any person whose interest may be affected by the proceeding; LBP-08-14, 68 NRC 279 (2008); LBP-08-24, 68 NRC 691 (2008)  
section 189(a)'s hearing requirement does not unduly limit the Commission's wide discretion to structure its licensing hearings in the interests of speed and efficiency; CLI-08-28, 68 NRC 658 (2008)  
the "direct participation of local citizens in nuclear reactor licensing" is not a right to have all legal arguments on contention admissibility take place near the facility at issue, but rather the right of persons with standing to file contentions in licensing proceedings and litigate admissible contentions; LBP-09-23, 68 NRC 679 (2008)  
the role of "private attorney general" is not contemplated; CLI-08-19, 68 NRC 251 (2008)  
there is no inherent right, based on U.S. citizenship or otherwise, to participate as a party in a proceeding; LBP-08-18, 68 NRC 533 (2008)  
there is no relationship between the legislative purpose underlying the safety provisions of the Act and petitioner's interest in protecting its reputation and avoiding damage suits; CLI-08-19, 68 NRC 251 (2008)  
totally risk-free siting is not required; LBP-08-22, 68 NRC 590 (2008)

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### ATTORNEY CONDUCT

dismissal due to counsel's malfeasance is a logical extension of the board's disciplinary authority to reprimand, censure, or suspend from a proceeding any party or representative who refuses to comply with its directions; CLI-08-29, 68 NRC 899 (2008)

### BENEFIT-COST ANALYSIS

See Cost-Benefit Analyses

### BOARDS

See Appeal Boards; Licensing Boards, Authority; Licensing Boards, Jurisdiction

### BURDEN OF PERSUASION

petitioner has the burden to demonstrate proximity-based standing; CLI-08-19, 68 NRC 251 (2008)

### BURDEN OF PROOF

a party seeking to reopen a closed record to raise a new matter faces an elevated burden to lay a proper foundation for its claim; CLI-08-28, 68 NRC 658 (2008)

applicant has the burden to show that concrete in containment structures will maintain its integrity during the extended period of operations or to develop an aging management plan that ensures that any indication of degradation is detected and remediated; LBP-08-13, 68 NRC 43 (2008)

applicants must demonstrate that all important systems, structures, and components will continue to perform their intended function in the period of extended operation and must identify any additional actions that will need to be taken to adequately manage the detrimental effects of aging; LBP-08-22, 68 NRC 590 (2008)

bare assertions and speculation do not supply the requisite support and a judge's dissenting opinion cannot substitute for the affidavit required to be submitted to the board, with a motion to reopen, in the first instance; CLI-08-28, 68 NRC 658 (2008)

it is applicant, not NRC Staff, that has the burden in litigation; CLI-08-23, 68 NRC 461 (2008)  
new information sufficient to reopen a closed hearing record at the last minute must be significant and plausible enough to require reasonable minds to inquire further; CLI-08-28, 68 NRC 658 (2008)

proponents of a reopening motion bear a heavy burden of meeting all of the reopening requirements; CLI-08-28, 68 NRC 658 (2008)

under 10 C.F.R. 2.325, applicant has the burden of proving that it has met the reasonable assurance standard of 10 C.F.R. 54.29; LBP-08-25, 68 NRC 763 (2008)

### CANCER

contention that the environmental report's analysis of cancer deaths and illnesses relative to natural radiation source exposures is inadequate is inadmissible; LBP-08-16, 68 NRC 361 (2008)

### CERTIFICATION

See Reactor Design Certification

### CLASSIFIED INFORMATION

a dispute over the Commission's authority to direct the Department of Energy to disclose classified information to cleared state representatives over DOE's objection as the originating agency is deferred until there is an actual controversy over a specific document request; CLI-08-21, 68 NRC 351 (2008)  
access to such information for introduction into a proceeding or for the preparation of a party's case is controlled by 10 C.F.R. 2.905; CLI-08-21, 68 NRC 351 (2008)

hearings on alternative terrorist scenario claims could not be conducted in a meaningful way without substantial disclosure of classified and safeguards information on threat assessments and security arrangements and without substantial litigation over their significance; CLI-08-26, 68 NRC 509 (2008)

NRC Staff must include a notice of intent to introduce classified information in the notice of hearing, if it would be impracticable to avoid such introduction; CLI-08-21, 68 NRC 351 (2008)

### CLIMATE CHANGE

allegation that the Final Safety Analysis report must address the impact of global warming on the transmission grid and the increased probability of loss of offsite power events is inadmissible; LBP-08-16, 68 NRC 361 (2008)

### COLLATERAL ESTOPPEL

a board in one proceeding is not constrained to follow the rulings of another board absent explicit affirmation by the Commission; LBP-08-24, 68 NRC 691 (2008)

## SUBJECT INDEX

collateral estoppel effect is given to judgments granting a motion to dismiss, when the party against which collateral estoppel is invoked had a full and fair opportunity to oppose the dismissal; LBP-09-23, 68 NRC 679 (2008)

in ASLBP proceedings, collateral estoppel may bar a party from relitigating the admissibility of a contention when an earlier board refused to admit the same contention in an earlier proceeding involving the same facility; LBP-09-23, 68 NRC 679 (2008)

parties are barred from relitigating issues actually and necessarily decided in prior litigation between the same parties; LBP-08-15, 68 NRC 294 (2008)

the board is prohibited from considering in a COL proceeding matters that were resolved in an ESP proceeding when the COL application references the ESP; LBP-09-23, 68 NRC 679 (2008)

the party against which collateral estoppel is applied must have had a full and fair opportunity to litigate its position, but it need not necessarily have had discovery or an evidentiary hearing; LBP-09-23, 68 NRC 679 (2008)

### COMBINED LICENSE APPLICATION

a NEPA analysis is not the vehicle for exploring questions about the potential for a terrorist attack upon a proposed nuclear facility; LBP-08-16, 68 NRC 361 (2008)

a Staff request to an applicant for more information does not make an application incomplete; CLI-08-15, 68 NRC 1 (2008)

applicant is required to present a cost-benefit analysis (and therefore provide cost estimates) for nuclear power plants and facilities only where the applicant's alternatives analysis indicates that there is an environmentally preferable alternative; LBP-08-21, 68 NRC 554 (2008)

applicant may reference a reactor design for which a design certification application has been docketed but not yet granted, but do so at their own risk; LBP-08-17, 68 NRC 431 (2008)

applicant's environmental report must address the environmental costs of management of low-level wastes and high-level wastes related to uranium fuel cycle activities; LBP-08-15, 68 NRC 294 (2008)

applicants are not required to address or demonstrate whether the issuance of a COL will improve the general welfare, increase the standard of living, or strengthen free competition in private enterprise; LBP-08-17, 68 NRC 431 (2008)

docketing decisions are not challengeable in an adjudicatory proceeding; CLI-08-15, 68 NRC 1 (2008)

in adjudicatory proceedings it is the license application, not the NRC Staff review, that is at issue; CLI-08-15, 68 NRC 1 (2008)

the issue of need for power is a part of NRC's COL NEPA review process; LBP-08-16, 68 NRC 361 (2008)

### COMBINED LICENSE PROCEEDINGS

a contention arising from a matter resolved in an early site permit proceeding is within the scope of a combined license proceeding that references the ESP if it concerns whether emergency planning matters resolved in the ESP should be revisited; LBP-08-15, 68 NRC 294 (2008)

a matter need not be actually litigated in order to be "resolved" in an early site permit proceeding; LBP-08-15, 68 NRC 294 (2008)

a safety contention arising from a matter resolved in an early site permit proceeding is within the scope of a combined license proceeding that references the ESP if it concerns whether the site characteristics and design parameters or a term or condition specified in the ESP have been met or whether a variance from the ESP requested by the COL applicant is unwarranted or should be modified; LBP-08-15, 68 NRC 294 (2008)

allegation that NRC has inadequately characterized human health impacts of radiation exposure from the high-level waste repository is inadmissible in a combined license proceeding; LBP-08-16, 68 NRC 361 (2008)

an environmental contention may be admitted during a COL proceeding if it concerns a significant issue that was not resolved in the early site permit proceeding or if it involves the impacts of construction and operation of the facility and significant new information has been identified; LBP-08-15, 68 NRC 294 (2008)

an uncontested proceeding is subject to the mandatory hearing requirements; LBP-08-15, 68 NRC 294 (2008)

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- applicant's plan for storage of low-level radioactive waste is a litigable issue because it is material to the findings the NRC must make to support the action that is involved in a combined license proceeding; LBP-08-15, 68 NRC 294 (2008)
- contention challenging applicant's failure to consider deliberate and malicious aircraft crashes in its environmental report is inadmissible; LBP-08-21, 68 NRC 554 (2008)
- given that the *Federal Register* notice defines the scope of the issues that may properly be raised in a request for a hearing, it also defines the scope of the issues that could reasonably be deemed resolved during an ESP proceeding; LBP-08-15, 68 NRC 294 (2008)
- if applicant proceeds with a site-specific reactor design instead of a certified design, any admissible issues would have to be addressed in the licensing adjudication; CLI-08-15, 68 NRC 1 (2008)
- if petitioner identifies specific omissions in the combined license application, those omissions should be addressed in a contention to the board which, in turn, should refer such a contention to the Staff for consideration in the design certification rulemaking, and hold that contention in abeyance, if it is otherwise admissible; LBP-08-21, 68 NRC 554 (2008)
- in ASLBP proceedings, collateral estoppel may bar a party from relitigating the admissibility of a contention when an earlier board refused to admit the same contention in an earlier proceeding involving the same facility; LBP-09-23, 68 NRC 679 (2008)
- in the absence of a 10 C.F.R. 2.335 waiver petition, any challenge brought to aspects of a referenced certified reactor design is outside the scope of a COL proceeding; LBP-08-16, 68 NRC 361 (2008)
- inadequacy of environmental report's reliance on Table S-3 regarding radioactive effluents from the uranium fuel cycle is not litigable in a COL proceeding; LBP-08-16, 68 NRC 361 (2008)
- issues concerning a reactor design certification application should be resolved in the design certification rulemaking and not in an individual COL proceeding; CLI-08-15, 68 NRC 1 (2008)
- licensing boards should refer contention challenging a reactor design certification to the Staff for consideration in the design certification rulemaking, and hold that contention in abeyance, if it is otherwise admissible; CLI-08-15, 68 NRC 1 (2008)
- matters resolved in an early site permit proceeding are considered resolved in a subsequent COL proceeding when the COL application references the ESP, subject to certain exceptions; LBP-08-15, 68 NRC 294 (2008)
- petitioner's assertions regarding the historical fire protection situation at the existing unit is outside the scope of the combined license proceeding; LBP-08-21, 68 NRC 554 (2008)
- petitioner's dispute with the combined license application concerning completeness of the AP1000 Design Certification Document is referred to Staff for resolution during the rulemaking on the certification of the AP1000 design and any hearing on the merits is held in abeyance pending the outcome of the rulemaking; LBP-08-21, 68 NRC 554 (2008)
- petitioners may not attack Commission regulations; CLI-08-15, 68 NRC 1 (2008)
- standing to intervene in proceedings involving nuclear power reactors without the need to plead injury, causation, and redressability is presumed if petitioner lives within 50 miles of the nuclear power reactor; LBP-08-15, 68 NRC 294 (2008)
- state agencies may participate as nonparty interested states; LBP-08-15, 68 NRC 294 (2008)
- the board is prohibited from considering in a COL proceeding matters that were resolved in an ESP proceeding when the COL application references the ESP; LBP-09-23, 68 NRC 679 (2008)
- use of the term "resolved" in 10 C.F.R. 52.39(a) implies an intent to grant preclusive effect only when the appropriate agency official makes a determination concerning the issue in dispute; LBP-08-15, 68 NRC 294 (2008)
- whether applicant will improve the general welfare, increase the standard of living, or strengthen free competition in private enterprise is not a litigable issue; LBP-08-16, 68 NRC 361 (2008)
- COMBINED LICENSES**
- the waste confidence rule applies to the spent fuel discharged from any new generation of reactor designs; LBP-08-21, 68 NRC 554 (2008)
- COMMON DEFENSE AND SECURITY**
- an application to renew the operating license of a commercial nuclear power plant may be granted only if the Commission finds that the continued operation of the facility will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public; LBP-08-24, 68 NRC 691 (2008); LBP-08-25, 68 NRC 763 (2008)

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### COMPLIANCE

a declaration of compliance is not a demonstration of compliance; LBP-08-25, 68 NRC 763 (2008)  
compliance with NRC guidance documents is neither necessary nor necessarily sufficient to satisfy the legal requirements that each application must meet under the Atomic Energy Act; LBP-08-25, 68 NRC 763 (2008)

### CONCRETE

burden is on applicant to show that concrete in containment structures will maintain its integrity during the extended period of operations or to develop an aging management plan that ensures that any indication of degradation is detected and remediated; LBP-08-13, 68 NRC 43 (2008)

### CONFIRMATORY ANALYSIS

NRC Staff's revision of the Final Safety Evaluation Report to account for applicant's confirmatory analysis would not, standing alone, be a materially different result that justifies reopening the record, because it would neither change the outcome of the renewal proceeding nor impose a different licensing condition on an applicant; LBP-08-12, 68 NRC 5 (2008)

### CONFIRMATORY ORDER

claims by a nonlicensee to the effect that the root causes or facts underpinning a confirmatory order are inaccurate are not valid claims in an enforcement proceeding; LBP-08-14, 68 NRC 279 (2008)  
it is unlikely that petitioners will often obtain hearings on confirmatory enforcement orders; LBP-08-14, 68 NRC 279 (2008)  
petitioners may not seek to enhance the measures outlined in an enforcement order; LBP-08-14, 68 NRC 279 (2008)

### CONSERVATION

See Energy Conservation

### CONSIDERATION OF ALTERNATIVES

an environmental report prepared for a license renewal need not discuss economic or technical benefits and costs of the proposed action or alternatives except as they are either essential for determining whether an alternative should be included or relevant to mitigation; LBP-08-13, 68 NRC 43 (2008)  
applicant is required to present a cost-benefit analysis (and therefore provide cost estimates) for nuclear power plants and facilities only where the applicant's alternatives analysis indicates that there is an environmentally preferable alternative; LBP-08-21, 68 NRC 554 (2008)  
applicant's decision to exclude renewable energy options from its alternatives analysis is reasonable because these sources are not always available and, with the current technology, cannot meet the goals of the license renewal application; LBP-08-13, 68 NRC 43 (2008)  
neither NRC nor applicant has the mission or authority to implement a general societal interest in energy efficiency; LBP-08-13, 68 NRC 43 (2008)  
NEPA's rule of reason does not demand an analysis of energy efficiency because conservation measures are beyond the ability of an applicant to implement, and are therefore outside the scope required by a NEPA review of reasonable alternatives; LBP-08-13, 68 NRC 43 (2008)  
presentation of an alternative analysis is, without more, insufficient to support a contention alleging that the original analysis failed to meet applicable requirements; LBP-08-13, 68 NRC 43 (2008)  
reasonable alternatives for license renewal proceedings are limited to discrete electric generation sources that are technically feasible and commercially available; LBP-08-13, 68 NRC 43 (2008)  
the Generic Environmental Impact Statement addresses the need to consider energy conservation for the no-action alternative; LBP-08-13, 68 NRC 43 (2008)  
there is no requirement for an applicant to analyze in detail options that are not discrete, feasible sources of baseload energy; LBP-08-13, 68 NRC 43 (2008)

### CONSTRUCTION AUTHORIZATION APPLICATION

should the Director of the Office of Nuclear Material Safety and Safeguards reject a construction authorization application, applicant will be informed of this determination and of the respects in which the application is deficient; CLI-08-20, 68 NRC 272 (2008)  
the Director of the Office of Nuclear Material Safety and Safeguards must determine whether the tendered application is complete and acceptable for docketing; CLI-08-20, 68 NRC 272 (2008)

### CONSTRUCTION OF MEANING

an ambiguous provision is construed most strongly against the person who selected the language; LBP-08-16, 68 NRC 361 (2008)

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any ambiguity relative to the filing date for hearing requests arising from the language of the agency's hearing opportunity notice should be construed in favor of a participant who was seeking to comply with the notice; LBP-08-16, 68 NRC 361 (2008)

boards are to construe intervention petitions in favor of the petitioners; LBP-08-16, 68 NRC 361 (2008); LBP-08-21, 68 NRC 554 (2008)

in statutory construction, the specific prevails over the general; CLI-08-26, 68 NRC 509 (2008)

See also Regulations, Interpretation

### CONSTRUCTION PERMITS

General Design Criteria are not applicable to nuclear power plants with construction permits issued prior to May 21, 1971; LBP-08-13, 68 NRC 43 (2008)

### CONSULTATION DUTY

a party in the high-level waste proceeding who files a motion must certify that he or she has made a reasonable effort to consult with counsel for the other parties in an effort to resolve the matter in advance of filing the motion; CLI-08-25, 68 NRC 497 (2008)

a tribe may become a consulting party where its property, potentially affected by a federal undertaking, has religious or cultural significance; LBP-08-24, 68 NRC 691 (2008)

all motions are required to include a certification that the sponsor of the motion has made a sincere effort to contact the other parties and to resolve the issues raised in the motion; CLI-08-22, 68 NRC 355 (2008)

ensuring that NRC Staff meets its consultation obligations under section 106 of the National Historic Preservation Act is an issue material to the findings the NRC must make in support of the action involved in a materials license renewal proceeding; LBP-08-24, 68 NRC 691 (2008)

federal agencies are to consult with a tribe if that tribe ascribes cultural or religious significance to properties not on tribal lands; LBP-08-24, 68 NRC 691 (2008)

federal agencies should be sensitive to the special concerns of Indian tribes in historic preservation issues, which often extend beyond Indian lands to other historic properties, and should invite the governing body of the responsible tribe to be a consulting party and to concur in any agreement; LBP-08-24, 68 NRC 691 (2008)

without consultation with a tribe, culturally significant resources will go unidentified and unprotected, resulting in development or use of the land that might cause damage to these cultural resources, thereby injuring the protected interests of the tribe; LBP-08-24, 68 NRC 691 (2008)

### CONTAINMENT

burden is on applicant to show that concrete in containment structures will maintain its integrity during the extended period of operations or to develop an aging management plan that ensures that any indication of degradation is detected and remediated; LBP-08-13, 68 NRC 43 (2008)

### CONTENTIONS

a contention of omission claims that the application fails to contain information on a relevant matter as required by law and provides the supporting reasons for the petitioner's belief; LBP-08-15, 68 NRC 294 (2008)

although latitude is to be afforded a pro se intervenor in the mechanics of contention pleading and citation, an organization that has appeared several times previously is expected to have a heightened awareness of the agency's pleading rules; LBP-08-16, 68 NRC 361 (2008)

boards have discretion to reframe contentions for purposes of clarity, succinctness, and a more efficient proceeding; LBP-08-12, 68 NRC 5 (2008)

issues that raise legal or factual challenges related to an application are appropriately considered as proposed contentions in the context of a merits hearing on the application; CLI-08-20, 68 NRC 272 (2008)

the 30-day hearing petition and contention-filing deadlines set forth in this section have been modified for the high-level waste proceeding; CLI-08-25, 68 NRC 497 (2008)

the Commission shall permit intervention by the state and local governmental body in which the geologic repository operations area is located, and by any affected federally recognized Indian tribe if the contention requirements in 10 C.F.R. 2.309(f) are satisfied with respect to at least one contention; CLI-08-25, 68 NRC 497 (2008)

the purpose of NRC adjudicatory hearings is to consider claims of deficiencies in a license application; CLI-08-20, 68 NRC 272 (2008)



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where petitioner has established standing to intervene, but has not submitted an admissible contention, its request for an evidentiary hearing is denied; LBP-08-17, 68 NRC 431 (2008)

See also Abeyance of Contention Ruling; Adoption of Contentions

### CONTENTIONS, ADMISSIBILITY

a board is not to permit incorporation by reference where the effect would be to circumvent

NRC-prescribed specificity requirements; LBP-08-24, 68 NRC 691 (2008)

a board may appropriately view petitioners' support for its contention in a light that is favorable to the petitioner; LBP-08-26, 68 NRC 905 (2008)

a challenge to the pending EPA proposed rule setting standards for offsite releases from radioactive materials that would be stored in the proposed Yucca Mountain high-level waste geologic repository is inadmissible; LBP-08-16, 68 NRC 361 (2008)

a contention arising from a matter resolved in an early site permit proceeding is within the scope of a combined license proceeding that references the ESP if it concerns whether emergency planning matters resolved in the ESP should be revisited; LBP-08-15, 68 NRC 294 (2008)

a contention that involves an issue of state law is outside the scope of a materials license renewal proceeding; LBP-08-24, 68 NRC 691 (2008)

a license renewal proceeding is an appropriate occasion for appraising the entire past performance of the licensee; LBP-08-24, 68 NRC 691 (2008)

a litany of "facts" and "figures" on various items without citation to a specific document, expert opinion, or other supporting source reduces them to bare assertions and speculation that will not support the contention admission; LBP-08-16, 68 NRC 361 (2008)

a matter need not be actually litigated in order to be "resolved" in an early site permit proceeding; LBP-08-15, 68 NRC 294 (2008)

a petitioner seeking to reopen the record does not show the existence of a significant safety issue by showing merely that a plant component performs safety functions and thus has safety significance; LBP-08-12, 68 NRC 5 (2008)

a presiding officer considering environmental contentions in the high-level waste proceeding should apply NRC reopening procedures and standards in 10 C.F.R. 2.326 to the extent possible; CLI-08-25, 68 NRC 497 (2008)

a reply cannot be used to substantively supplement or amend a contention; LBP-08-18, 68 NRC 533 (2008)

a safety contention arising from a matter resolved in an early site permit proceeding is within the scope of a combined license proceeding that references the ESP if it concerns whether the site characteristics and design parameters or a term or condition specified in the ESP have been met or whether a variance from the ESP requested by the COL applicant is unwarranted or should be modified; LBP-08-15, 68 NRC 294 (2008)

a Staff request to an applicant for more information does not make an application incomplete; CLI-08-15, 68 NRC 1 (2008)

a statement of petitioner's views about what regulatory policy should be does not present a litigable issue; CLI-08-17, 68 NRC 231 (2008); LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008)

absent a waiver pursuant to 10 C.F.R. 2.335, a contention that attacks a Commission rule or that seeks to litigate a matter that is, or clearly is about to become, the subject of a rulemaking, is inadmissible; CLI-08-15, 68 NRC 1 (2008); CLI-08-17, 68 NRC 231 (2008); LBP-08-13, 68 NRC 43 (2008); LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008); LBP-08-21, 68 NRC 554 (2008)

absent a waiver pursuant to 10 C.F.R. 2.335, Category 1 issues cannot be addressed in a license renewal proceeding; LBP-08-13, 68 NRC 43 (2008)

adequacy of the seismic analysis for the site found in the Final Safety Analysis Report is not a litigable issue; LBP-08-16, 68 NRC 361 (2008)

adjudication is not the proper forum for challenging applicable statutory requirements or the basic structure of the agency's regulatory process; LBP-08-16, 68 NRC 361 (2008)

allegation of failure to include in the combined license application any information regarding the project's greenhouse gas emissions or carbon footprint is inadmissible; LBP-08-16, 68 NRC 361 (2008)

allegation that NRC has inadequately characterized human health impacts of radiation exposure from the high-level waste repository is inadmissible in a combined license proceeding; LBP-08-16, 68 NRC 361 (2008)

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allegation that the environmental report's analysis of cancer deaths and illnesses relative to natural radiation source exposures is inadequate is inadmissible; LBP-08-16, 68 NRC 361 (2008)

allegation that the Final Safety Analysis Report must address the impact of global warming on the transmission grid and the increased probability of loss of offsite power events is inadmissible; LBP-08-16, 68 NRC 361 (2008)

although boards are to provide latitude to pro se participants, petitioner's decision to provide an expert affidavit, available when it filed its hearing petition, at the time it submitted its reply runs afoul of the Commission's directive that reply pleadings cannot be used to introduce additional supporting information relative to a contention; LBP-08-16, 68 NRC 361 (2008)

although boards generally are to litigate a contention rather than the basis that provides the issue statement's foundational support, the reach of a contention necessarily hinges upon its terms coupled with its stated basis; LBP-08-16, 68 NRC 361 (2008)

although boards may appropriately view a petitioner's supporting information in a light favorable to the petitioner, failure to provide such information regarding a proffered contention requires the contention be rejected; LBP-08-16, 68 NRC 361 (2008)

although licensing boards frequently hold oral argument on contention admissibility, a board may instead elect to dispense with oral argument; LBP-09-23, 68 NRC 679 (2008)

although petitioner does not have to prove its contention at the admissibility stage, mere notice pleading is insufficient; LBP-08-17, 68 NRC 431 (2008)

an allegation that some aspect of a license application is inadequate or unacceptable does not give rise to a genuine dispute unless it is supported by facts and a reasoned statement of why the application is unacceptable in some material respect; LBP-08-17, 68 NRC 431 (2008)

an assertion that some analysis, calculation, or survey must be included in an environmental report or impact statement is not necessarily sufficient, in and of itself, to require consideration of whether that additional information gathering and disclosure mechanism should be included; LBP-08-16, 68 NRC 361 (2008)

an environmental contention may be admitted during a COL proceeding if it concerns a significant issue that was not resolved in the early site permit proceeding or if it involves the impacts of construction and operation of the facility and significant new information has been identified; LBP-08-15, 68 NRC 294 (2008)

any challenge to an NRC Staff decision to grant an exemption from a 1-hour barrier to a 24/30-minute barrier is a direct challenge to the current licensing basis and unrelated to the effects of plant aging and the license renewal application; LBP-08-13, 68 NRC 43 (2008)

any contention that fails to controvert the application directly, or that mistakenly asserts the application fails to address an issue that the application does address, is defective; LBP-08-17, 68 NRC 431 (2008)

any purported adverse effects caused by a confirmatory order's failure to include revised or additional provisions sought by petitioner shall be deemed irrelevant; LBP-08-14, 68 NRC 279 (2008)

any supporting material provided by petitioner, including those portions of material that are not relied upon, is subject to Board scrutiny; LBP-08-16, 68 NRC 361 (2008); LBP-08-26, 68 NRC 905 (2008)

applicant's failure to consider deliberate and malicious aircraft crashes in its environmental report is inadmissible in a combined license proceeding; LBP-08-21, 68 NRC 554 (2008)

applicant's failure to disclose ownership by a foreign corporation in its license renewal application constitutes a contention of omission; LBP-08-24, 68 NRC 691 (2008)

applicant's plan for storage of low-level radioactive waste is a litigable issue because it is material to the findings NRC must make to support the action that is involved in a combined license proceeding; LBP-08-15, 68 NRC 294 (2008)

applicants are not required to address or demonstrate whether the issuance of a combined license will improve the general welfare, increase the standard of living, or strengthen free competition in private enterprise; LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008)

asserted deficiencies in the environmental report intake/discharge impact discussion as it is associated with the baseline discussion of aquatic resources, if properly supported, can be admitted for further litigation; LBP-08-16, 68 NRC 361 (2008)

availability of Staff review outside the hearing process generally does not constitute adequate protection of a private party's rights when considering 10 C.F.R. 2.309(c)(1)(ii); LBP-08-12, 68 NRC 5 (2008)

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because applicant did not apply for an early site permit, petitioners thus are not precluded from raising an environmental issue relative to failure of applicant's environmental report to assess the onsite impacts of potential long-term storage of low-level waste; LBP-08-16, 68 NRC 361 (2008)

because disposal of Greater-Than-Class-C waste is the responsibility of the federal government, the disposal of GTCC radioactive waste is not directly affected by the partial closure of the Barnwell disposal facility and so is not an admissible aspect of a contention; LBP-08-16, 68 NRC 361 (2008)

by complying with the six contention requirements in 10 C.F.R. 2.309(f)(1)(i)-(vi), petitioner must demonstrate that a contention raises an issue that is appropriate for a licensing board hearing and that such a hearing would not likely be a waste of time and resources; LBP-08-17, 68 NRC 431 (2008)

Category 2 issues are not essentially similar for all plants because they must be reviewed on a site-specific basis and thus challenges relating to these issues are properly part of a license renewal proceeding; LBP-08-13, 68 NRC 43 (2008)

challenges to applicant's reliance on a pending reactor design certification fundamentally on procedural grounds constitutes an impermissible challenge to NRC regulations that allow the procedure applicant has chosen; LBP-08-17, 68 NRC 431 (2008)

challenges to Commission regulations are not admissible in agency adjudications; LBP-08-26, 68 NRC 905 (2008)

challenges to NRC's authority to engage in administrative dispute resolution is beyond the scope of enforcement order proceedings; LBP-08-14, 68 NRC 279 (2008)

challenges to NRC's Waste Confidence rule are inadmissible; LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008)

challenges to the adequacy of Table S-3, which was initially prepared more than 25 years ago, may be made through a petition for rulemaking; LBP-08-17, 68 NRC 431 (2008)

challenges to the Waste Confidence Rule are inadmissible; LBP-09-23, 68 NRC 679 (2008)

claims about the adequacy of the Staff's safety review are not litigable in licensing proceedings; CLI-08-23, 68 NRC 461 (2008)

claims by a nonlicensee to the effect that the root causes or facts underpinning a confirmatory order are inaccurate are not valid claims in an enforcement proceeding concerning that order; LBP-08-14, 68 NRC 279 (2008)

Commission's rules and longstanding precedent bar discovery in connection with the preparation of proposed contentions; CLI-08-28, 68 NRC 658 (2008)

Commission's rules bar contentions where petitioners have only what amounts to generalized suspicions that they hope to substantiate later; LBP-08-17, 68 NRC 431 (2008)

contention alleging that worldwide uranium supplies will be inadequate is dismissed for failure to provide expert opinion, documents, or other sources to support its allegation; LBP-08-15, 68 NRC 294 (2008)

contention that asks the licensing board to determine whether applicant would be able to obtain permits from and comply with regulatory requirements imposed by other agencies is outside NRC's jurisdiction; LBP-08-15, 68 NRC 294 (2008)

contention that suggests that financial qualifications information should be provided in the application submitted by a regulated electric utility represents an impermissible challenge to Commission regulations; LBP-08-17, 68 NRC 431 (2008)

contention that worldwide uranium supplies will be inadequate to permit the anticipated power production benefits during the license term is potentially material to the licensing proceeding; LBP-08-15, 68 NRC 294 (2008)

contentions alleging deficiencies or errors in an application must indicate some significant link between the claimed deficiency and either the health and safety of the public or the environment; LBP-08-16, 68 NRC 361 (2008)

contentions challenging Staff's significant hazards consideration determination are not appropriate for review in a license amendment proceeding; LBP-08-18, 68 NRC 533 (2008); LBP-08-19, 68 NRC 545 (2008); LBP-08-20, 68 NRC 549 (2008)

contentions must assert an issue of law or fact that is material to the outcome of a licensing proceeding, meaning that the subject matter of the contention must impact the grant or denial of a pending license application; LBP-08-16, 68 NRC 361 (2008)

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contentions must be within the scope of the proceeding as defined by the Commission in its initial hearing notice and order referring the proceeding to the licensing board; LBP-08-16, 68 NRC 361 (2008)

contentions must focus on the license application in question, challenging either specific portions of or alleged omissions from the application; LBP-08-16, 68 NRC 361 (2008)

contentions must include a specific statement of the issue of law or fact to be raised or controverted as well as a brief explanation of the basis for the contention; LBP-08-26, 68 NRC 905 (2008)

contentions must satisfy six pleading requirements to be admissible; LBP-08-13, 68 NRC 43 (2008)

contentions relating to the conclusions that the NRC Staff reaches in its NEPA analysis with regard to the environmental impacts from radiological releases to groundwater must await future publication of its supplemental environmental impact statement; LBP-08-13, 68 NRC 43 (2008)

contentions that advocate stricter requirements than agency rules impose or that otherwise seek to litigate a generic determination established by a Commission rulemaking are inadmissible; LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008)

contentions that fail to directly controvert the application or that mistakenly assert the application does not address a relevant issue can be dismissed; LBP-08-16, 68 NRC 361 (2008)

contentions that fail to provide supporting facts or expert opinion are inadmissible; LBP-08-19, 68 NRC 545 (2008)

contentions that fail to raise a genuine dispute of material fact or law with the applicant are inadmissible; LBP-08-19, 68 NRC 545 (2008)

contentions that fail to satisfy the pleading requirements of 10 C.F.R. 2.309(f)(1) are inadmissible; LBP-08-18, 68 NRC 533 (2008); LBP-08-19, 68 NRC 545 (2008); LBP-08-20, 68 NRC 549 (2008); LBP-08-24, 68 NRC 691 (2008); LBP-08-26, 68 NRC 905 (2008)

contentions that fall outside the specified scope of the proceeding must be rejected; LBP-08-16, 68 NRC 361 (2008); LBP-08-26, 68 NRC 905 (2008)

contentions will be ruled inadmissible if petitioner has offered no tangible information, no experts, no substantive affidavits, but instead only bare assertions and speculation; LBP-08-17, 68 NRC 431 (2008); LBP-08-26, 68 NRC 905 (2008)

defect in an application can give rise to a valid contention of omission and cannot therefore be rejected as unripe; LBP-08-24, 68 NRC 691 (2008)

determining whether a contention is adequately supported by a concise allegation of the facts or expert opinion is distinct from what is required to support petitioner's case at a hearing on the merits; LBP-08-26, 68 NRC 905 (2008)

docketing decisions are not challengeable in an adjudicatory proceeding; CLI-08-15, 68 NRC 1 (2008)

expert support is not required for admission of a contention because a fact-based argument may be sufficient on its own; LBP-08-27, 68 NRC 951 (2008)

facts relied on in support of a contention of omission need not show that applicant's facility cannot be safely operated, but rather that the application is incomplete under the governing regulations; LBP-08-15, 68 NRC 294 (2008)

failure to comply with any of the pleading requirements is grounds for dismissing a contention; LBP-08-16, 68 NRC 361 (2008)

failure to present the factual information or expert opinions necessary to support a contention adequately requires that the contention be rejected; LBP-08-26, 68 NRC 905 (2008)

failure to set forth the significance of an online article makes it inadequate to support the admission of the contention; LBP-08-24, 68 NRC 691 (2008)

failure to specify the language of a contention and distinguish it from the discussion that might otherwise be considered the basis for the issue statement might be grounds for dismissing the contention; LBP-08-16, 68 NRC 361 (2008)

for a contention of omission, petitioner may satisfy the requirement to provide a specific statement of the legal or factual issue sought to be raised by providing an adequate description of the information it contends should have been included in the application; LBP-08-15, 68 NRC 294 (2008)

for systems, structures, and components subject to aging management review, discussion of proposed inspection and monitoring details will come before a board only as they are needed to demonstrate that the intended function of relevant SSCs will be maintained for the license renewal period; LBP-08-13, 68 NRC 43 (2008)

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further inquiry is warranted into the safety-related matter of whether the Final Safety Analysis Report has failed to include necessary information concerning applicant's plans for onsite management of Class B and C waste; LBP-08-16, 68 NRC 361 (2008)

general allegations covering the overall adequacy of structures, systems, and components, with no mention of potential errors or deficiencies in an applicant's license renewal application, do not support the admission of a contention; LBP-08-13, 68 NRC 43 (2008)

generalized challenge to the impartiality of the NRC regulatory process associated with hearings is inadmissible; LBP-08-16, 68 NRC 361 (2008)

generic NRC policies and standards and the nature of the NRC Staff's licensing review are not subject to challenge in an adjudicatory proceeding; CLI-08-17, 68 NRC 231 (2008)

given that the *Federal Register* notice defines the scope of the issues that may properly be raised in a request for a hearing, it also defines the scope of the issues that could reasonably be deemed resolved during an ESP proceeding; LBP-08-15, 68 NRC 294 (2008)

if a contention challenges the legal sufficiency of the application that is the subject of the Notice of Hearing and Opportunity to Petition for Leave to Intervene, the contention is within the scope of the proceeding; LBP-08-15, 68 NRC 294 (2008)

if a matter as presented is devoid of safety significance, there is no likelihood whatsoever that a materially different result would have been likely had the newly proffered evidence been considered initially; LBP-08-12, 68 NRC 5 (2008)

if applicant cures the omission, the contention of omission will become moot, and then intervenor must timely file a new or amended contention if it intends to challenge the sufficiency of the new information supplied by applicant; LBP-08-12, 68 NRC 5 (2008); LBP-08-15, 68 NRC 294 (2008)

if applicant proceeds with a site-specific reactor design instead of a certified design, any admissible issues would have to be addressed in the licensing adjudication; CLI-08-15, 68 NRC 1 (2008)

if petitioner believes that current NRC regulations are inadequate, the venue for raising such a concern is a section 2.802 petition to institute a rulemaking action; LBP-08-13, 68 NRC 43 (2008)

if petitioner fails to provide the requisite support for its contentions, the board may not make assumptions of fact that favor the petitioner or supply information that is lacking; LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008)

if petitioner identifies specific omissions in the combined license application, those omissions should be addressed in a contention to the board which, in turn, should refer such a contention to Staff for consideration in the design certification rulemaking, and hold that contention in abeyance, if it is otherwise admissible; LBP-08-21, 68 NRC 554 (2008)

if petitioner neglects to provide the requisite support for its contentions, the board may not make assumptions of fact that favor the petitioner or supply information that is lacking; LBP-08-26, 68 NRC 905 (2008)

if the problem raised in a late-filed contention presents a sufficiently grave threat to public safety, a board should reopen the record to consider it even if it is not newly discovered and could have been raised in timely fashion; LBP-08-12, 68 NRC 5 (2008)

in addition to meeting NRC's regular contention admissibility requirements in 10 C.F.R. 2.309(f), environmental contentions addressing any DOE environmental impact statement or supplement in the high-level waste proceeding must also conform to the requirements and address the applicable factors outlined in 10 C.F.R. 51.109; CLI-08-25, 68 NRC 497 (2008)

in adjudicatory proceedings it is the license application, not the NRC Staff review, that is at issue; CLI-08-15, 68 NRC 1 (2008)

in ASLBP proceedings, collateral estoppel may bar a party from relitigating the admissibility of a contention when an earlier board refused to admit the same contention in an earlier proceeding involving the same facility; LBP-09-23, 68 NRC 679 (2008)

in determining ripeness, boards are to consider both the fitness of the issue for judicial decision and the hardship to the parties of withholding court consideration; LBP-08-24, 68 NRC 691 (2008)

in the absence of a 10 C.F.R. 2.335 waiver petition, any challenge brought to aspects of a referenced certified reactor design is outside the scope of a combined license proceeding; CLI-08-15, 68 NRC 1 (2008); LBP-08-16, 68 NRC 361 (2008)

inadequacy of environmental report's reliance on Table S-3 regarding radioactive effluents from the uranium fuel cycle is not litigable in a combined license proceeding; LBP-08-16, 68 NRC 361 (2008)

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intervention petitioners must show deficiencies or errors in the license renewal application and must establish a significant link between such claimed deficiencies and either the health and safety of the public or the environment; LBP-08-24, 68 NRC 691 (2008)

issues concerning a reactor design certification application should be resolved in the design certification rulemaking; CLI-08-15, 68 NRC 1 (2008)

issues dealing with the current operating license, including the updated Final Safety Analysis Report, are not within the scope of license renewal review; LBP-08-13, 68 NRC 43 (2008)

it is not the responsibility of the licensing board to supply the basis information necessary to sustain a contention; LBP-08-24, 68 NRC 691 (2008)

it is the admissibility of the contention, not the basis, that must be determined; LBP-08-17, 68 NRC 431 (2008)

licensing boards should refer contention challenging a reactor design certification to the Staff for consideration in the design certification rulemaking, and hold that contention in abeyance, if it is otherwise admissible; CLI-08-15, 68 NRC 1 (2008)

material provided in support of a contention will be carefully examined by the board to confirm that on its face it does supply an adequate basis for the contention; LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008)

matters resolved in an early site permit proceeding are considered resolved in a subsequent combined license proceeding when the COL application references the ESP, subject to certain exceptions; LBP-08-15, 68 NRC 294 (2008)

mere issuance of Staff requests for additional information does not mean an application is incomplete for docketing; CLI-08-17, 68 NRC 231 (2008)

mere notice pleading is insufficient; LBP-08-26, 68 NRC 905 (2008)

mere reference to general materials on a website is insufficient to provide support for a contention; LBP-08-21, 68 NRC 554 (2008)

movant must show that a balancing of eight factors of 10 C.F.R. 2.309(c)(1), to the extent they are relevant to the particular filing, weighs in favor of reopening; LBP-08-12, 68 NRC 5 (2008)

movant's assertion that a new contention presents a significant safety issue must be supported by affidavits that set forth the factual and/or technical bases for the allegation; LBP-08-12, 68 NRC 5 (2008)

neither mere speculation nor bare or conclusory assertions, even by an expert, alleging that a matter should be considered will suffice to allow the admission of a proffered contention; LBP-08-16, 68 NRC 361 (2008)

neither NRC regulations nor agency policy mandates that the oral argument be conducted in person near the site; LBP-09-23, 68 NRC 679 (2008)

NEPA imposes no legal duty on NRC to consider intentional malevolent acts on a case-by-case basis in conjunction with commercial power reactor license renewal applications; LBP-08-13, 68 NRC 43 (2008)

NEPA is the only legal grounds for an admissible contention relating to environmental justice; LBP-08-13, 68 NRC 43 (2008)

novel issues that the Commission may wish to address generically at the earliest opportunity are appropriately referred to the Commission; LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008)

NRC regulations establish what the agency has found to be adequately protective radiological dose limits, and petitioners may not use an adjudicatory proceeding to challenge this generic regulatory framework; CLI-08-17, 68 NRC 231 (2008)

NRC regulations require petitioner to raise contentions related to NEPA as challenges to the applicant's environmental report, which acts as a surrogate for the environmental impact statement during the early stages of a relicensing proceeding; LBP-08-26, 68 NRC 905 (2008)

NRC Staff's revision of the Final Safety Evaluation Report to account for applicant's confirmatory analysis would not, standing alone, be a materially different result that justifies reopening the record, because it would neither change the outcome of the renewal proceeding nor impose a different licensing condition on an applicant; LBP-08-12, 68 NRC 5 (2008)

petitioner does not need to prove its contention at the admissibility stage in the proceeding; LBP-08-26, 68 NRC 905 (2008)

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petitioner failed to establish materiality of its contention related to management of low-level radioactive waste by referring to 10 C.F.R. Part 61 because applicant was not seeking a license under Part 61, and it was speculative whether such a license would ever be necessary; LBP-08-15, 68 NRC 294 (2008)

petitioner is not required to redo SAMA analyses in order to raise a material issue; LBP-08-13, 68 NRC 43 (2008)

petitioner may not challenge a federal statute in licensing proceedings; LBP-08-17, 68 NRC 431 (2008)

petitioner may not simply incorporate massive documents by reference as the basis for a statement of his contentions; LBP-08-21, 68 NRC 554 (2008)

petitioner must demonstrate that the issue raised in the contention is within the scope of the proceeding and material to the findings the NRC must make to support the action that is involved; CLI-08-23, 68 NRC 461 (2008); LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008); LBP-08-21, 68 NRC 554 (2008); LBP-08-26, 68 NRC 905 (2008)

petitioner must provide factual or expert support for its contention, which includes the specific sources or documents on which it relies to support its position; LBP-08-16, 68 NRC 361 (2008); LBP-08-16, 68 NRC 361 (2008); LBP-08-26, 68 NRC 905 (2008)

petitioner must show why an alleged error or omission is of significance to the result of the proceeding; LBP-08-26, 68 NRC 905 (2008)

petitioner requesting a hearing on a confirmatory order must show that the request is within the scope of the proceeding by demonstrating that the petitioner will be adversely affected by the existing terms of the enforcement order; LBP-08-14, 68 NRC 279 (2008)

petitioner's assertions regarding the historical fire protection situation at the existing unit outside the scope of the combined license proceeding; LBP-08-21, 68 NRC 554 (2008)

petitioner's assumption that, because it cannot check all SAMA analysis details, the analysis is incomplete or incorrect is mere speculation and is insufficient to support the admissibility of its contention; LBP-08-13, 68 NRC 43 (2008)

petitioner's dispute with the combined license application concerning completeness of the AP1000 Design Certification Document is referred to Staff for resolution during the rulemaking on the certification of the AP1000 design and any hearing on the merits is held in abeyance pending the outcome of the rulemaking; LBP-08-21, 68 NRC 554 (2008)

petitioner's failure to cite any document that, read as a whole, supports its theory that uranium supplies will be insufficient to support operation of a reactor unit during its licensed period renders it inadmissible; LBP-08-16, 68 NRC 361 (2008)

petitioners may not seek to enhance the measures outlined in an enforcement order; LBP-08-14, 68 NRC 279 (2008)

petitioners may not seek to skirt contention rules by initially filing unsupported contentions, and later recasting or modifying their contentions on appeal with new arguments never raised before the board; CLI-08-17, 68 NRC 231 (2008)

petitioners' allegation that applicant's environmental report fails to provide reasonably current and accurate information regarding the costs of nuclear power, costs of alternative energy sources, and financial risks posed by using nuclear power as an energy source is admissible; LBP-08-16, 68 NRC 361 (2008)

petitioners' allegation that NRC regulations are insufficient to protect the constitutional right of due process under the law by allowing citizens to be exposed to impermissible levels of radiation is inadmissible; LBP-08-16, 68 NRC 361 (2008)

pleading requirements for a hearing on a confirmatory order are addressed; LBP-08-14, 68 NRC 279 (2008)

pleading requirements for admissible contentions are described; LBP-08-16, 68 NRC 361 (2008)

pleading requirements for contentions are strict by design; CLI-08-17, 68 NRC 231 (2008); LBP-08-14, 68 NRC 279 (2008)

possibility of undetected existence of caves and sinkholes on the proposed reactor site is not a litigable issue in a COL proceeding; LBP-08-16, 68 NRC 361 (2008)

potential for a terrorist attack upon a proposed nuclear facility is not a litigable issue; LBP-08-16, 68 NRC 361 (2008)

presentation of an alternative analysis is, without more, insufficient to support a contention alleging that the original analysis failed to meet applicable requirements; LBP-08-13, 68 NRC 43 (2008)

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request for waiver is required for contentions that challenge the Commission's regulations; LBP-08-21, 68 NRC 554 (2008)

requirements are strict by design to ensure that hearings cover only genuine and pertinent issues of concern and that the issues are framed and supported concisely enough at the outset to ensure that the proceedings are effective and focused on real, concrete issues; LBP-08-24, 68 NRC 691 (2008)

safety issues that were reviewed for the initial license and that have been closely monitored by NRC inspection during the license term need not be reviewed again in the context of a license renewal application; LBP-08-13, 68 NRC 43 (2008)

simply attaching material or documents as a basis for a contention, without setting forth an explanation of that information's significance, is inadequate to support admission; LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008); LBP-08-26, 68 NRC 905 (2008)

spent fuel pool fires are Category 1 issues and therefore are addressed generically in the generic environmental impact statement for license renewals; LBP-08-13, 68 NRC 43 (2008)

Staff's significant hazards consideration determination is final, subject only to the Commission's discretion, on its own initiative, to review the determination; LBP-08-18, 68 NRC 533 (2008)

strict contention standards ensure that those admitted to NRC hearings bring actual knowledge of safety and environmental issues that bear on the licensing decision, and therefore can litigate issues meaningfully; CLI-08-17, 68 NRC 231 (2008)

strict pleading requirements under 10 C.F.R. 2.309(f)(1) must be satisfied; LBP-08-21, 68 NRC 554 (2008)

the adjudicatory process is not the proper venue to hear any contention that merely addresses petitioner's own views on regulatory policy; LBP-08-26, 68 NRC 905 (2008)

the affidavit supporting a motion to reopen a license renewal proceeding must provide sufficient information to support a prima facie showing that a deficiency exists in the application and the deficiency presents a significant safety issue; LBP-08-12, 68 NRC 5 (2008)

the basis of the contention must relate directly to the proposed licensing action and not be based on allegations of improprieties of only historical interest; LBP-08-24, 68 NRC 691 (2008)

the brief explanation of the logical underpinnings of a contention does not require a petitioner to provide an exhaustive list of possible bases, but simply to provide sufficient alleged factual or legal bases to support the contention; LBP-08-26, 68 NRC 905 (2008)

the Commission expects parties to bear their burden and to clearly identify the matters on which they intend to rely with reference to a specific point; LBP-08-24, 68 NRC 691 (2008)

the fact that an issue was mentioned in agency documents is insufficient to show that it was resolved; LBP-08-15, 68 NRC 294 (2008)

the presiding officer should treat as a cognizable "new consideration" an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate; CLI-08-25, 68 NRC 497 (2008)

the proper purpose of a reply is to discuss alleged deficiencies in a petition, not to try to fix them; LBP-08-17, 68 NRC 431 (2008)

the purpose of the contention rule is to focus litigation on concrete issues and should result in a clearer and more focused record for decision; LBP-08-14, 68 NRC 279 (2008)

the requirement of factual support is not intended to prevent intervention when material and concrete issues exist; LBP-08-27, 68 NRC 951 (2008)

the scope of the proceeding is defined by the Commission in its initial hearing notice and order referring the proceeding to the licensing board; LBP-08-26, 68 NRC 905 (2008)

the subject matter of a contention must impact the grant or denial of a pending license application; LBP-08-26, 68 NRC 905 (2008)

the underlying purpose of NEPA as an information-gathering and disclosure mechanism requires a different view of the concept of "materiality" under 10 C.F.R. 2.309(f)(1)(iv) than might be applied to a contention seeking to establish a health and safety issue; LBP-08-16, 68 NRC 361 (2008)

the Waste Confidence Rule is applicable to all new reactor proceedings; LBP-08-16, 68 NRC 361 (2008)

there is a difference between contentions that allege that a license application suffers from an improper omission and contentions that raise a specific substantive challenge to how particular information or issues have been discussed in a license application; LBP-08-12, 68 NRC 5 (2008)



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there is no need for a review of emergency planning issues in the context of license renewal; LBP-08-13, 68 NRC 43 (2008)

there must be some link between the deficiency claimed in a contention and the agency's ultimate determination regarding whether the license applicant will adequately protect the health and safety of the public and the environment; LBP-08-26, 68 NRC 905 (2008)

threshold contention standards are imposed to avoid admission of contentions based on little more than speculation and intervenors who have negligible knowledge of nuclear power issues; CLI-08-17, 68 NRC 231 (2008)

to reopen a closed record to introduce a new issue, movant has the burden of showing that the new information will likely trigger a different result; LBP-08-12, 68 NRC 5 (2008)

to satisfy the basis requirement for a contention of omission, petitioner must briefly and adequately explain why it believes that the application omits information necessary to satisfy the governing NRC regulations; LBP-08-15, 68 NRC 294 (2008)

unlike federal court practice, the Commission does not accept mere notice pleading in support of an admissible contention; LBP-08-24, 68 NRC 691 (2008)

waiver of a rule can be granted only in unusual and compelling circumstances; LBP-08-17, 68 NRC 431 (2008)

whether applicant might someday require a permit under 10 C.F.R. Part 61 for a disposal facility is too speculative and therefore not material to the findings the NRC must make to support the action that is involved; LBP-08-16, 68 NRC 361 (2008)

whether applicant will improve the general welfare, increase the standard of living, or strengthen free competition in private enterprise is not a litigable issue in a COL proceeding; LBP-08-16, 68 NRC 361 (2008)

**CONTENTIONS, LATE-FILED**

a claim not raised in the hearing petition, but added as a new claim in petitioners' reply brief is considered impermissibly late; CLI-08-17, 68 NRC 231 (2008)

a newly proffered contention submitted after the close of the record must meet timeliness standards as well as the requirements of 10 C.F.R. 2.309(c); LBP-08-12, 68 NRC 5 (2008)

a nontimely petition or contention will not be entertained in the high-level waste proceeding unless the Commission, an Atomic Safety and Licensing Board, or a presiding officer designated to rule on the petition determines that the late petition or contention meets the late-filing requirements; CLI-08-25, 68 NRC 497 (2008)

although an intervenor may have fewer resources and less ability than other participants, all share the same burden of uncovering relevant information that is publicly available; LBP-08-12, 68 NRC 5 (2008)

contentions must be based on documents or other information available at the time the petition is to be filed; LBP-08-27, 68 NRC 951 (2008)

for filing new contentions, boards have generally established a deadline of 30 days to be timely after the receipt of new information; LBP-08-12, 68 NRC 5 (2008)

if the problem raised in a late-filed contention presents a sufficiently grave threat to public safety, a board should reopen the record to consider it even if it is not newly discovered and could have been raised in timely fashion; LBP-08-12, 68 NRC 5 (2008)

in the case of the yet-to-issue NRC rules for the high-level waste proceeding, the Commission is dispensing in advance with all late-filing factors except the "good cause" factor; CLI-08-25, 68 NRC 497 (2008)

movant's assertion that a new contention presents a significant safety issue must be supported by affidavits that set forth the factual and/or technical bases for the allegation; LBP-08-12, 68 NRC 5 (2008)

new or amended contentions can be filed with leave of the board if the information upon which the amended or new contention is based was not previously available, the information is materially different from information previously available, and the contention has been submitted in a timely fashion based on the availability of the subsequent information; LBP-08-27, 68 NRC 951 (2008)

newly filed contentions must meet the requirements of 10 C.F.R. 2.309(f)(2) as well as the six basic contention admissibility standards set forth in section 2.309(f)(1)(i)-(vi); LBP-08-27, 68 NRC 951 (2008)

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nontimely contentions may be accepted only upon a showing of good cause for failure to file in a timely manner and a weighing of a number of factors; LBP-08-27, 68 NRC 951 (2008)

the standard for admitting a new contention after the record is closed is higher than for an ordinary late-filed contention; CLI-08-28, 68 NRC 658 (2008)

timeliness as measured under NRC regulations is from the point at which new information is discovered relevant to the question; LBP-08-12, 68 NRC 5 (2008)

when new contentions are based on breaking developments of information, they are to be treated as new or amended, not as nontimely; LBP-08-27, 68 NRC 951 (2008)

where a motion to reopen proposes a contention not previously part of the proceeding, the requirements for late-filed contentions set out in 10 C.F.R. 2.309(c) must also be satisfied; CLI-08-28, 68 NRC 658 (2008)

where a motion to reopen the record seeks to admit a new contention that has not previously been in controversy among the parties, movant must show that a balancing of the factors of 10 C.F.R. 2.309(c)(1) weighs in favor of reopening; LBP-08-12, 68 NRC 5 (2008)

### CONTRA PROFERENTEM

any ambiguity relative to the filing date for hearing requests arising from the language of the agency's hearing opportunity notice should be construed in favor of a participant who was seeking to comply with the notice; LBP-08-16, 68 NRC 361 (2008)

### CONTRACTORS

a senior plant supervisor's deliberate failure to contact the appropriate site security manager in order to initiate an assessment of the trustworthiness and reliability of the two contract technicians who falsified a maintenance report is a violation; LBP-08-14, 68 NRC 279 (2008)

if a document or study is prepared by a nonfederal party, the agency official is responsible for ensuring that its content meets applicable standards and guidelines; LBP-08-24, 68 NRC 691 (2008)

### COOLING SYSTEMS

applicant is required to provide in its environmental report a site-specific analysis of entrainment, impingement, and heat shock/thermal discharge impacts from its once-through cooling systems; LBP-08-13, 68 NRC 43 (2008)

as Class I components, the feedwater, reactor recirculation, and core spray outlet nozzles on a boiling water reactor must be designed, fabricated, erected, and tested to the highest quality standards practical as specified in Part 50, Appendix A, GDC 30; LBP-08-25, 68 NRC 763 (2008)

components that are part of the reactor coolant pressure boundary must meet the requirements of Class 1 components in Section III of the ASME Boiler and Pressure Vessel Code; LBP-08-25, 68 NRC 763 (2008)

See also Reactor Cooling Systems

### COST-BENEFIT ANALYSES

an environmental report prepared for a license renewal need not discuss economic or technical benefits and costs of the proposed action or alternatives except as they are either essential for determining whether an alternative should be included or relevant to mitigation; LBP-08-13, 68 NRC 43 (2008)

applicant is required to present a cost-benefit analysis (and therefore provide cost estimates) for nuclear power plants and facilities only where the applicant's alternatives analysis indicates that there is an environmentally preferable alternative; LBP-08-21, 68 NRC 554 (2008)

contention that worldwide uranium supplies will be inadequate to permit the anticipated power production benefits during the license term is potentially material to the licensing proceeding; LBP-08-15, 68 NRC 294 (2008)

to challenge a SAMA analysis, petitioner must, at a minimum, address the approximate relative cost and benefit of the SAMA; LBP-08-13, 68 NRC 43 (2008)

### COUNSEL

general counsel for an Indian tribe is not required to submit a declaration stating the basis of his or her authority to represent the tribe; LBP-08-26, 68 NRC 905 (2008)

### CRACKING

damage to a nonsafety-related steam dryer could cause a release of loose parts that could have an adverse impact on safety-related equipment and thus it is within the scope of aging management review in a license renewal proceeding; LBP-08-25, 68 NRC 763 (2008)

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in evaluating metal fatigue, a component's cumulative usage factor is the fundamental parameter used to determine whether it will likely develop cracks during the license renewal period and thus is subject to an aging management plan; LBP-08-13, 68 NRC 43 (2008)

### CROSS-EXAMINATION

a board has discretion to allow parties to cross-examine witnesses in Subpart L proceedings if the board deems this practice necessary to establish an adequate record; LBP-08-24, 68 NRC 691 (2008)

### CULTURAL RESOURCES

a federal agency, prior to the issuance of any license, is required to take into account the effect of the federal action on any area eligible for inclusion in the National Register of Historic Places; LBP-08-24, 68 NRC 691 (2008)

a license renewal applicant must assess whether any historic or archaeological properties will be affected by the proposed project; LBP-08-26, 68 NRC 905 (2008)

a tribe may become a consulting party where its property, potentially affected by a federal undertaking, has religious or cultural significance; LBP-08-24, 68 NRC 691 (2008)

federal agencies are to consult with a tribe if that tribe ascribes cultural or religious significance to properties not on tribal lands; LBP-08-24, 68 NRC 691 (2008)

notification and inventory procedures are provided so that Indian cultural objects and burial remains found on federal lands will be repatriated to the appropriate tribe; LBP-08-24, 68 NRC 691 (2008)

preservation of cultural traditions is a protected interest under federal law, and its endangerment or harm qualifies as an injury for the purposes of establishing standing; LBP-08-24, 68 NRC 691 (2008)

to establish an injury in fact, a party merely has to show some threatened concrete interest personal to the party that the National Historic Preservation Act was designed to protect; LBP-08-24, 68 NRC 691 (2008)

without consultation with a tribe, culturally significant resources will go unidentified and unprotected, resulting in development or use of the land that might cause damage to these cultural resources, thereby injuring the protected interests of the tribe; LBP-08-24, 68 NRC 691 (2008)

### CULTURAL SENSITIVITY

federal agencies should be sensitive to the special concerns of Indian tribes in historic preservation issues, which often extend beyond Indian lands to other historic properties, and should invite the governing body of the responsible tribe to be a consulting party and to concur in any agreement; LBP-08-24, 68 NRC 691 (2008)

### CUMULATIVE USAGE FACTOR

analysis of metal fatigue that ignores the known and substantial effects of the light-water reactor environment is insufficient, both as a technical and a legal matter; LBP-08-25, 68 NRC 763 (2008)

applicant's commitment to repair or replace affected locations before exceeding a CUF of 1.0 does not meet the "demonstration" requirement of the regulations; LBP-08-13, 68 NRC 43 (2008)

applicant's use of a conservative number of transients in the calculations of the environmentally adjusted CUF is adequate to provide the degree of assurance required by 10 C.F.R. 54.29(a); LBP-08-25, 68 NRC 763 (2008)

conservatism in use of Green's function to determine CUF related to metal fatigue in the recirculation nozzle is discussed; LBP-08-12, 68 NRC 5 (2008)

if applicant's metal fatigue analyses on Class I components do not comply with the ASME Code and do not provide reasonable assurance as required by 10 C.F.R. 54.21(c)(1) and 54.29(a), then a license renewal cannot be issued; LBP-08-25, 68 NRC 763 (2008)

in evaluating metal fatigue, a component's CUF is the fundamental parameter used to determine whether it will likely develop cracks during the license renewal period and thus is subject to an aging management plan; LBP-08-13, 68 NRC 43 (2008)

use of a simplified Green's function methodology for the environmentally adjusted CUF metal fatigue analyses for the core spray and reactor recirculation outlet nozzles is inconsistent with the ASME Code and thus cannot serve as the analysis-of-record and does not satisfy the requirements of 10 C.F.R. 54.21(c)(1) or 54.29(a); LBP-08-25, 68 NRC 763 (2008)

### CURRENT LICENSING BASIS

any challenge to an NRC Staff decision to grant an exemption from a 1-hour barrier to a 24/30-minute barrier is a direct challenge to the current licensing basis and unrelated to the effects of plant aging and the license renewal application; LBP-08-13, 68 NRC 43 (2008)

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CLB represents an evolving set of requirements and commitments for a specific plant that are modified as necessary over the life of a plant to ensure continuation of an adequate level of safety; LBP-08-25, 68 NRC 763 (2008)

contentions pertaining to issues dealing with the current operating license, including the Updated Final Safety Analysis Report, are not within the scope of license renewal review; LBP-08-13, 68 NRC 43 (2008)

during the license renewal term, the current licensing basis incorporates the CLB for the current license, including all licensee commitments, plus any new commitments to monitor, manage, and correct age-related degradation unique to license renewal; LBP-08-25, 68 NRC 763 (2008)

the licensing basis for a nuclear power plant during the renewal term consists of the CLB together with new commitments to monitor, manage, and correct age-related degradation unique to license renewal; LBP-08-25, 68 NRC 763 (2008)

### DEADLINES

amicus briefs must be filed by the same deadline as the brief of the party whose side the amicus brief supports, unless the Commission provides otherwise; CLI-08-22, 68 NRC 355 (2008)

for filing new contentions, boards have generally established a deadline of 30 days to be timely after the receipt of new information; LBP-08-12, 68 NRC 5 (2008)

the 30-day hearing petition and contention-filing deadlines set forth in this section have been modified for the high-level waste proceeding; CLI-08-25, 68 NRC 497 (2008)

to be considered timely, a document must be submitted to the E-Filing system for docketing and service by 11:59 p.m. Eastern Time; LBP-08-16, 68 NRC 361 (2008)

### DECISIONS

an agency or commission must articulate with clarity and precision its findings and the reasons for its decisions; LBP-08-22, 68 NRC 590 (2008)

### DECOMMISSIONING FUNDING

applicant is required to establish a surety arrangement that ensures sufficient funds will be available for decommissioning and decontamination of an NRC-licensed source materials site; LBP-08-24, 68 NRC 691 (2008)

calculations for surety bonds are to be estimated to the extent possible, and based on the applicant's experience with generally accepted industry practices including research and development at the site or previous operating experience in the case of a license renewal; LBP-08-24, 68 NRC 691 (2008)

### DEFENSE-IN-DEPTH POLICY

protection against a highly unlikely loss-of-coolant accident has long been an essential part of the defense-in-depth concept used by the nuclear power industry and the AEC to ensure the safety of nuclear power plants; LBP-08-12, 68 NRC 5 (2008)

### DEFINITIONS

an early site permit focuses on the suitability of a proposed site, and is defined as Commission approval for a site or sites for one or more nuclear power facilities; LBP-08-15, 68 NRC 294 (2008)

an early site permit is a partial construction permit, whose issuance does not authorize an applicant to construct nuclear power reactors; LBP-08-15, 68 NRC 294 (2008)

“current licensing basis” is a term of art comprehending the various Commission requirements applicable to a specific plant that are in effect at the time of the license renewal application; LBP-08-25, 68 NRC 763 (2008)

“direct transfers” entail a change to operating and/or possession authority; CLI-08-19, 68 NRC 251 (2008)

“extended power uprate” usually requires significant modifications to major plant equipment, and may be for power level increases as high as 20%; CLI-08-17, 68 NRC 231 (2008)

“indirect transfers” involve corporate restructuring or reorganizations which leave the licensee itself intact as a corporate entity and therefore involve no application for a new operating license; CLI-08-19, 68 NRC 251 (2008)

“measurement uncertainty recapture power uprate” typically involves a power level increase of less than 2%, achieved by enhanced techniques for calculating reactor power; CLI-08-17, 68 NRC 231 (2008)

“notice pleading” is a broad standard requiring only a short and plain statement of the claim; LBP-08-26, 68 NRC 905 (2008)

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“stretch power uprate” typically results in power level increases up to 7% and generally does not involve major plant modifications; CLI-08-17, 68 NRC 231 (2008)

### DELAY OF PROCEEDING

the Commission seeks wherever possible to avoid the delays, such as an additional round of pleadings, caused by a petitioner’s attempt to backstop elemental deficiencies in its original petition to intervene; CLI-08-19, 68 NRC 251 (2008)

### DELIBERATIVE PROCESS PRIVILEGE

intra-agency memoranda developed during the decisionmaking process are protected under the Freedom of Information Act; CLI-08-23, 68 NRC 461 (2008)

the privilege applies to summaries of information gathered to assist the agency in reaching a “complex” and “significant” policy decision, where the summaries reflect the judgment or opinion of their compiler; CLI-08-23, 68 NRC 461 (2008)

to overcome privilege, petitioners have to show that their need for the information outweighs potential harm to the agency from that disclosure; CLI-08-23, 68 NRC 461 (2008)

### DEPLETED URANIUM

DU is classified as Class A waste under current agency regulations; LBP-08-16, 68 NRC 361 (2008)

### DESIGN

See Reactor Design

### DISCLOSURE

a dispute over the Commission’s authority to direct the Department of Energy to disclose classified information to cleared state representatives over DOE’s objection as the originating agency is deferred until there is an actual controversy over a specific document request; CLI-08-21, 68 NRC 351 (2008)

hearings on alternative terrorist scenario claims could not be conducted in a meaningful way without substantial disclosure of classified and safeguards information on threat assessments and security arrangements and without substantial litigation over their significance; CLI-08-26, 68 NRC 509 (2008)

the Commission may withhold from public disclosure any information that is exempt under the Freedom of Information Act; CLI-08-26, 68 NRC 509 (2008)

to overcome deliberative process privilege, petitioners have to show that their need for the information outweighs potential harm to the agency from that disclosure; CLI-08-23, 68 NRC 461 (2008)

### DISCOVERY

a board is to decide the motion to reopen on the information before it and has no authority to engage in discovery in order to supplement the pleadings before it; CLI-08-28, 68 NRC 658 (2008)

Commission’s rules and longstanding precedent bar discovery in connection with the preparation of proposed contentions; CLI-08-28, 68 NRC 658 (2008)

for the purpose of developing a motion to reopen the record or to assist a petitioner in the framing of contentions, discovery is not permitted; LBP-08-12, 68 NRC 5 (2008)

if litigation over a contention brings into play financial or other information that has been designated as nonpublic, petitioners must request that the board issue a protective order that permits access; LBP-08-16, 68 NRC 361 (2008)

the Licensing Support Network functions as a mechanism for early collection of all extant documents that normally would be collected later through traditional discovery; CLI-08-22, 68 NRC 355 (2008)

### DISMISSAL OF PARTIES

dismissal due to counsel’s malfeasance is a logical extension of the board’s disciplinary authority to reprimand, censure, or suspend from a proceeding any party or representative who refuses to comply with its directions; CLI-08-29, 68 NRC 899 (2008)

this sanction falls within the spectrum of sanctions available to the boards to assist in the management of proceedings, although dismissal should be reserved for severe cases; CLI-08-29, 68 NRC 899 (2008)

### DISPUTE RESOLUTION

See Administrative Dispute Resolution

### DOCKETING

the Director of the Office of Nuclear Material Safety and Safeguards must determine whether the tendered application is complete and acceptable; CLI-08-20, 68 NRC 272 (2008)

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### DOCUMENTARY MATERIAL

an agency employee's working file constitutes an "agency record" if it both contains unique information that underlies an agency decision and it was also made available to other agency employees for purposes of helping to reach or support that decision; CLI-08-23, 68 NRC 461 (2008)

federal agencies have some discretion in determining which documentary materials are appropriate for preservation as an agency "record"; CLI-08-23, 68 NRC 461 (2008)

intra-agency memoranda developed during the decisionmaking process are protected under the deliberative process privilege; CLI-08-23, 68 NRC 461 (2008)

materials created by an employee for the individual's own use in performing his or her job, and which are not circulated and are not otherwise required by NRC policy to be maintained, may be discarded at the employee's discretion; CLI-08-23, 68 NRC 461 (2008)

the Licensing Support Network functions as a mechanism for early collection of all extant documents that normally would be collected later through traditional discovery; CLI-08-22, 68 NRC 355 (2008)

### DOCUMENTATION

licensees must maintain condition reports, survey records, radiological liquid effluent and environmental monitoring reports, records of historical spills and leaks; DD-08-2, 68 NRC 339 (2008)

See also Recordkeeping

### DOSE LIMITS

ionizing radiation to treat fresh fruits is safe if the radiation dose does not exceed 1 kGy (100 krad); CLI-08-16, 68 NRC 221 (2008)

licensee's efforts to maintain compliance with dose limits for individual members of the public in light of radiological effluent release from cracked spent fuel pool are described; DD-08-2, 68 NRC 339 (2008)

NRC regulations establish what the agency has found to be adequately protective radiological dose limits, and petitioners may not use an adjudicatory proceeding to challenge this generic regulatory framework; CLI-08-17, 68 NRC 231 (2008)

### DUE PROCESS

in ASLBP proceedings, collateral estoppel may bar a party from relitigating the admissibility of a contention when an earlier board refused to admit the same contention in an earlier proceeding involving the same facility; LBP-09-23, 68 NRC 679 (2008)

petitioners' allegation that NRC regulations are insufficient to protect the constitutional right of due process under the law by allowing citizens to be exposed to impermissible levels of radiation is inadmissible; LBP-08-16, 68 NRC 361 (2008)

### EARLY SITE PERMIT PROCEEDINGS

a matter need not be actually litigated in order to be "resolved" in an ESP proceeding; LBP-08-15, 68 NRC 294 (2008)

given that the *Federal Register* notice defines the scope of the issues that may properly be raised in a request for a hearing, it also defines the scope of the issues that could reasonably be deemed resolved during an ESP proceeding; LBP-08-15, 68 NRC 294 (2008)

matters resolved in an ESP proceeding are considered resolved in a subsequent combined license proceeding when the COL application references the ESP, subject to certain exceptions; LBP-08-15, 68 NRC 294 (2008); LBP-09-23, 68 NRC 679 (2008)

the mandatory hearing board is required to answer six questions for uncontested proceedings; LBP-08-15, 68 NRC 294 (2008)

### EARLY SITE PERMITS

a contention arising from a matter resolved in an early site permit proceeding is within the scope of a combined license proceeding that references the ESP if it concerns whether emergency planning matters resolved in the ESP should be revisited; LBP-08-15, 68 NRC 294 (2008)

a safety contention arising from a matter resolved in an early site permit proceeding is within the scope of a combined license proceeding that references the ESP if it concerns whether a term or condition in the ESP has been met; LBP-08-15, 68 NRC 294 (2008)

a safety contention arising from a matter resolved in an early site permit proceeding is within the scope of a combined license proceeding that references the ESP if it concerns whether a variance from the ESP requested by the COL applicant is unwarranted or should be modified; LBP-08-15, 68 NRC 294 (2008)

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an ESP focuses on the suitability of a proposed site, and is defined as Commission approval for a site or sites for one or more nuclear power facilities; LBP-08-15, 68 NRC 294 (2008)

an ESP is a partial construction permit, whose issuance does not authorize an applicant to construct nuclear power reactors; LBP-08-15, 68 NRC 294 (2008)

### ECONOMIC EFFECTS

whether applicant will improve the general welfare, increase the standard of living, or strengthen free competition in private enterprise is not a litigable issue; LBP-08-16, 68 NRC 361 (2008)

### ECONOMIC ISSUES

petitioners' allegation that applicant's environmental report fails to provide reasonably current and accurate information regarding the costs of nuclear power, costs of alternative energy sources, and financial risks posed by using nuclear power as an energy source is admissible; LBP-08-16, 68 NRC 361 (2008)

See also Financial Qualifications

### EFFECTIVENESS

a renewed license takes effect immediately, with a term of up to 20 years plus the number of years remaining on the initial operating license; CLI-08-23, 68 NRC 461 (2008)

### EMBRITTLEMENT

whether a plan is necessary to manage the cumulative effects of embrittlement of the reactor pressure vessels and associated internals is within the scope of a license renewal proceeding; LBP-08-13, 68 NRC 43 (2008)

### EMERGENCY BACKUP POWER

in situ leach mining facilities are not required to maintain backup power because if such a facility were to experience a power failure, uranium recovery operations would simply cease; LBP-08-24, 68 NRC 691 (2008)

### EMERGENCY NOTIFICATION SYSTEM

petitioner's concerns regarding licensee's failure to implement the new emergency notification siren system in a timely manner are addressed; DD-08-2, 68 NRC 339 (2008)

### EMERGENCY PLANNING

a contention arising from a matter resolved in an early site permit proceeding is within the scope of a combined license proceeding that references the ESP if it concerns whether emergency planning matters resolved in the ESP should be revisited; LBP-08-15, 68 NRC 294 (2008)

there is no need for a review of these issues in the context of license renewal; LBP-08-13, 68 NRC 43 (2008)

### ENERGY CONSERVATION

the generic environmental impact statement addresses the need to consider energy conservation for the no-action alternative; LBP-08-13, 68 NRC 43 (2008)

### ENERGY EFFICIENCY

neither NRC nor applicant has the mission or authority to implement a general societal interest in energy efficiency; LBP-08-13, 68 NRC 43 (2008)

NEPA's rule of reason does not demand an analysis of energy efficiency because conservation measures are beyond the ability of an applicant to implement, and are therefore outside the scope required by a NEPA review of reasonable alternatives; LBP-08-13, 68 NRC 43 (2008)

### ENERGY POLICY ACT OF 1992

NRC must modify its technical requirements and criteria for the high-level waste repository as necessary to be consistent with final EPA standards; CLI-08-20, 68 NRC 272 (2008)

### ENFORCEMENT ACTIONS

to the extent that petitioners have any basis for claiming that there are current, ongoing excessive radiological releases from a facility, petitioners may seek NRC action under 10 C.F.R. 2.206; CLI-08-17, 68 NRC 231 (2008)

### ENFORCEMENT PROCEEDINGS

challenges to NRC's authority to engage in administrative dispute resolution is beyond the scope of enforcement proceedings; LBP-08-14, 68 NRC 279 (2008)

claims by a nonlicensee to the effect that the root causes or facts underpinning a confirmatory order are inaccurate are not valid claims in an enforcement proceeding; LBP-08-14, 68 NRC 279 (2008)

if petitioner requests a remedy that is beyond the scope of the hearing, then the hearing request must be denied because redressability is an element of standing; LBP-08-14, 68 NRC 279 (2008)

## SUBJECT INDEX

it is unlikely that petitioners will often obtain hearings on confirmatory enforcement orders; LBP-08-14, 68 NRC 279 (2008)

petitioners may not seek to enhance the measures outlined in an enforcement order; LBP-08-14, 68 NRC 279 (2008)

### ENTRAINMENT AND IMPINGEMENT

applicant is required to provide in its environmental report a site-specific analysis of entrainment, impingement, and heat shock/thermal discharge impacts from its once-through cooling systems; LBP-08-13, 68 NRC 43 (2008)

### ENVIRONMENTAL ANALYSIS

asserted deficiencies in the environmental report intake/discharge impact discussion as it is associated with the baseline discussion of aquatic resources, if properly supported, can be admitted for further litigation; LBP-08-16, 68 NRC 361 (2008)

irradiators are categorically excluded from the requirement to prepare an EA; CLI-08-16, 68 NRC 221 (2008)

NEPA does not require a decision whether an environmental impact report is based on the best scientific methodology available, nor does NEPA require resolution of disagreements among various scientists as to methodology; CLI-08-26, 68 NRC 509 (2008)

NRC can presume that increases in emissions that still fall within statutory limits will be insignificant; CLI-08-16, 68 NRC 221 (2008)

the Commission to reveal sensitive government security information regarding the agency's; CLI-08-26, 68 NRC 509 (2008)

the National Environmental Policy Act does not require the analysis of potential terrorist attacks on a proposed nuclear facility; LBP-08-21, 68 NRC 554 (2008)

where quantification is not possible, the Commission expects license applicants and NRC Staff to assess pertinent factors in qualitative terms; CLI-08-26, 68 NRC 509 (2008)

### ENVIRONMENTAL ASSESSMENT

a more detailed environmental impact statement is not required unless the contemplated action is a major federal action significantly affecting the quality of the human environment; CLI-08-26, 68 NRC 509 (2008)

an environmental assessment, with its accompanying finding of no significant impact, constitutes an agency's evaluation of the environmental effects of a proposed action unless a more detailed statement is required; CLI-08-26, 68 NRC 509 (2008)

in assessing impacts, an agency may rely on other specialized agencies with jurisdiction to enforce related permits and measures; CLI-08-16, 68 NRC 221 (2008)

### ENVIRONMENTAL IMPACT STATEMENT

a more detailed EIS is not required unless the contemplated action is a major federal action significantly affecting the quality of the human environment; CLI-08-26, 68 NRC 509 (2008)

if a harm does not have a sufficiently close connection to the physical environment, NEPA does not apply, regardless of the gravity of the harm; CLI-08-16, 68 NRC 221 (2008)

in the context of NEPA, one must examine underlying policies or legislative intent to draw a manageable line between those causal changes that make an agency responsible for an effect and those that do not; CLI-08-16, 68 NRC 221 (2008)

NRC is not required to assess every impact or effect of its proposed action, only effects on the environment; CLI-08-16, 68 NRC 221 (2008)

NRC regulations require petitioner to raise contentions related to NEPA as challenges to the applicant's environmental report, which acts as a surrogate for the EIS during the early stages of a relicensing proceeding; LBP-08-26, 68 NRC 905 (2008)

the presiding officer should treat as a cognizable "new consideration" an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate; CLI-08-25, 68 NRC 497 (2008)

to be encompassed by NEPA, there needs to be a reasonably close causal relationship between a change in the physical environment and the effect at issue; CLI-08-16, 68 NRC 221 (2008)

to the fullest extent possible, all federal agencies shall include in every recommendation or report on proposals for legislation and other major federal actions significantly affecting the quality of the human



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environment, a detailed statement discussing the environmental impact of the proposed action and possible alternatives; CLI-08-26, 68 NRC 509 (2008)

See also Generic Environmental Impact Statement; Supplemental Environmental Impact Statement

### ENVIRONMENTAL ISSUES

a presiding officer considering environmental contentions in the high-level waste proceeding should apply NRC reopening procedures and standards in 10 C.F.R. 2.326 to the extent possible; CLI-08-25, 68 NRC 497 (2008)

absent a waiver pursuant to 10 C.F.R. 2.335, Category 1 issues are not subject to challenge in a relicensing proceeding because they involve environmental effects that are essentially similar for all plants and need not be assessed repeatedly on a site-specific basis; LBP-08-13, 68 NRC 43 (2008)

an environmental contention may be admitted during a COL proceeding if it concerns a significant issue that was not resolved in the early site permit proceeding or if it involves the impacts of construction and operation of the facility and significant new information has been identified; LBP-08-15, 68 NRC 294 (2008)

applicant is required to address new and significant information for either Category 1 or Category 2 issues in its environmental report for a license renewal application; LBP-08-13, 68 NRC 43 (2008)

applicant is required to provide in its environmental report a site-specific analysis of entrainment, impingement, and heat shock/thermal discharge impacts from its once-through cooling systems; LBP-08-13, 68 NRC 43 (2008)

because applicant did not apply for an early site permit, petitioners thus are not precluded from raising an issue relative to failure of applicant's environmental report to assess the onsite impacts of potential long-term storage of low-level waste; LBP-08-16, 68 NRC 361 (2008)

Category 2 issues are not essentially similar for all plants because they must be reviewed on a site-specific basis and thus challenges relating to these issues are properly part of a license renewal proceeding; LBP-08-13, 68 NRC 43 (2008)

in addition to meeting NRC's regular contention admissibility requirements in 10 C.F.R. 2.309(f), environmental contentions addressing any DOE environmental impact statement or supplement in the high-level waste proceeding must also conform to the requirements and address the applicable factors outlined in 10 C.F.R. 51.109; CLI-08-25, 68 NRC 497 (2008)

in conducting its analysis of the impact of the license renewal on land use, applicant should consider the impact on real estate values that would be caused by license renewal or nonrenewal; LBP-08-13, 68 NRC 43 (2008)

presentation of an alternative analysis is, without more, insufficient to support a contention alleging that the original analysis failed to meet applicable requirements; LBP-08-13, 68 NRC 43 (2008)

spent fuel pool fires are Category 1 issues and therefore are addressed generically in the generic environmental impact statement for license renewals; LBP-08-13, 68 NRC 43 (2008)

the presiding officer should treat as a cognizable "new consideration" an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate; CLI-08-25, 68 NRC 497 (2008)

the underlying purpose of NEPA as an information-gathering and disclosure mechanism requires a different view of the concept of "materiality" under 10 C.F.R. 2.309(f)(1)(iv) than might be applied to a contention seeking to establish a health and safety issue; LBP-08-16, 68 NRC 361 (2008)

to challenge a SAMA analysis, petitioner must, at a minimum, address the approximate relative cost and benefit of the SAMA; LBP-08-13, 68 NRC 43 (2008)

See also Aquatic Impacts

### ENVIRONMENTAL JUSTICE

the purpose of this review is to ensure that the Commission considers and publicly discloses environmental factors peculiar to minority or low-income populations that may cause them to suffer harm disproportionate to that suffered by the general population; LBP-08-13, 68 NRC 43 (2008)

under NEPA, the Commission is ultimately responsible for analyzing environmental justice issues, but license renewal applicants are required to assist the Commission with that evaluation; LBP-08-26, 68 NRC 905 (2008)

### ENVIRONMENTAL PROTECTION AGENCY

NRC must modify its technical requirements and criteria for the high-level waste repository as necessary to be consistent with final EPA standards; CLI-08-20, 68 NRC 272 (2008)

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### ENVIRONMENTAL REPORT

- a license renewal applicant has no obligation to discuss in its ER the impacts of a potential expansion of the independent spent fuel storage installation; LBP-08-26, 68 NRC 905 (2008)
- allegation that the ER's analysis of cancer deaths and illnesses relative to natural radiation source exposures is inadequate is inadmissible; LBP-08-16, 68 NRC 361 (2008)
- analysis of economic, technical, and other benefits must be included; LBP-08-16, 68 NRC 361 (2008)
- applicant is required to address new and significant information for either Category 1 or Category 2 issues in its license renewal application; LBP-08-13, 68 NRC 43 (2008)
- applicant is required to present a cost-benefit analysis (and therefore provide cost estimates) for nuclear power plants and facilities only where the applicant's alternatives analysis indicates that there is an environmentally preferable alternative; LBP-08-21, 68 NRC 554 (2008)
- applicant is required to provide a site-specific analysis of entrainment, impingement, and heat shock/thermal discharge impacts from its once-through cooling systems; LBP-08-13, 68 NRC 43 (2008)
- applicant must provide enough information and in sufficient detail to allow for an evaluation of important impacts; LBP-08-16, 68 NRC 361 (2008)
- asserted deficiencies in the ER intake/discharge impact discussion as it is associated with the baseline discussion of aquatic resources, if properly supported, can be admitted for further litigation; LBP-08-16, 68 NRC 361 (2008)
- assertion that some analysis, calculation, or survey must be included in an ER or environmental impact statement is not necessarily sufficient, in and of itself, to require consideration of whether that additional information-gathering and disclosure mechanism should be included; LBP-08-16, 68 NRC 361 (2008)
- because applicant did not apply for an early site permit, petitioners thus are not precluded from raising an environmental issue relative to failure of applicant's ER to assess the onsite impacts of potential long-term storage of low-level waste; LBP-08-16, 68 NRC 361 (2008)
- environmental costs of management of low-level wastes and high-level wastes related to uranium fuel cycle activities must be included; LBP-08-15, 68 NRC 294 (2008)
- license renewal ERs need not discuss economic or technical benefits and costs of the proposed action or alternatives except as they are either essential for determining whether an alternative should be included or relevant to mitigation; LBP-08-13, 68 NRC 43 (2008)
- NRC regulations require petitioner to raise contentions related to NEPA as challenges to the applicant's ER, which acts as a surrogate for the environmental impact statement during the early stages of a relicensing proceeding; LBP-08-26, 68 NRC 905 (2008)
- petitioners' allegation that applicant's ER fails to provide reasonably current and accurate information regarding the costs of nuclear power, costs of alternative energy sources, and financial risks posed by using nuclear power as an energy source is admissible; LBP-08-16, 68 NRC 361 (2008)
- reasonable alternatives under NEPA for license renewal proceedings are limited to discrete electric generation sources that are feasible technically and available commercially; LBP-08-13, 68 NRC 43 (2008)
- Staff review must ensure that the analysis of the need for power and alternatives is reasonable and meets high quality standards; LBP-08-16, 68 NRC 361 (2008)
- sufficient data should be included to aid the Commission in its development of an independent analysis of whether any historic or archaeological properties will be affected by the proposed project; LBP-08-26, 68 NRC 905 (2008)
- under NEPA, the Commission is ultimately responsible for analyzing environmental justice issues, but license renewal applicants are required to assist the Commission with that evaluation; LBP-08-26, 68 NRC 905 (2008)
- whether a SAMA must be analyzed in an ER hinges on whether it could be cost-beneficial; LBP-08-13, 68 NRC 43 (2008)

### ENVIRONMENTAL REVIEW

- an environmental assessment, with its accompanying finding of no significant impact, constitutes an agency's evaluation of the environmental effects of a proposed action unless a more detailed statement is required; CLI-08-26, 68 NRC 509 (2008)

## SUBJECT INDEX

### EVIDENCE

compliance or noncompliance with regulatory guidance, even if proven, is simply evidence and does not relieve the board of the duty to determine whether an applicant has satisfied the relevant legal and regulatory requirements; LBP-08-25, 68 NRC 763 (2008)

reliability of scientific evidence is verified by assessing whether the reasoning or methodology underlying the evidence is scientifically valid; LBP-08-24, 68 NRC 691 (2008)

### EXPORT LICENSES

application for a license that would authorize the export back to Italy of any low-level radioactive waste that cannot be disposed of in Utah following processing is held in abeyance; CLI-08-24, 68 NRC 491 (2008)

### EXPOSURE

See Radiological Exposure

### EXTENSION OF TIME

if there are problems with meeting a filing date, participants should seek an extension of time or, if the time for filing has passed, submit a motion for leave to file out of time; LBP-08-16, 68 NRC 361 (2008)

the presiding officer may grant extensions of time for individual milestones for the participants' filings, and may delay its own issuances for up to 30 days beyond the date of the milestone set in the hearing schedule; CLI-08-18, 68 NRC 246 (2008)

### FEDERAL FOOD, DRUG, AND COSMETIC ACT

irradiation sources, including radioactive isotopes, particle accelerators, and X-ray machines, intended for use in processing food are included in the term "food additives"; CLI-08-16, 68 NRC 221 (2008)

### FEDERAL RECORDS ACT

federal agencies have some discretion in determining which documentary materials are appropriate for preservation as an agency "record"; CLI-08-23, 68 NRC 461 (2008)

### FEEDWATER SYSTEMS

components that are part of the reactor coolant pressure boundary must meet the requirements of Class 1 components in Section III of the ASME Boiler and Pressure Vessel Code; LBP-08-25, 68 NRC 763 (2008)

### FILINGS

a filing will be considered complete by electronic transmission when the filer performs the last act that it must perform to transmit a document, in its entirety, electronically; LBP-08-16, 68 NRC 361 (2008)

the time an E-Filing submission is received by the system server is not necessarily controlling relative to the timeliness of the filing; LBP-08-16, 68 NRC 361 (2008)

to be considered timely, a document must be submitted to the E-Filing system for docketing and service by 11:59 p.m. Eastern Time; LBP-08-16, 68 NRC 361 (2008)

### FINAL ENVIRONMENTAL IMPACT STATEMENT

the adjudicatory record, the board decision, and any Commission appellate decisions become, in effect, part of the FEIS; CLI-08-26, 68 NRC 509 (2008)

### FINAL SAFETY ANALYSIS REPORT

adequacy of the seismic analysis for the site found in the FSAR is not a litigable issue; LBP-08-16, 68 NRC 361 (2008)

further inquiry is warranted into the safety-related matter of whether the FSAR has failed to include necessary information concerning applicant's plans for onsite management of Class B and C waste; LBP-08-16, 68 NRC 361 (2008)

### FINAL SAFETY EVALUATION REPORT

NRC Staff's revision of the FSER to account for applicant's confirmatory analysis would not, standing alone, be a materially different result that justifies reopening the record, because it would neither change the outcome of the renewal proceeding nor impose a different licensing condition on an applicant; LBP-08-12, 68 NRC 5 (2008)

See also Updated Final Safety Analysis Report

### FINALITY

if Staff approves a license transfer application prior to the Commission completing its adjudication, the application will lack the agency's final approval until and unless the Commission concludes the adjudication in the applicant's favor; CLI-08-19, 68 NRC 251 (2008)

## SUBJECT INDEX

### FINANCIAL QUALIFICATIONS

electric utilities are presumed to be financially qualified to operate nuclear power plants and thus the Commission has exempted them from NRC review of their financial qualifications to cover operational costs; LBP-08-17, 68 NRC 431 (2008)

### FINDINGS OF FACT

compliance or noncompliance with regulatory guidance, even if proven, is simply evidence and does not relieve the board of the duty to determine whether an applicant has satisfied the relevant legal and regulatory requirements; LBP-08-25, 68 NRC 763 (2008)

where a party merely complains that the board improperly weighed the evidence and identifies no clear board factual or legal error requiring further Commission consideration on appellate review, the Commission is disinclined to second-guess the board's assessment of the party's affidavits; CLI-08-28, 68 NRC 658 (2008)

### FIRE BARRIERS

any challenge to an NRC Staff decision to grant an exemption from a 1-hour barrier to a 24/30-minute barrier is a direct challenge to the current licensing basis and unrelated to the effects of plant aging and the license renewal application; LBP-08-13, 68 NRC 43 (2008)

### FIRE PROTECTION

petitioner's assertions regarding the historical fire protection situation at the existing unit outside the scope of the combined license proceeding; LBP-08-21, 68 NRC 554 (2008)

### FIRE PROTECTION SYSTEMS

condensate storage system buried pipes are outside the scope of a license renewal proceeding with respect to their safety functionality, but that does not eliminate the need for consideration of potential leaks from those buried pipes because of their role in fire protection; LBP-08-22, 68 NRC 590 (2008)

### FIRES

spent fuel pool fires are Category 1 issues and therefore are addressed generically in the generic environmental impact statement for license renewals; LBP-08-13, 68 NRC 43 (2008)

### FISH AND SHELLFISH

applicant is required to provide in its environmental report a site-specific analysis of entrainment, impingement, and heat shock/thermal discharge impacts from its once-through cooling systems; LBP-08-13, 68 NRC 43 (2008)

### FLOW ACCELERATED CORROSION

applicant must establish an aging management program that is adequate to provide reasonable assurance that the intended function of the piping subject to FAC will be maintained in accordance with the current licensing basis for the period of extended operation; LBP-08-25, 68 NRC 763 (2008)

### FOOD ADDITIVES

a food additive is presumed to be unsafe until demonstrated otherwise; CLI-08-16, 68 NRC 221 (2008) for the FDA to determine that a food additive is safe, it must find, after a fair evaluation of the data, that there is a reasonable certainty in the minds of competent scientists that the substance is not harmful under all intended conditions of use; CLI-08-16, 68 NRC 221 (2008)

irradiation sources, including radioactive isotopes, particle accelerators, and X-ray machines, intended for use in processing food are included in this term; CLI-08-16, 68 NRC 221 (2008)

### FOODS

See Irradiated Foods

### FOREIGN OWNERSHIP

applicant's failure to disclose ownership by a foreign corporation in its license renewal application constitutes a contention of omission; LBP-08-24, 68 NRC 691 (2008)

concerns related to an applicant's ownership are potentially material to the safety and environmental requirements of 10 C.F.R. Part 40; LBP-08-24, 68 NRC 691 (2008)

### FREEDOM OF INFORMATION ACT

intra-agency memoranda developed during the decisionmaking process are protected under the deliberative process privilege; CLI-08-23, 68 NRC 461 (2008)

under the National Environmental Policy Act, the Commission may withhold from public disclosure any information that is exempt under FOIA; CLI-08-26, 68 NRC 509 (2008)

## SUBJECT INDEX

### GENERAL DESIGN CRITERIA

the criteria are not applicable to nuclear power plants with construction permits issued prior to May 21, 1971; LBP-08-13, 68 NRC 43 (2008)

### GENERIC ENVIRONMENTAL IMPACT STATEMENT

the GEIS addresses the need to consider energy conservation for the no-action alternative; LBP-08-13, 68 NRC 43 (2008)

### GENERIC ISSUES

absent a waiver pursuant to 10 C.F.R. 2.335, Category 1 issues are not subject to challenge in a relicensing proceeding because they involve environmental effects that are essentially similar for all plants and need not be assessed repeatedly on a site-specific basis; LBP-08-13, 68 NRC 43 (2008)  
generic NRC policies and standards and the nature of the NRC Staff's licensing review are not subject to challenge in an adjudicatory proceeding; CLI-08-17, 68 NRC 231 (2008)

in conducting its analysis of the impact of the license renewal on land use, applicant should consider the impact on real estate values that would be caused by license renewal or nonrenewal; LBP-08-13, 68 NRC 43 (2008)

spent fuel pool fires are Category 1 issues and therefore are addressed generically in the generic environmental impact statement for license renewals; LBP-08-13, 68 NRC 43 (2008)

### GEOLOGIC CONDITIONS

possibility of existence of undetected caves and sinkholes on the proposed reactor site and the adequacy of the seismic analysis are not litigable issues; LBP-08-16, 68 NRC 361 (2008)

### GLOBAL WARMING

See Climate Change

### GREENHOUSE GAS EMISSIONS

allegation of failure to include in the combined license application any information regarding the project's greenhouse gas emissions or carbon footprint is inadmissible; LBP-08-16, 68 NRC 361 (2008)

### GREEN'S FUNCTION METHOD

conservatism in use of Green's function to determine cumulative usage factor related to metal fatigue in the recirculation nozzle is discussed; LBP-08-12, 68 NRC 5 (2008)

use of a simplified Green's function methodology for the environmentally adjusted cumulative usage factor metal fatigue analyses for the core spray and reactor recirculation outlet nozzles is inconsistent with the ASME Code and thus cannot serve as the analysis-of-record and does not satisfy the requirements of 10 C.F.R. 54.21(c)(1) or 54.29(a); LBP-08-25, 68 NRC 763 (2008)

### GROUNDWATER CONTAMINATION

contentions relating to the conclusions that the NRC Staff reaches in its NEPA analysis with regard to the environmental impacts from radiological releases to groundwater must await future publication of its supplemental environmental impact statement; LBP-08-13, 68 NRC 43 (2008)

petitioner's concerns regarding underground leakage of contaminated water at Indian Point are addressed; DD-08-2, 68 NRC 339 (2008)

to the extent contaminants can plausibly migrate from leach mining operations to the aquifer from which a petitioner obtains his or her water, a petitioner would have a claim of a cognizable injury and could be accorded standing; LBP-08-24, 68 NRC 691 (2008)

### HEALTH AND SAFETY

allegations that mining activities may cause harm to public health and safety are within the scope of a materials license renewal proceeding and material to the findings the NRC must make; LBP-08-27, 68 NRC 951 (2008)

an application to renew the operating license of a commercial nuclear power plant may be granted only if the Commission finds that the continued operation of the facility will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public; LBP-08-25, 68 NRC 763 (2008)

the phrase "reasonable assurance" specified in 10 C.F.R. 54.29 is not defined, but requires, at a minimum, that an applicant demonstrate compliance with all of NRC's safety regulations; LBP-08-25, 68 NRC 763 (2008)

## SUBJECT INDEX

### HEALTH EFFECTS

allegation that NRC has inadequately characterized human health impacts of radiation exposure from the high-level waste repository is inadmissible in a combined license proceeding; LBP-08-16, 68 NRC 361 (2008)

### HEARING PROCEDURES

a licensing board has authority to choose the hearing process most suitable for the contentions before it; LBP-08-24, 68 NRC 691 (2008)

determination of specific hearing procedures to be used for a proceeding is made on a contention-by-contention basis, and selection of the hearing procedure is dependent on what is most appropriate for the specific contentions before it; LBP-08-24, 68 NRC 691 (2008)

### HEARING REQUESTS

a licensing board, in ruling on a request for a hearing, is to consider the nature of petitioner's right under the Atomic Energy Act or the National Environmental Policy Act to be made a party to the proceeding, the nature and extent of petitioner's property, financial, or other interest in the proceeding, and the possible effect of any decision or order that may be issued in the proceeding on petitioner's interest; LBP-08-24, 68 NRC 691 (2008)

petitioners have 60 days to file intervention petitions and hearing requests in NRC proceedings other than those for license transfer requests and a construction authorization application for a high-level waste repository; CLI-08-18, 68 NRC 246 (2008)

sanctions have been imposed against a party seeking to file a written request for hearing only when that party has not followed established Commission procedures; LBP-08-19, 68 NRC 545 (2008); LBP-08-20, 68 NRC 549 (2008)

### HEARING RIGHTS

allowing applicant to postpone the performance of an analysis-of-record time-limited aging analysis until after the license renewal is issued would violate the intervenor's hearing rights; LBP-08-25, 68 NRC 763 (2008)

NRC is to provide a hearing upon the request of any person whose interest may be affected by the proceeding; LBP-08-24, 68 NRC 691 (2008)

petitioner may not demand a hearing to challenge a federal statute; LBP-08-17, 68 NRC 431 (2008)

petitioners who rely on water supplies adjacent to a mining site have a right to a hearing; LBP-08-24, 68 NRC 691 (2008)

section 189(a)'s hearing requirement does not unduly limit the Commission's wide discretion to structure its licensing hearings in the interests of speed and efficiency; CLI-08-28, 68 NRC 658 (2008)

the "direct participation of local citizens in nuclear reactor licensing" is not a right to have all legal arguments on contention admissibility take place near the facility at issue, but rather the right of persons with standing to file contentions in licensing proceedings and litigate admissible contentions; LBP-09-23, 68 NRC 679 (2008)

there is no inherent right under the Atomic Energy Act, based on U.S. citizenship or otherwise, to participate as a party in a proceeding; LBP-08-18, 68 NRC 533 (2008)

### HIGH-LEVEL WASTE REPOSITORY

allegation that NRC has inadequately characterized human health impacts of radiation exposure from the high-level waste repository is inadmissible in a combined license proceeding; LBP-08-16, 68 NRC 361 (2008)

the Director of the Office of Nuclear Material Safety and Safeguards must determine whether the tendered high-level waste repository construction authorization application is complete and acceptable for docketing; CLI-08-20, 68 NRC 272 (2008)

### HIGH-LEVEL WASTE REPOSITORY APPLICATION

an evaluation of the natural features of the geologic setting and design features of the engineered barrier system that are considered barriers important to waste isolation must be set forth; CLI-08-20, 68 NRC 272 (2008)

assessment of the ability of the proposed geologic repository to limit radiological exposures to the reasonably maximally exposed individual for the period after permanent closure must be included; CLI-08-20, 68 NRC 272 (2008)

## SUBJECT INDEX

assessment of the anticipated response of the geomechanical, hydrogeologic, and geochemical systems to the range of design thermal loadings under consideration must be included; CLI-08-20, 68 NRC 272 (2008)

explanation of measures used to support the models used to provide the information required must be provided; CLI-08-20, 68 NRC 272 (2008)

the engineered barrier system, including the design criteria used and their relationships to the post-closure performance objectives specified in NRC regulations, must be described; CLI-08-20, 68 NRC 272 (2008)

### HIGH-LEVEL WASTE REPOSITORY PROCEEDING

a nontimely petition or contention will not be entertained in the high-level waste proceeding unless the Commission, an Atomic Safety and Licensing Board, or a presiding officer designated to rule on the petition determines that the late petition or contention meets the late-filing requirements; CLI-08-25, 68 NRC 497 (2008)

a party who files a motion must certify that he or she has made a reasonable effort to consult with counsel for the other parties in an effort to resolve the matter in advance of filing the motion; CLI-08-25, 68 NRC 497 (2008)

a person denied party or interested governmental participant status may request such status upon a showing of subsequent compliance with the requirements of 10 C.F.R. 2.1003; CLI-08-25, 68 NRC 497 (2008)

a presiding officer considering environmental contentions should apply NRC reopening procedures and standards in 10 C.F.R. 2.326 to the extent possible; CLI-08-25, 68 NRC 497 (2008)

any person whose interest may be affected by the high-level waste proceeding and who desires to participate as a party must file a written petition for leave to intervene; CLI-08-25, 68 NRC 497 (2008)  
electronic production, filing, and service of all documents are required in the high-level waste proceeding; CLI-08-25, 68 NRC 497 (2008)

hearing schedule milestones have been modified for the high-level-waste proceeding; CLI-08-25, 68 NRC 497 (2008)

in addition to meeting NRC's regular contention admissibility requirements in 10 C.F.R. 2.309(f), environmental contentions addressing any DOE environmental impact statement or supplement must also conform to the requirements and address the applicable factors outlined in 10 C.F.R. 51.109; CLI-08-25, 68 NRC 497 (2008)

in ruling on a petition to intervene in high-level waste proceeding, the presiding officer shall consider any failure of the petitioner to participate as a potential party in the pre-license application phase; CLI-08-25, 68 NRC 497 (2008)

in ruling on a petition to intervene in high-level waste proceeding, the presiding officer shall consider the factors in 10 C.F.R. 2.309 on standing to intervene; CLI-08-25, 68 NRC 497 (2008)

in the case of the yet-to-issue NRC rules, the Commission is dispensing in advance with all late-filing factors except the "good cause" factor; CLI-08-25, 68 NRC 497 (2008)

participants must make a good-faith effort to have made available all documentary material on the Licensing Support Network by the date specified for initial compliance; CLI-08-22, 68 NRC 355 (2008)

petitioner may not be granted party or interested governmental participant status if petitioner cannot demonstrate substantial and timely compliance with the requirements in 10 C.F.R. 2.1003 at the time of the request for participation in the high-level waste proceeding; CLI-08-25, 68 NRC 497 (2008)

state and local governmental bodies in which the geologic repository operations area is located and any affected federally recognized Indian tribe need not address the standing requirements; CLI-08-25, 68 NRC 497 (2008)

the 30-day hearing petition and contention-filing deadlines set forth in this section have been modified for the high-level waste proceeding; CLI-08-25, 68 NRC 497 (2008)

the Commission shall permit intervention by the state and local governmental body in which the geologic repository operations area is located, and by any affected federally recognized Indian tribe if the contention requirements in 10 C.F.R. 2.309(f) are satisfied with respect to at least one contention; CLI-08-25, 68 NRC 497 (2008)

the presiding officer has no authority or duty to resolve uncontested issues; CLI-08-25, 68 NRC 497 (2008)

## SUBJECT INDEX

the presiding officer should treat as a cognizable "new consideration" an attack on the Yucca Mountain environmental impact statements based on significant and substantial information that, if true, would render the statements inadequate; CLI-08-25, 68 NRC 497 (2008)

### IMPARTIALITY

generalized challenge to the impartiality of the NRC regulatory process associated with hearings is inadmissible; LBP-08-16, 68 NRC 361 (2008)

### IMPORT LICENSES

application for license to import low-level radioactive waste from Italy for processing and ultimate disposal in Utah is held in abeyance; CLI-08-24, 68 NRC 491 (2008)

criteria for NRC issuance of a low-level radioactive waste import license are described; CLI-08-24, 68 NRC 491 (2008)

NRC will not grant an import license for waste intended for disposal unless it is clear that a disposal facility, host state, and compact (where applicable) will accept the waste; CLI-08-24, 68 NRC 491 (2008)

### IN SITU LEACH MINING

facilities are not required to maintain backup power because if such a facility were to experience a power failure, uranium recovery operations would simply cease; LBP-08-24, 68 NRC 691 (2008)

proximity alone is not sufficient to establish standing for a petitioner's proximity to a source materials activity; LBP-08-24, 68 NRC 691 (2008)

### INCORPORATION BY REFERENCE

a board is not to permit incorporation by reference where the effect would be to circumvent

NRC-prescribed contention specificity requirements; LBP-08-24, 68 NRC 691 (2008)

petitioner may not simply incorporate massive documents by reference as the basis for a statement of his contentions; LBP-08-21, 68 NRC 554 (2008)

### INDEPENDENT SPENT FUEL STORAGE INSTALLATION

a license renewal applicant has no obligation to discuss in its environmental report the impacts of a potential expansion of the ISFSI; LBP-08-26, 68 NRC 905 (2008)

a more detailed environmental impact statement is not required unless the contemplated action is a major federal action significantly affecting the quality of the human environment; CLI-08-26, 68 NRC 509 (2008)

### INDEPENDENT SPENT FUEL STORAGE INSTALLATION PROCEEDINGS

the Commission's rules in 10 C.F.R. § 2.1113 do not provide for supplementing Subpart K presentations; CLI-08-26, 68 NRC 509 (2008)

the presiding officer is allowed to resolve factual and legal disputes in spent fuel storage controversies, including disagreements between experts, on the basis of a brief discovery period and written submissions and oral argument without a full trial-type evidentiary hearing; CLI-08-26, 68 NRC 509 (2008)

under Subpart K and the Nuclear Waste Policy Act, the Commission resorts to full evidentiary hearings on spent fuel storage controversies only when necessary for accuracy; CLI-08-26, 68 NRC 509 (2008)

### INFORMAL HEARINGS

in conducting Subpart L hearings, board members pose questions to the parties' witnesses in those areas that, in the Board's judgment, require additional clarification and development; LBP-08-22, 68 NRC 590 (2008)

### INJURY IN FACT

a determination that an injury is fairly traceable to the challenged action does not depend on whether the cause of the injury flows directly from the challenged action, but whether the chain of causation is plausible; LBP-08-24, 68 NRC 691 (2008)

damage to a nuclear power facility's reputation does not constitute a threatened injury to the interests of the Local's members who work at the facility; CLI-08-19, 68 NRC 251 (2008)

intervention petitioners are not required to demonstrate their asserted injury with certainty or to provide extensive technical studies in support of their standing argument; LBP-08-24, 68 NRC 691 (2008)

intervention petitioner's claimed injury must be arguably within the zone of interests protected by the governing statute; LBP-08-24, 68 NRC 691 (2008)

procedural violations of the National Historic Preservation Act have resulted in a grant of standing to tribes; LBP-08-24, 68 NRC 691 (2008)



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to establish an injury in fact, a party merely has to show some threatened concrete interest personal to the party that the National Historic Preservation Act was designed to protect; LBP-08-24, 68 NRC 691 (2008)

to establish an injury in fact, a party merely has to show some threatened concrete interest personal to the party; LBP-08-24, 68 NRC 691 (2008)

to the extent contaminants can plausibly migrate from leach mining operations to the aquifer from which a petitioner obtains his or her water, a petitioner would have a claim of a cognizable injury and could be accorded standing; LBP-08-24, 68 NRC 691 (2008)

### INSPECTION

for construction permits issued prior to January 1, 1971, licensee is required to implement an in-service inspection program that complies with section 50.55a(g)(4)-(5); LBP-08-22, 68 NRC 590 (2008)

Part 54 does not require a comprehensive preapplication baseline inspection for license renewal; LBP-08-13, 68 NRC 43 (2008)

where the application provides a commitment that, should inspection requirements be changed, the applicant will implement those new inspection requirements, it is the responsibility of NRC Staff and the applicant to ensure that this commitment is fulfilled; LBP-08-26, 68 NRC 905 (2008)

### INTEGRATED PLANT ASSESSMENT

each license renewal application must contain an IPA; LBP-08-13, 68 NRC 43 (2008)

### INTEREST

intervention petitioners must alleging a concrete and particularized injury that is fairly traceable to, and may be affected by, the challenged action and is likely to be redressed by a favorable decision, and lies arguably within the zone of interests protected by the governing statutes; CLI-08-19, 68 NRC 251 (2008); LBP-08-15, 68 NRC 294 (2008)

the interests of an organization's member seeking representation must be germane to the organization's purpose; CLI-08-19, 68 NRC 251 (2008)

### INTERESTED GOVERNMENTAL ENTITY

an interested local governmental body may introduce evidence, interrogate witnesses in circumstances where cross-examination by the parties is allowed, advise the Commission without being required to take a position on any issue, file proposed findings where such are allowed, and seek Commission review on admitted contentions; LBP-08-24, 68 NRC 691 (2008)

an interested local governmental body that is not a party to the proceeding must be accorded a reasonable opportunity to participate, through a single representative, in the hearing of one or more of the admitted contentions; LBP-08-24, 68 NRC 691 (2008)

boards are directed to provide an interested governmental entity that has not been admitted as a party under section 2.309 with a reasonable opportunity to participate in a hearing; LBP-08-21, 68 NRC 554 (2008)

the representative of an interested local governmental body must identify those contentions on which it will participate in advance of any hearing held; LBP-08-24, 68 NRC 691 (2008)

### INTERESTED STATE PARTICIPATION

an interested state that has not been admitted as a party under section 2.309 must be provided a reasonable opportunity to participate in a hearing; LBP-08-15, 68 NRC 294 (2008)

state agencies may participate as nonparty interested states; LBP-08-15, 68 NRC 294 (2008)

### INTERPRETATION

See Construction of Meaning; Definitions; Regulations, Interpretation

### INTERSTATE COMPACTS

no facility located in any party state may accept low-level waste generated outside the region comprised of the party states, except under a specific procedure requiring approval of the member states; CLI-08-24, 68 NRC 491 (2008)

when authorized by Congress, interstate compacts are allowed to restrict the use of regional disposal facilities under the compact to the disposal of low-level radioactive waste generated within the compact region; CLI-08-24, 68 NRC 491 (2008)

### INTERVENORS

although an intervenor may have fewer resources and less ability than other participants, all share the same burden of uncovering relevant information that is publicly available; LBP-08-12, 68 NRC 5 (2008)

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### INTERVENTION

- a person denied party or interested governmental participant status may request such status upon a showing of subsequent compliance with the requirements of 10 C.F.R. 2.1003; CLI-08-25, 68 NRC 497 (2008)
- any person whose interest may be affected by the high-level waste proceeding and who desires to participate as a party must file a written petition for leave to intervene; CLI-08-25, 68 NRC 497 (2008)
- petitioner may not be granted party or interested governmental participant status if petitioner cannot demonstrate substantial and timely compliance with the requirements in 10 C.F.R. 2.1003 at the time of the request for participation in the high-level waste proceeding; CLI-08-25, 68 NRC 497 (2008)
- petitioner must establish standing and proffer at least one admissible contention; CLI-08-17, 68 NRC 231 (2008); LBP-08-13, 68 NRC 43 (2008); LBP-08-24, 68 NRC 691 (2008)
- petitioner's right to participate in a licensing proceeding stems from section 189a of the Atomic Energy Act; LBP-08-14, 68 NRC 279 (2008)
- petitioners must establish the nature of their right under the governing statutes to be made a party, their interest in the proceeding, and the possible effect of any decision or order on their interests; LBP-08-17, 68 NRC 431 (2008)
- the Commission shall permit intervention by the state and local governmental body in which the geologic repository operations area is located, and by any affected federally recognized Indian tribe if the contention requirements in 10 C.F.R. 2.309(f) are satisfied with respect to at least one contention; CLI-08-25, 68 NRC 497 (2008)
- where petitioner has established standing to intervene, but has not submitted an admissible contention, its request for an evidentiary hearing is denied; LBP-08-17, 68 NRC 431 (2008)

See also Standing to Intervene

### INTERVENTION, DISCRETIONARY

- the Commission may consider a request for discretionary intervention when at least one requestor/petitioner has established standing and at least one admissible contention has been admitted so that a hearing will be held; CLI-08-19, 68 NRC 251 (2008)

### INTERVENTION PETITIONS

- in assessing a petition to determine whether the requirements for standing are met, boards are to construe petitions in favor of the petitioner; LBP-08-16, 68 NRC 361 (2008); LBP-08-21, 68 NRC 554 (2008)
- in ruling on a hearing request, a licensing board must determine whether petitioner has an interest potentially affected by the proceeding; LBP-08-15, 68 NRC 294 (2008)
- petitioner's claimed injury must be arguably within the zone of interests protected by the governing statute; LBP-08-24, 68 NRC 691 (2008)
- petitioners have 60 days to file intervention petitions and hearing requests in NRC proceedings other than those for license transfer requests and a construction authorization application for a high-level waste repository; CLI-08-18, 68 NRC 246 (2008)
- petitioners must allege a concrete and particularized injury that is fairly traceable to the challenged action and is likely to be redressed by a favorable decision; LBP-08-24, 68 NRC 691 (2008)
- petitioners that are not represented by counsel will be held to less rigid standards for pleading, although a totally deficient petition will not be admitted; LBP-08-15, 68 NRC 294 (2008)
- the 30-day hearing petition and contention-filing deadlines set forth in this section have been modified for the high-level waste proceeding; CLI-08-25, 68 NRC 497 (2008)
- the Commission seeks wherever possible to avoid the delays, such as an additional round of pleadings, caused by a petitioner's attempt to backstop elemental deficiencies in its original petition to intervene; CLI-08-19, 68 NRC 251 (2008)

### INTERVENTION PETITIONS, LATE-FILED

- a nontimely petition or contention will not be entertained in the high-level waste proceeding unless the Commission, an Atomic Safety and Licensing Board, or a presiding officer designated to rule on the petition determines that the late petition or contention meets the late-filing requirements; CLI-08-25, 68 NRC 497 (2008)

### INTERVENTION RULINGS

- a board may appropriately view petitioners' support for its contention in a light that is favorable to the petitioner; LBP-08-26, 68 NRC 905 (2008)

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a licensing board's review of a petition for standing is to avoid the familiar trap of confusing the standing determination with the assessment of a petitioner's case on the merits; LBP-08-24, 68 NRC 691 (2008)

a nontimely petition or contention will not be entertained in the high-level waste proceeding unless the Commission, an Atomic Safety and Licensing Board, or a presiding officer designated to rule on the petition determines that the late petition or contention meets the late-filing requirements; CLI-08-25, 68 NRC 497 (2008)

although boards generally are to litigate a contention rather than the basis that provides the issue statement's foundational support, the reach of a contention necessarily hinges upon its terms coupled with its stated basis; LBP-08-16, 68 NRC 361 (2008)

any supporting material provided by petitioner, including those portions of material that are not relied upon, is subject to board scrutiny; LBP-08-16, 68 NRC 361 (2008)

determining whether a contention is adequately supported by a concise allegation of the facts or expert opinion is distinct from what is required to support petitioner's case at a hearing on the merits; LBP-08-26, 68 NRC 905 (2008)

even if neither applicant nor NRC Staff challenges petitioner's standing, the board must make its own determination; LBP-08-15, 68 NRC 294 (2008)

in ruling on a petition to intervene in the high-level waste proceeding, the presiding officer shall consider any failure of the petitioner to participate as a potential party in the pre-license application phase; CLI-08-25, 68 NRC 497 (2008)

in ruling on standing, NRC cannot automatically assume that an organization member necessarily considers him- or herself potentially aggrieved by a particular outcome of the proceeding; CLI-08-19, 68 NRC 251 (2008)

in the high-level waste proceeding, the presiding officer shall consider the factors in 10 C.F.R. 2.309 on standing to intervene; CLI-08-25, 68 NRC 497 (2008)

material provided in support of a contention will be carefully examined by the board to confirm that on its face it does supply an adequate basis for the contention; LBP-08-16, 68 NRC 361 (2008)

the Commission gives substantial deference to board conclusions on standing and contention admissibility unless the appeal points to an error of law or abuse of discretion; CLI-08-17, 68 NRC 231 (2008)

to determine whether an interest is in the zone of interests of a statute, it is necessary first to discern the interests arguably to be protected by the statutory provision at issue, and then to inquire whether the petitioner's interests affected by the agency action are among them; LBP-08-24, 68 NRC 691 (2008)

See also Abeyance of Contention Ruling

### IRRADIATED FOODS

a decision on the safety of a food additive must give due weight to the anticipated levels and patterns of consumption of the additive; CLI-08-16, 68 NRC 221 (2008)

any food that has been intentionally subjected to irradiation is considered adulterated and unsafe, and therefore cannot be marketed legally unless the FDA Secretary has issued a regulation finding the specific use of the food irradiation safe, and prescribing the conditions under which the irradiation source (the food additive) may be safely used; CLI-08-16, 68 NRC 221 (2008)

for the FDA to determine that a food additive is safe, it must find, after a fair evaluation of the data, that there is a reasonable certainty in the minds of competent scientists that the substance is not harmful under all intended conditions of use; CLI-08-16, 68 NRC 221 (2008)

NEPA does not require analysis of the potential impacts of an increase in the supply of irradiated food; CLI-08-16, 68 NRC 221 (2008)

whether NEPA requires the NRC to consider potential health effects of consuming irradiated food raises the kind of broad legal question appropriate for Commission interlocutory review; CLI-08-16, 68 NRC 221 (2008)

### IRRADIATION

ionizing radiation to treat fresh fruits is safe if the radiation dose does not exceed 1 kGy (100 krad); CLI-08-16, 68 NRC 221 (2008)

sources, including radioactive isotopes, particle accelerators, and X-ray machines, intended for use in processing food are included in the term "food additives"; CLI-08-16, 68 NRC 221 (2008)

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### IRRADIATOR

irradiators are categorically excluded from the requirement to prepare an environmental analysis; CLI-08-16, 68 NRC 221 (2008)

### JURISDICTION

when considering whether to undertake pendent appellate review of otherwise unappealable issues, the Commission has expressed a willingness to take up otherwise unappealable issues that are "inextricably intertwined" with appealable issues; CLI-08-27, 68 NRC 655 (2008)

### LABOR UNIONS

a union in one facility lacks standing to participate in other interrelated license transfer proceedings, given that the union did not represent employees at the other facilities; CLI-08-19, 68 NRC 251 (2008)  
courts' refusal to grant automatic standing to unions may lie in the fact that unions are formed to represent their members in collective bargaining and other employment-related negotiations, not in administrative or judicial litigation; CLI-08-19, 68 NRC 251 (2008)  
damage to a nuclear power facility's reputation does not constitute a threatened injury to the interests of the Local's members who work at the facility; CLI-08-19, 68 NRC 251 (2008)  
requirements for representational standing apply to unions; CLI-08-19, 68 NRC 251 (2008)

### LAND USE

in conducting its analysis of the impact of the license renewal on land use, applicant should consider the impact on real estate values that would be caused by license renewal or nonrenewal; LBP-08-13, 68 NRC 43 (2008)

### LICENSE AMENDMENT PROCEEDINGS

contentions challenging NRC Staff's significant hazards consideration determination are not appropriate for review; LBP-08-19, 68 NRC 545 (2008); LBP-08-20, 68 NRC 549 (2008)

### LICENSE APPLICATION

See Combined License Application; Construction Authorization Application; License Renewal Applications; Operating License Amendment Applications; Operating License Applications

### LICENSE CONDITIONS

the addition of a condition on a license to operate would constitute a materially different result warranting reopening; LBP-08-12, 68 NRC 5 (2008)

### LICENSE RENEWAL APPLICATIONS

a list of time-limited aging analyses together with a demonstration that the analyses have been projected to the end of the period of extended operation must be included in the application; CLI-08-28, 68 NRC 658 (2008)  
a technically accurate projection of the time-limited aging analysis that predicts that the component will fail due to aging during the 20-year period of extended operation will not suffice; LBP-08-25, 68 NRC 763 (2008)  
adequate aging management programs are both a required element of the LRA and a central finding that NRC must make before it can issue a license renewal; LBP-08-25, 68 NRC 763 (2008)  
an integrated plant assessment identifying structures and components subject to aging management review, an evaluation of time-limited aging analyses, and a final safety analysis report supplement describing the plant's aging management programs must be included; CLI-08-23, 68 NRC 461 (2008)  
analysis of metal fatigue that ignores the known and substantial effects of the light-water reactor environment is insufficient, as both a technical and a legal matter; LBP-08-25, 68 NRC 763 (2008)  
applicant demonstrates compliance with the ASME Code by projecting the fatigue analysis for the nozzle through the extended operating period; CLI-08-28, 68 NRC 658 (2008)  
applicant is required to address new and significant information for either Category 1 or Category 2 issues in its environmental report for an LRA; LBP-08-13, 68 NRC 43 (2008)  
applicant is required to provide in its environmental report a site-specific analysis of entrainment, impingement, and heat shock/thermal discharge impacts from its once-through cooling systems; LBP-08-13, 68 NRC 43 (2008)  
applicant's decision to exclude renewable energy options from its alternatives analysis is reasonable because these sources are not always available and, with the current technology, cannot meet the goals of the LRA; LBP-08-13, 68 NRC 43 (2008)  
defect in an application can give rise to a valid contention of omission and cannot therefore be rejected as unripe; LBP-08-24, 68 NRC 691 (2008)

## SUBJECT INDEX

- each application must contain an evaluation of time-limited aging analyses, a list of TLAAs, a demonstration relating to TLAAs, and the actual TLAAs; LBP-08-25, 68 NRC 763 (2008)
- each application must contain an Integrated Plant Assessment for which specified components will demonstrate that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the current licensing basis for the period of extended operation; LBP-08-13, 68 NRC 43 (2008)
- each LRA must demonstrate that the time-limited aging analyses remain valid for the period of extended operation, have been projected to the end of the period of extended operation, or that the effects of aging on the intended function(s) will be adequately managed for the period of extended operation; LBP-08-25, 68 NRC 763 (2008)
- even if the time-limited aging analyses predict that the component will fail during the period of extended operation, a license renewal can still be granted if the applicant demonstrates that the effects of aging will be adequately managed during the period of extended operation; LBP-08-25, 68 NRC 763 (2008)
- in addition to information supplied for the technical safety review, a license renewal applicant is required to submit a supplemental environmental report that complies with 10 C.F.R. Part 51; CLI-08-23, 68 NRC 461 (2008)
- information provided to the Commission by an applicant must be complete and accurate in all material respects; CLI-08-23, 68 NRC 461 (2008)
- it is neither possible nor necessary for NRC Staff to verify each and every factual assertion in complex license applications; CLI-08-23, 68 NRC 461 (2008)
- licensees and applicants are expected to adjust their aging management programs to reflect lessons learned in the future through individual and industrywide experiences; CLI-08-23, 68 NRC 461 (2008)
- NRC Staff safety review focuses on certain aging effects that would not reveal themselves through performance indicators associated with active functions; CLI-08-23, 68 NRC 461 (2008)
- NUREG-1801 identifies generic aging management programs that the Staff has determined to be acceptable, based on the experiences and analyses of existing programs at operating plants during the initial license period; CLI-08-23, 68 NRC 461 (2008)
- periodic amendment is required to reflect any changes to the plant's current licensing basis made after the license renewal application was submitted; CLI-08-23, 68 NRC 461 (2008)
- petitioner must show why an alleged error or omission is of significance to the result of the proceeding; LBP-08-26, 68 NRC 905 (2008)
- section 54.21(c)(1)(i)-(iii) requires that the applicant make its demonstration that the effects of aging will be adequately managed during the period of extended operation in the application, which is necessarily before the license may be granted; LBP-08-25, 68 NRC 763 (2008)
- Staff's audit, or sampling, method of verifying a license renewal applicant's aging management programs, together with the other components of its review, enables the Staff to make the safety findings necessary for issuance of the license; CLI-08-23, 68 NRC 461 (2008)
- technical accuracy of the time-limited aging analyses is necessary, but not sufficient, to demonstrate that it remains valid because a technically accurate TLAA that shows that the component will fail during the period of extended operation does not satisfy 10 C.F.R. 54.21(c)(1)(i); LBP-08-25, 68 NRC 763 (2008)
- technical information that must be included as part of the time-limited aging analyses is described; CLI-08-28, 68 NRC 658 (2008)
- the "demonstrations" mandated by 10 C.F.R. 54.21(c)(1)(i) and (ii) require that the time-limited aging analyses both be performed in a technically accurate manner and produce a prediction that the component will not fail due to aging during the period of extended operation; LBP-08-25, 68 NRC 763 (2008)
- whether a severe accident mitigation alternative must be analyzed in an environmental report hinges on whether it could be cost-beneficial; LBP-08-13, 68 NRC 43 (2008)
- LICENSE RENEWAL PROCEEDINGS**
- absent a waiver pursuant to 10 C.F.R. 2.335, Category 1 issues are not subject to challenge in a relicensing proceeding because they involve environmental effects that are essentially similar for all plants and need not be assessed repeatedly on a site-specific basis; LBP-08-13, 68 NRC 43 (2008)

## SUBJECT INDEX

affidavit support for a motion to reopen must provide sufficient information to support a prima facie showing that a deficiency exists in the application and the deficiency presents a significant safety issue; LBP-08-12, 68 NRC 5 (2008)

any challenge to an NRC Staff decision to grant an exemption from a 1-hour barrier to a 24/30-minute barrier is a direct challenge to the current licensing basis and unrelated to the effects of plant aging and the license renewal application; LBP-08-13, 68 NRC 43 (2008)

Category 2 issues are not essentially similar for all plants because they must be reviewed on a site-specific basis and thus challenges relating to these issues are proper; LBP-08-13, 68 NRC 43 (2008)

contentions pertaining to issues dealing with the current operating license, including the Updated Final Safety Analysis Report, are not within the scope of license renewal review; LBP-08-13, 68 NRC 43 (2008)

emergency planning issues are not admissible in the context of license renewal; LBP-08-13, 68 NRC 43 (2008)

for determining the "likelihood" that a motion to reopen would change the outcome of a license renewal proceeding, the Commission indicated that a "would have been reached" standard is too strict, and a "might have been reached" standard is too lax; LBP-08-12, 68 NRC 5 (2008)

for systems, structures, and components subject to aging management review, discussion of proposed inspection and monitoring details will come before a board only as they are needed to demonstrate that the intended function of relevant SSCs will be maintained for the license renewal period; LBP-08-13, 68 NRC 43 (2008)

if petitioner believes that current NRC regulations are inadequate, the venue for raising such a concern is a section 2.802 petition to institute a rulemaking action; LBP-08-13, 68 NRC 43 (2008)

NEPA imposes no legal duty on the NRC to consider intentional malevolent acts on a case-by-case basis in conjunction with commercial power reactor license renewal applications; LBP-08-13, 68 NRC 43 (2008)

NEPA is the only legal grounds for an admissible contention relating to environmental justice; LBP-08-13, 68 NRC 43 (2008)

NRC Staff's revision of the Final Safety Evaluation Report to account for applicant's confirmatory analysis would not, standing alone, be a materially different result that justifies reopening the record, because it would neither change the outcome of the renewal proceeding nor impose a different licensing condition on an applicant; LBP-08-12, 68 NRC 5 (2008)

petitioner is not required to redo SAMA analyses in order to raise a material issue; LBP-08-13, 68 NRC 43 (2008)

petitioner's assumption that, because it cannot check all SAMA analysis details, the analysis is incomplete or incorrect is mere speculation and is insufficient to support the admissibility of its contention; LBP-08-13, 68 NRC 43 (2008)

reasonable alternatives for license renewal proceedings are limited to discrete electric generation sources that are technically feasible and commercially available; LBP-08-13, 68 NRC 43 (2008)

safety issues that were reviewed for the initial license and that have been closely monitored by NRC inspection during the license term need not be reviewed again in this context; LBP-08-13, 68 NRC 43 (2008)

spent fuel pool fires are Category 1 environmental issues and therefore are addressed generically in the generic environmental impact statement for license renewals; LBP-08-13, 68 NRC 43 (2008)

to challenge a SAMA analysis, petitioner must, at a minimum, address the approximate relative cost and benefit of the SAMA; LBP-08-13, 68 NRC 43 (2008)

to reopen a closed record to introduce a new issue, movant has the burden of showing that the new information will likely trigger a different result; LBP-08-12, 68 NRC 5 (2008)

whether a plan is necessary to manage the cumulative effects of embrittlement of the reactor pressure vessels and associated internals is within the scope of this proceeding; LBP-08-13, 68 NRC 43 (2008)

**LICENSE RENEWALS**

a renewed license takes effect immediately, with a term of up to 20 years plus the number of years remaining on the initial operating license; CLI-08-23, 68 NRC 461 (2008)

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applicants must demonstrate how their programs will be effective in managing the effect of aging during the period of extended operations and identify any additional actions that will need to be taken to manage adequately the detrimental effects of aging; LBP-08-22, 68 NRC 590 (2008)

burden is on applicant to show that concrete in containment structures will maintain its integrity during the extended period of operations or to develop an aging management plan that ensures that any indication of degradation is detected and remediated; LBP-08-13, 68 NRC 43 (2008)

condensate storage system buried pipes are outside the scope of a license renewal proceeding with respect to their "safety" functionality, but that does not eliminate the need for consideration of potential leaks from those buried pipes because of their role in fire protection; LBP-08-22, 68 NRC 590 (2008)

even if a particular system falls within the scope of Part 54, not all structures and components comprising that system will necessarily be subject to Part 54 aging management requirements; LBP-08-22, 68 NRC 590 (2008)

if a structure or component is already required to be replaced at mandated, specified time periods, it would fall outside the scope of safety review; LBP-08-22, 68 NRC 590 (2008)

in conducting its analysis of the impact of the license renewal on land use, applicant should consider the impact on real estate values that would be caused by license renewal or nonrenewal; LBP-08-13, 68 NRC 43 (2008)

in evaluating metal fatigue, a component's cumulative usage factor is the fundamental parameter used to determine whether it will likely develop cracks during the license renewal period and thus is subject to an aging management plan; LBP-08-13, 68 NRC 43 (2008)

it is unnecessary and inappropriate to throw open the full gamut of provisions in a plant's current licensing basis to reanalysis during the safety review; LBP-08-22, 68 NRC 590 (2008)

monitoring, and the installation of monitoring wells, is a matter for ongoing operation and maintenance, and not within the scope of matters properly considered in a license renewal; LBP-08-22, 68 NRC 590 (2008)

Part 54 does not require a comprehensive preapplication baseline inspection; LBP-08-13, 68 NRC 43 (2008)

quality assurance programs must include written test procedures that incorporate the requirements and acceptance limits contained in applicable design documents, and, as appropriate, proof tests prior to installation, preoperational tests, and operational tests during nuclear power plant operation, of structures, systems, and components; LBP-08-22, 68 NRC 590 (2008)

quality assurance requirements apply to aging management plans; LBP-08-22, 68 NRC 590 (2008)

regulations established under Part 50, including compliance with the ASME Code, must be followed during the period of extended operation; CLI-08-28, 68 NRC 658 (2008)

relevant plant systems, structures, and components are those that are safety-related, or whose failure could affect safety-related functions, or that are relied on to demonstrate compliance with the NRC's regulations for fire protection, environmental qualification, pressurized thermal shock, anticipated transients without scram, and station blackout; CLI-08-23, 68 NRC 461 (2008)

the Commission may issue a renewed license if it finds that with respect to the structures and components identified under section 54.21(a)(1), there is reasonable assurance of ongoing conformity to the current licensing basis; LBP-08-22, 68 NRC 590 (2008)

the Commission will issue a renewed license if it determines, among other things, that there is reasonable assurance that the plant will operate in accordance with its current licensing basis during the period of extended operation; CLI-08-23, 68 NRC 461 (2008)

See also Operating License Renewal

**LICENSE TRANSFER PROCEEDINGS**

a union in one facility lacks standing to participate in other interrelated license transfer proceedings, given that the union did not represent employees at the other facilities; CLI-08-19, 68 NRC 251 (2008)

how the Commission determines proximity-based standing is described; CLI-08-19, 68 NRC 251 (2008)

petitioners in direct license transfer cases who qualified for proximity-based standing lived within a 5-1/2-mile radius of their plant; CLI-08-19, 68 NRC 251 (2008)

**LICENSE TRANSFERS**

direct transfers entail a change to operating and/or possession authority; CLI-08-19, 68 NRC 251 (2008)

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if Staff approves a license transfer application prior to the Commission completing its adjudication, the application will lack the agency's final approval until and unless the Commission concludes the adjudication in applicant's favor; CLI-08-19, 68 NRC 251 (2008)

indirect transfers involve corporate restructuring or reorganizations that leave the licensee itself intact as a corporate entity and therefore involve no application for a new operating license; CLI-08-19, 68 NRC 251 (2008)

license transfer applicants who have received Staff approval but are still awaiting the results of a Commission adjudication are free to act in reliance on the Staff's order; CLI-08-19, 68 NRC 251 (2008)

Staff approval of a license transfer could be rescinded if the Commission later determines that intervenors have raised valid objections to the license transfer application; CLI-08-19, 68 NRC 251 (2008)

### LICENSEES

a license renewal proceeding is an appropriate occasion for appraising the entire past performance of the licensee; LBP-08-24, 68 NRC 691 (2008)

### LICENSING BASIS

during the renewal term, this consists of the current licensing basis together with new commitments to monitor, manage, and correct age-related degradation unique to license renewal; LBP-08-25, 68 NRC 763 (2008)

### LICENSING BOARD DECISIONS

a licensing board need not formally reopen the record in order to assess the relative worth of the parties' competing evidence; LBP-08-12, 68 NRC 5 (2008)

factual material that has not been introduced into evidence cannot serve as the basis for a decision because it deprives opposing parties of an opportunity to impeach it by cross-examination or to rebut it with other evidence; LBP-08-12, 68 NRC 5 (2008)

in evaluating a motion to reopen the record, a board properly considers the movant's new allegations and the nonmovant's contrary evidence in determining whether there is a real issue at stake warranting a reopened hearing; LBP-08-12, 68 NRC 5 (2008)

the Commission gives substantial deference to board conclusions on standing and contention admissibility unless the appeal points to an error of law or abuse of discretion; CLI-08-17, 68 NRC 231 (2008)

where a board's decision rests in part on facts officially noticed, any party wishing to controvert the facts officially noticed may do so by filing a motion for reconsideration or an appeal from the decision; LBP-08-25, 68 NRC 763 (2008)

where a party merely complains that the board improperly weighed the evidence and identifies no clear board factual or legal error requiring further Commission consideration on appellate review, the Commission is disinclined to second-guess the board's assessment of the party's affidavits; CLI-08-28, 68 NRC 658 (2008)

See also Intervention Rulings; Referral of Ruling

### LICENSING BOARD ORDERS

the presiding officer may grant extensions of time for individual milestones for the participants' filings, and may delay its own issuances for up to 30 days beyond the date of the milestone set in the hearing schedule; CLI-08-18, 68 NRC 246 (2008)

### LICENSING BOARDS, AUTHORITY

a board has discretion to allow parties to cross-examine witnesses in Subpart L proceedings if the board deems this practice necessary to establish an adequate record; LBP-08-24, 68 NRC 691 (2008)

a board is clearly authorized to dismiss a party who obstructs the discovery process, disobeys the board orders, and engages in willful, bad-faith, and prejudicial conduct toward another party; CLI-08-29, 68 NRC 899 (2008)

a board is to decide a motion to reopen on the information before it and has no authority to engage in discovery in order to supplement the pleadings before it; CLI-08-28, 68 NRC 658 (2008)

although licensing boards frequently hold oral argument on contention admissibility, a board may instead elect to dispense with oral argument; LBP-09-23, 68 NRC 679 (2008)

boards have broad discretion to issue procedural orders to regulate the course of proceedings and the conduct of participants, and as a general matter, the Commission declines to interfere with the board's day-to-day case management decisions, unless there has been an abuse of power; LBP-09-23, 68 NRC 679 (2008)



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- boards have discretion to reframe contentions for purposes of clarity, succinctness, and a more efficient proceeding; LBP-08-12, 68 NRC 5 (2008)
- boards may choose the hearing process most suitable for the contentions before it; LBP-08-24, 68 NRC 691 (2008)
- boards should refer contention challenging a reactor design certification to the Staff for consideration in the design certification rulemaking, and hold that contention in abeyance, if it is otherwise admissible; CLI-08-15, 68 NRC 1 (2008)
- dismissal due to counsel's malfeasance is a logical extension of the board's disciplinary authority to reprimand, censure, or suspend from a proceeding any party or representative who refuses to comply with its directions; CLI-08-29, 68 NRC 899 (2008)
- if a board finds that the use of a more accurate approach than compliance with regulatory guides is needed to provide reasonable assurance that metal fatigue will be adequately managed during the period of extended operation, then the board is authorized and duty bound to impose such a requirement; LBP-08-25, 68 NRC 763 (2008)
- if petitioner fails to provide the requisite support for its contentions, the board may not make assumptions of fact that favor the petitioner or supply information that is lacking; LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008) ; LBP-08-24, 68 NRC 691 (2008); LBP-08-26, 68 NRC 905 (2008)
- in conducting Subpart L hearings, board members pose questions to the parties' witnesses in those areas that, in the Board's judgment, require additional clarification and development; LBP-08-22, 68 NRC 590 (2008)
- licensing boards are not foreclosed from considering docketed licensing material that has been submitted to the board and that, on its face, appears to be relevant to the disposition of a pending motion; LBP-08-12, 68 NRC 5 (2008)
- neither NRC regulations nor agency policy mandates that the oral argument be conducted in person near the site; LBP-09-23, 68 NRC 679 (2008)
- the board is prohibited from considering in a combined license proceeding matters that were resolved in an early site permit proceeding when the COL application references the ESP; LBP-09-23, 68 NRC 679 (2008)
- LICENSING BOARDS, JURISDICTION**
- boards may not oversee or direct NRC Staff in its license reviews; CLI-08-23, 68 NRC 461 (2008)
- only the Commission on its own initiative may review Staff's final no significant hazards consideration determination; LBP-08-20, 68 NRC 549 (2008)
- LICENSING PROCEEDINGS**
- claims about the adequacy of NRC Staff's safety review are not litigable; CLI-08-23, 68 NRC 461 (2008)
- it is the applicant, not NRC Staff, that has the burden of proof in litigation; CLI-08-23, 68 NRC 461 (2008)
- motions must be initially addressed to the presiding officer when a proceeding is pending; CLI-08-23, 68 NRC 461 (2008)
- the purpose and scope of a proceeding is to allow interested persons the right to challenge the sufficiency of the application; CLI-08-23, 68 NRC 461 (2008)
- LICENSING SUPPORT NETWORK**
- participants must make a good-faith effort to have made available all documentary material by the date specified for initial compliance; CLI-08-22, 68 NRC 355 (2008)
- potential participants are afforded the opportunity to frame focused and meaningful contentions and to avoid the delay potentially associated with document discovery, by requiring parties and potential parties to the proceeding to make all of their Subpart J-defined documentary material available prior to submission of the Department of Energy application; CLI-08-22, 68 NRC 355 (2008)
- the LSN functions as a mechanism for early collection of all extant documents that normally would be collected later through traditional discovery; CLI-08-22, 68 NRC 355 (2008)
- LIMITED APPEARANCE STATEMENTS**
- when boards conduct limited appearance sessions, in which members of the general public may make oral statements to the board, such sessions are generally conducted in person near the site; LBP-09-23, 68 NRC 679 (2008)

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### LOCAL GOVERNMENTAL BODIES

the Commission shall permit intervention by the county, municipality, or other subdivision in which the geologic repository operations area is located if the contention requirements in 10 C.F.R. 2.309(f) are satisfied with respect to at least one contention; CLI-08-25, 68 NRC 497 (2008)

### MAINTENANCE PROGRAMS

failure to document a falsified work order is a violation of 10 C.F.R. 50.9; LBP-08-14, 68 NRC 279 (2008)

### MANAGEMENT CHARACTER AND COMPETENCE

a license renewal proceeding is an appropriate occasion for appraising the entire past performance of the licensee; LBP-08-24, 68 NRC 691 (2008)

### MATERIAL FALSE STATEMENTS

information provided to the Commission by an applicant for a license or required to be maintained by the applicant or the licensee shall be complete and accurate in all material respects; LBP-08-14, 68 NRC 279 (2008)

### MATERIALITY

concerns related to an applicant's ownership are potentially material to the safety and environmental requirements of 10 C.F.R. Part 40; LBP-08-24, 68 NRC 691 (2008)

contentions alleging deficiencies or errors in an application must indicate some significant link between the claimed deficiency and either the health and safety of the public or the environment; LBP-08-16, 68 NRC 361 (2008)

ensuring that NRC Staff meets its consultation obligations under section 106 of the National Historic Preservation Act is an issue material to the findings NRC must make in support of the action involved in a materials license renewal proceeding; LBP-08-24, 68 NRC 691 (2008)

the subject matter of the contention must impact the grant or denial of a pending license application; LBP-08-16, 68 NRC 361 (2008)

the underlying purpose of NEPA as an information-gathering and disclosure mechanism requires a different view of the concept of "materiality" under 10 C.F.R. 2.309(f)(1)(iv) than might be applied to a contention seeking to establish a health and safety issue; LBP-08-16, 68 NRC 361 (2008)

### MATERIALS LICENSE AMENDMENT PROCEEDINGS

proximity alone is not sufficient to establish standing for a petitioner's proximity to a source materials activity; LBP-08-24, 68 NRC 691 (2008)

### MATERIALS LICENSE RENEWAL

NRC Staff is required to consider whether renewing a license would be inimical to the common defense and security or the public health and safety; LBP-08-24, 68 NRC 691 (2008)

### MATERIALS LICENSE RENEWAL PROCEEDINGS

a contention that involves an issue of state law is outside the scope of the proceeding; LBP-08-24, 68 NRC 691 (2008)

a license renewal proceeding is an appropriate occasion for appraising the entire past performance of the licensee; LBP-08-24, 68 NRC 691 (2008)

allegations that mining activities may cause harm to public health and safety are within the scope of a materials license renewal proceeding and material to the findings the NRC must make; LBP-08-27, 68 NRC 951 (2008)

determination of specific hearing procedures to be used for a proceeding is made on a contention-by-contention basis, and selection of the hearing procedure is dependent on what is most appropriate for the specific contentions before it; LBP-08-24, 68 NRC 691 (2008)

ensuring that NRC Staff meets its consultation obligations under section 106 of the National Historic Preservation Act is an issue material to the findings NRC must make in support of the action involved; LBP-08-24, 68 NRC 691 (2008)

to participate as a party in a materials license renewal proceeding, intervention petitioner must not only establish standing, but also proffer at least one admissible contention; LBP-08-24, 68 NRC 691 (2008)

### METAL FATIGUE

a component's cumulative usage factor is the fundamental parameter used to determine whether it will likely develop cracks during the license renewal period and thus is subject to an aging management plan; LBP-08-13, 68 NRC 43 (2008)

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analysis of metal fatigue that ignores the known and substantial effects of the light-water reactor environment is insufficient, as both a technical and a legal matter; LBP-08-25, 68 NRC 763 (2008)

applicant's use of a conservative number of transients in the calculations of the environmentally adjusted cumulative usage factor is adequate to provide the degree of assurance required by 10 C.F.R. 54.29(a); LBP-08-25, 68 NRC 763 (2008)

conservatism in use of Green's function to determine cumulative usage factor for metal fatigue in the recirculation nozzle is discussed; LBP-08-12, 68 NRC 5 (2008)

if a board finds that the use of a more accurate approach than compliance with regulatory guides is needed to provide reasonable assurance that metal fatigue will be adequately managed during the period of extended operation, then the board is authorized and duty bound to impose such a requirement; LBP-08-25, 68 NRC 763 (2008)

if applicant's metal fatigue analyses on Class I components do not comply with the ASME Code and do not provide reasonable assurance as required by 10 C.F.R. 54.21(c)(1) and 54.29(a), then a license renewal cannot be issued; LBP-08-25, 68 NRC 763 (2008)

license renewal applicant demonstrates compliance with the ASME Code by projecting the fatigue analysis for the nozzle through the extended operating period; CLI-08-28, 68 NRC 658 (2008)

NRC Staff's guidance document NUREG/CR-6909, which prescribes guidance on the calculation of metal fatigue on reactor components in a light water reactor environment, is built upon a larger and more recent database than NUREG/CR-5704 and -6583 but use of the earlier NUREGs is sufficient; LBP-08-25, 68 NRC 763 (2008)

use of a simplified Green's function methodology for the environmentally adjusted cumulative usage factor metal fatigue analyses for the core spray and reactor recirculation outlet nozzles is inconsistent with the ASME Code and thus cannot serve as the analysis-of-record and does not satisfy the requirements of 10 C.F.R. 54.21(c)(1) or 54.29(a); LBP-08-25, 68 NRC 763 (2008)

### MOOTNESS

if applicant supplies missing information or performs the omitted analysis, a contention of omission is moot; LBP-08-12, 68 NRC 5 (2008)

### MOTIONS

a party in the high-level waste proceeding who files a motion must certify that he or she has made a reasonable effort to consult with counsel for the other parties in an effort to resolve the matter in advance of filing the motion; CLI-08-25, 68 NRC 497 (2008)

all motions are required to include a certification that the sponsor of the motion has made a sincere effort to contact the other parties and to resolve the issues raised in the motion; CLI-08-22, 68 NRC 355 (2008)

although NRC regulations do not provide for a motion to suspend a proceeding, the Commission has considered similar requests in the exercise of its inherent supervisory powers over proceedings; CLI-08-23, 68 NRC 461 (2008)

movant has no right to reply except as permitted by the presiding officer; CLI-08-23, 68 NRC 461 (2008)

petitioners' requests that do not fit cleanly within any of the procedures described within the rules of practice are treated as general motions brought under the procedural requirements of 10 C.F.R. 2.323; CLI-08-23, 68 NRC 461 (2008)

### MOTIONS FOR RECONSIDERATION

a motion may not be filed except with leave of the licensing board, upon a showing of compelling circumstances, such as the existence of a clear and material error in a decision, which could not reasonably have been anticipated, that renders the decision invalid; LBP-09-23, 68 NRC 679 (2008)

petitioner may not claim standing based on vague assertions, and when that fails, attempt to repair the defective pleading with fresh details offered for the first time in a petition for reconsideration; CLI-08-19, 68 NRC 251 (2008)

where a board's decision rests in part on facts officially noticed, any party wishing to controvert the facts officially noticed may do so by filing a motion for reconsideration or an appeal from the decision; LBP-08-25, 68 NRC 763 (2008)

### MOTIONS TO DISMISS

collateral estoppel effect is given to judgments granting a motion to dismiss, when the party against which collateral estoppel is invoked had a full and fair opportunity to oppose the dismissal; LBP-09-23, 68 NRC 679 (2008)

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### MOTIONS TO REOPEN

- a board is to decide the motion on the information before it and has no authority to engage in discovery in order to supplement the pleadings before it; CLI-08-28, 68 NRC 658 (2008)
- a party seeking to reopen a closed record to raise a new matter faces an elevated burden to lay a proper foundation for its claim; CLI-08-28, 68 NRC 658 (2008)
- a petitioner seeking to reopen the record does not show the existence of a significant safety issue by showing merely that a plant component performs safety functions and thus has safety significance; LBP-08-12, 68 NRC 5 (2008)
- a significant safety or environmental issue must be addressed; CLI-08-23, 68 NRC 461 (2008)
- affidavit support for a motion to reopen must provide a prima facie showing that a deficiency exists in the license renewal application and the deficiency presents a significant safety issue; LBP-08-12, 68 NRC 5 (2008)
- affidavit support that sets forth the factual and/or technical basis for the movants' claim that a significant and material safety or environmental issue exists is required; CLI-08-23, 68 NRC 461 (2008); LBP-08-12, 68 NRC 5 (2008)
- bare assertions and speculation do not supply the requisite support and a judge's dissenting opinion cannot substitute for the affidavit required to be submitted to the board; CLI-08-28, 68 NRC 658 (2008)
- failure by movant to address all reopening requirements in its motion is reason enough to deny the motion; LBP-08-12, 68 NRC 5 (2008)
- motions must be accompanied by affidavits of qualified experts presenting the factual and/or technical bases for the claim that there is a significant safety issue, together with evidence that satisfies the admissibility standards; CLI-08-28, 68 NRC 658 (2008)
- movant must show that a materially different result would have been likely if the new information had been available to the board; CLI-08-23, 68 NRC 461 (2008)
- new information sufficient to reopen a closed hearing record at the last minute must be significant and plausible enough to require reasonable minds to inquire further; CLI-08-28, 68 NRC 658 (2008)
- proponents of a reopening motion bear a heavy burden of meeting all of the reopening requirements; CLI-08-28, 68 NRC 658 (2008)
- reopening a closed record requires, among other things, a showing that the motion is timely; CLI-08-23, 68 NRC 461 (2008)
- summary disposition standards are not applicable to and do not replace the standards applicable to motions to reopen; CLI-08-28, 68 NRC 658 (2008)
- timeliness as measured under NRC regulations is from the point at which new information is discovered relevant to the question; LBP-08-12, 68 NRC 5 (2008)
- where a motion to reopen proposes a contention not previously part of the proceeding, the requirements for late-filed contentions set out in 10 C.F.R. 2.309(c) must also be satisfied; CLI-08-28, 68 NRC 658 (2008)

### MOTIONS TO STRIKE

- the board rejected the motion on the grounds that counsel failed to comply with the certification requirements regarding consultation with opposing counsel and also failed to state with particularity the grounds for the motion; CLI-08-29, 68 NRC 899 (2008)

### NATIONAL ENVIRONMENTAL POLICY ACT

- a decision on whether an environmental impact report is based on the best scientific methodology available is not required, nor is the resolution of disagreements among various scientists as to methodology; CLI-08-26, 68 NRC 509 (2008)
- a more detailed environmental impact statement is not required unless the contemplated action is a major federal action significantly affecting the quality of the human environment; CLI-08-26, 68 NRC 509 (2008)
- a NEPA analysis is not the vehicle for exploring questions about the potential for a terrorist attack upon a proposed nuclear facility; LBP-08-16, 68 NRC 361 (2008)
- absent a waiver pursuant to 10 C.F.R. 2.335, Category 1 issues are not subject to challenge in a relicensing proceeding because they involve environmental effects that are essentially similar for all plants and need not be assessed repeatedly on a site-specific basis; LBP-08-13, 68 NRC 43 (2008)

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an environmental assessment, with its accompanying finding of no significant impact, constitutes an agency's evaluation of the environmental effects of a proposed action unless a more detailed statement is required; CLI-08-26, 68 NRC 509 (2008)

an environmental report prepared for a license renewal need not discuss economic or technical benefits and costs of the proposed action or alternatives except as they are either essential for determining whether an alternative should be included or relevant to mitigation; LBP-08-13, 68 NRC 43 (2008)

analysis of potential terrorist attacks on a proposed nuclear facility is not required; LBP-08-21, 68 NRC 554 (2008)

analysis of the potential impacts of an increase in the supply of irradiated food is not required; CLI-08-16, 68 NRC 221 (2008)

applicant is required to address new and significant information for either Category 1 or Category 2 issues in its environmental report for a license renewal application; LBP-08-13, 68 NRC 43 (2008)

applicant is required to present a cost-benefit analysis (and therefore provide cost estimates) for nuclear power plants and facilities only where the applicant's alternatives analysis indicates that there is an environmentally preferable alternative; LBP-08-21, 68 NRC 554 (2008)

applicant is required to provide in its environmental report a site-specific analysis of entrainment, impingement, and heat shock/thermal discharge impacts from its once-through cooling systems; LBP-08-13, 68 NRC 43 (2008)

applicant need not look at every conceivable alternative, but rather must only consider feasible, nonspeculative, reasonable alternatives; LBP-08-13, 68 NRC 43 (2008)

asserted deficiencies in the environmental report intake/discharge impact discussion as it is associated with the baseline discussion of aquatic resources, if properly supported, can be admitted for further litigation; LBP-08-16, 68 NRC 361 (2008)

conformity of a proposed action to federal regulations governing other aspects of that action's interrelationship with the environment will buttress a finding of no significant impact; CLI-08-16, 68 NRC 221 (2008)

contentions relating to the conclusions that the NRC Staff reaches in its NEPA analysis with regard to the environmental impacts from radiological releases to groundwater must await future publication of its supplemental environmental impact statement; LBP-08-13, 68 NRC 43 (2008)

if a harm does not have a sufficiently close connection to the physical environment, NEPA does not apply, regardless of the gravity of the harm; CLI-08-16, 68 NRC 221 (2008)

in conducting its analysis of the impact of the license renewal on land use, applicant should consider the impact on real estate values that would be caused by license renewal or nonrenewal; LBP-08-13, 68 NRC 43 (2008)

in its environmental report, applicant must provide enough information and in sufficient detail to allow for an evaluation of important impacts; LBP-08-16, 68 NRC 361 (2008)

in the context of NEPA, one must examine underlying policies or legislative intent to draw a manageable line between those causal changes that make an agency responsible for an effect and those that do not; CLI-08-16, 68 NRC 221 (2008)

neither NRC nor applicant has the mission or authority to implement a general societal interest in energy efficiency; LBP-08-13, 68 NRC 43 (2008)

notwithstanding TVA's status as a federal entity, it is within NRC's regulatory authority to review TVA's combined license application, including its compliance with the agency's NEPA requirements; LBP-08-16, 68 NRC 361 (2008)

NRC can presume that increases in emissions that still fall within statutory limits will be insignificant; CLI-08-16, 68 NRC 221 (2008)

NRC has no legal duty to consider intentional malevolent acts on a case-by-case basis in conjunction with commercial power reactor license renewal applications; LBP-08-13, 68 NRC 43 (2008)

NRC is not required to assess every impact or effect of its proposed action, only effects on the environment; CLI-08-16, 68 NRC 221 (2008)

NRC is not required to revisit matters related to high-density spent fuel pool coolant loss or other SFP events in combined license proceedings; LBP-08-21, 68 NRC 554 (2008)

NRC regulations require petitioner to raise contentions related to NEPA as challenges to the applicant's environmental report, which acts as a surrogate for the environmental impact statement during the early stages of a relicensing proceeding; LBP-08-26, 68 NRC 905 (2008)

## SUBJECT INDEX

- presentation of an alternative analysis is, without more, insufficient to support a contention alleging that the original analysis failed to meet applicable requirements; LBP-08-13, 68 NRC 43 (2008)
- reasonable alternatives for license renewal proceedings are limited to discrete electric generation sources that are technically feasible and commercially available; LBP-08-13, 68 NRC 43 (2008)
- the Commission is not required to reveal sensitive government security information regarding the agency's environmental analysis; CLI-08-26, 68 NRC 509 (2008)
- the Commission is ultimately responsible for analyzing environmental justice issues, but license renewal applicants are required to assist the Commission with that evaluation; LBP-08-26, 68 NRC 905 (2008)
- the Commission may withhold from public disclosure any information that is exempt under the Freedom of Information Act; CLI-08-26, 68 NRC 509 (2008)
- the issue of need for power is a part of NRC's combined license NEPA review process; LBP-08-16, 68 NRC 361 (2008)
- the purpose of an environmental justice review is to ensure that the Commission considers and publicly discloses environmental factors peculiar to minority or low-income populations that may cause them to suffer harm disproportionate to that suffered by the general population; LBP-08-13, 68 NRC 43 (2008)
- the rule of reason does not demand an analysis of energy efficiency because conservation measures are beyond the ability of an applicant to implement, and are therefore outside the scope required by a NEPA review of reasonable alternatives; LBP-08-13, 68 NRC 43 (2008)
- the underlying purpose of NEPA as an information-gathering and disclosure mechanism requires a different view of the concept of "materiality" under 10 C.F.R. 2.309(f)(1)(iv) than might be applied to a contention seeking to establish a health and safety issue; LBP-08-16, 68 NRC 361 (2008)
- the waste confidence rule applies to the spent fuel discharged from any new generation of reactor designs; LBP-08-21, 68 NRC 554 (2008)
- to be encompassed by NEPA, there needs to be a reasonably close causal relationship between a change in the physical environment and the effect at issue; CLI-08-16, 68 NRC 221 (2008)
- whether NEPA requires NRC to consider potential health effects of consuming irradiated food raises the kind of broad legal question appropriate for Commission interlocutory review; CLI-08-16, 68 NRC 221 (2008)
- NATIONAL HISTORIC PRESERVATION ACT**
- a federal agency, prior to the issuance of any license, is required to take into account the effect of the federal action on any area eligible for inclusion in the National Register of Historic Places; LBP-08-24, 68 NRC 691 (2008)
- a license renewal applicant must assess whether any historic or archaeological properties will be affected by the proposed project; LBP-08-26, 68 NRC 905 (2008)
- ensuring that NRC Staff meets its consultation obligations under section 106 is an issue material to the findings the NRC must make in support of the action involved in a materials license renewal proceeding; LBP-08-24, 68 NRC 691 (2008)
- in initiating the section 106 process, NRC is required to make a reasonable and good-faith effort to identify Indian tribes who may attach religious and cultural significance to historic properties that may be affected by the proposed undertaking and invite them to participate as consulting parties in the section 106 process; LBP-08-24, 68 NRC 691 (2008)
- procedural violations of the Act have resulted in a grant of standing to tribes; LBP-08-24, 68 NRC 691 (2008)
- to establish an injury in fact, a party merely has to show some threatened concrete interest personal to the party that the National Historic Preservation Act was designed to protect; LBP-08-24, 68 NRC 691 (2008)
- to establish an injury in fact, a party merely has to show some threatened concrete interest personal to the party; LBP-08-24, 68 NRC 691 (2008)
- NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT**
- notification and inventory procedures are provided so that Indian cultural objects and burial remains found on federal lands will be repatriated to the appropriate tribe; LBP-08-24, 68 NRC 691 (2008)
- NATIVE AMERICANS**
- a tribe may become a consulting party where its property, potentially affected by a federal undertaking, has religious or cultural significance; LBP-08-24, 68 NRC 691 (2008)

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- an individual member of a Native American tribe may assert his or her rights on behalf of the tribe; LBP-08-24, 68 NRC 691 (2008)
- any treaty-based claims to ownership of the land upon which a mining site sits cannot support standing; LBP-08-24, 68 NRC 691 (2008)
- as long as counsel is an attorney in good standing and a member of the bar, a Notice of Appearance is sufficient in itself for him or her to represent the tribe in a proceeding; LBP-08-26, 68 NRC 905 (2008)
- continuous and exclusive use of property is sufficient, unless duly extinguished, to establish Indian or aboriginal title; LBP-08-24, 68 NRC 691 (2008)
- federal agencies are to consult with a tribe if that tribe ascribes cultural or religious significance to properties not on tribal lands; LBP-08-24, 68 NRC 691 (2008)
- federal agencies should be sensitive to the special concerns of Indian tribes in historic preservation issues, which often extend beyond Indian lands to other historic properties, and should invite the governing body of the responsible tribe to be a consulting party and to concur in any agreement; LBP-08-24, 68 NRC 691 (2008)
- general counsel for an Indian tribe is not required to submit a declaration stating the basis of his or her authority to represent the tribe; LBP-08-26, 68 NRC 905 (2008)
- licensing boards are required to reject treaty-based claims of ownership; LBP-08-24, 68 NRC 691 (2008)
- notification and inventory procedures are provided so that Indian cultural objects and burial remains found on federal lands will be repatriated to the appropriate tribe; LBP-08-24, 68 NRC 691 (2008)
- plenary authority over the tribal relations of the Indians has been exercised by Congress from the beginning, and the power has always been deemed a political one, not subject to be controlled by the judicial department of the government; LBP-08-24, 68 NRC 691 (2008)
- preservation of cultural traditions is a protected interest under federal law, and its endangerment or harm qualifies as an injury for the purposes of establishing standing; LBP-08-24, 68 NRC 691 (2008)
- procedural violations of the National Historic Preservation Act have resulted in a grant of standing to tribes; LBP-08-24, 68 NRC 691 (2008)
- the Commission shall permit intervention by any affected federally recognized Indian tribe in the area where the geologic repository operations is located if the contention requirements in 10 C.F.R. 2.309(f) are satisfied with respect to at least one contention; CLI-08-25, 68 NRC 497 (2008)
- the difference between "aboriginal title" and "aboriginal lands" is distinguished; LBP-08-24, 68 NRC 691 (2008)
- to establish an injury in fact, a party merely has to show some threatened concrete interest personal to the party that the National Historic Preservation Act was designed to protect; LBP-08-24, 68 NRC 691 (2008)
- trust responsibility imposes a fiduciary duty on NRC, as a federal agency, to the tribe and its members; LBP-08-24, 68 NRC 691 (2008)
- without consultation with a tribe, culturally significant resources will go unidentified and unprotected, resulting in development or use of the land that might cause damage to these cultural resources, thereby injuring the protected interests of the tribe; LBP-08-24, 68 NRC 691 (2008)
- NATURALLY OCCURRING RADIOACTIVE MATERIAL**
- allegation that the environmental report's analysis of cancer deaths and illnesses relative to natural radiation source exposures is inadequate is inadmissible; LBP-08-16, 68 NRC 361 (2008)
- NEED FOR POWER**
- notwithstanding TVA's status as a federal entity, it is within NRC's regulatory authority to review TVA's combined license application, including its compliance with the agency's NEPA requirements; LBP-08-16, 68 NRC 361 (2008)
- NRC's longstanding approach to electric power demand forecasting has emphasized historical, conservative planning to ensure that electricity generating capacity will be available to meet reasonably expected needs; LBP-08-16, 68 NRC 361 (2008)
- the issue of need for power is a part of the NRC's combined license NEPA review process; LBP-08-16, 68 NRC 361 (2008)
- NO SIGNIFICANT HAZARDS DETERMINATION**
- an agency can presume that increases in emissions that still fall within statutory limits will be insignificant; CLI-08-16, 68 NRC 221 (2008)

## SUBJECT INDEX

conformity of a proposed action to federal regulations governing other aspects of that action's interrelationship with the environment will buttress a finding of no significant impact; CLI-08-16, 68 NRC 221 (2008)

contentions challenging Staff's determination are not appropriate for review in a license amendment proceeding; LBP-08-18, 68 NRC 533 (2008); LBP-08-19, 68 NRC 545 (2008); LBP-08-20, 68 NRC 549 (2008)

licensing boards have no jurisdiction to consider an intervention petition seeking to challenge Staff's final determination; LBP-08-20, 68 NRC 549 (2008)

only the Commission on its own initiative may review Staff's final no significant hazards consideration determination; LBP-08-18, 68 NRC 533 (2008); LBP-08-20, 68 NRC 549 (2008)

### NO-ACTION ALTERNATIVE

the generic environmental impact statement addresses the need to consider energy conservation for the no-action alternative; LBP-08-13, 68 NRC 43 (2008)

### NONSAFETY-RELATED

cracking of a nonsafety-related steam dryer could cause a release of loose parts that could have an adverse impact on safety-related equipment and thus it is within the scope of aging management review in a license renewal proceeding; LBP-08-25, 68 NRC 763 (2008)

### NOTICE OF APPEARANCE

as long as counsel is an attorney in good standing and a member of the bar, a Notice of Appearance is sufficient in itself for him or her to represent an Indian tribe in a proceeding; LBP-08-26, 68 NRC 905 (2008)

### NOTICE OF HEARING

a party filing a response to a notice of hearing must state in its answer its intent to introduce classified information into the proceeding, if it appears to the party that it will be impracticable to avoid such introduction; CLI-08-21, 68 NRC 351 (2008)

any ambiguity relative to the filing date for hearing requests arising from the language of the agency's hearing opportunity notice should be construed in favor of a participant who was seeking to comply with the notice; LBP-08-16, 68 NRC 361 (2008)

before a participant may be precluded from litigating an issue because it failed to raise the issue in an earlier proceeding, it must have had reasonable notice that such an opportunity existed; LBP-08-15, 68 NRC 294 (2008)

given that the *Federal Register* notice defines the scope of the issues that may properly be raised in a request for a hearing, it also defines the scope of the issues that could reasonably be deemed resolved during an early site permit proceeding; LBP-08-15, 68 NRC 294 (2008)

NRC Staff must include a notice of intent to introduce classified information in the notice of hearing, if it would be impracticable to avoid such introduction; CLI-08-21, 68 NRC 351 (2008)

### NRC POLICY

issues concerning a reactor design certification application should be resolved in the design certification rulemaking and not in an individual combined license proceeding; CLI-08-15, 68 NRC 1 (2008)

petitioner cannot seek to use a specific adjudicatory proceeding to attack generic NRC regulations and requirements or express generalized grievances about NRC policies; CLI-08-17, 68 NRC 231 (2008)

the adjudicatory process is not the proper venue to hear any contention that merely addresses petitioner's own views on regulatory policy; LBP-08-26, 68 NRC 905 (2008)

### NRC PROCEEDINGS

because federal agencies are neither constrained by Article III nor governed by judicially created standing doctrines, the criteria for establishing administrative standing therefore may permissibly be less demanding than the criteria for judicial standing; LBP-08-24, 68 NRC 691 (2008)

the doctrine of collateral estoppel should be applied in appropriate circumstances; LBP-08-15, 68 NRC 294 (2008)

### NRC STAFF

a request to an applicant for more information does not make an application incomplete; CLI-08-15, 68 NRC 1 (2008)

### NRC STAFF REVIEW

availability of Staff review outside the hearing process generally does not constitute adequate protection of a private party's rights when considering 10 C.F.R. 2.309(c)(1)(ii); LBP-08-12, 68 NRC 5 (2008)



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claims about the adequacy of the Staff's safety review are not litigable in licensing proceedings; CLI-08-23, 68 NRC 461 (2008)

ensuring that NRC Staff meets its consultation obligations under section 106 of the National Historic Preservation Act is an issue material to the findings the NRC must make in support of the action involved in a materials license renewal proceeding; LBP-08-24, 68 NRC 691 (2008)

generic NRC policies and standards and the nature of the NRC Staff's licensing review are not subject to challenge in an adjudicatory proceeding; CLI-08-17, 68 NRC 231 (2008)

if a document or study is prepared by a nonfederal party, the agency official is responsible for ensuring that its content meets applicable standards and guidelines; LBP-08-24, 68 NRC 691 (2008)

in adjudicatory proceedings it is the license application, not the NRC staff review, that is at issue; CLI-08-15, 68 NRC 1 (2008)

in conducting its acceptance review of the high-level waste repository construction authorization application, Staff only determines whether the license application contains sufficient information for the NRC to begin its safety review; CLI-08-20, 68 NRC 272 (2008)

in the context of the National Environmental Policy Act, one must examine underlying policies or legislative intent to draw a manageable line between those causal changes that make an agency responsible for an effect and those that do not; CLI-08-16, 68 NRC 221 (2008)

it is applicant, not NRC Staff, that has the burden of proof in litigation; CLI-08-23, 68 NRC 461 (2008)

it is neither possible nor necessary for the Staff to verify each and every factual assertion in complex license applications; CLI-08-23, 68 NRC 461 (2008)

safety review for license renewal applications is governed by 10 C.F.R. Part 54, and principally NUREG-1800 and NUREG-1801; CLI-08-23, 68 NRC 461 (2008)

Staff's audit, or sampling, method of verifying a license renewal applicant's aging management programs, together with the other components of its review, enables the Staff to make the safety findings necessary for issuance of a renewed license; CLI-08-23, 68 NRC 461 (2008)

the issue of need for power is a part of the NRC's combined license NEPA review process; LBP-08-16, 68 NRC 361 (2008)

the safety review of each license renewal application focuses on the adequacy of the applicant's aging management programs and an evaluation of the applicant's time-limited aging analyses; LBP-08-25, 68 NRC 763 (2008)

**NUCLEAR REGULATORY COMMISSION**

an agency or commission must articulate with clarity and precision its findings and the reasons for its decisions; LBP-08-22, 68 NRC 590 (2008)

trust responsibility imposes a fiduciary duty on NRC, as a federal agency, to Indian tribes and their members; LBP-08-24, 68 NRC 691 (2008)

when specialists express conflicting views, an agency must have discretion to rely on the reasonable opinions of its own qualified experts; CLI-08-26, 68 NRC 509 (2008)

**NUCLEAR REGULATORY COMMISSION, AUTHORITY**

a dispute over the Commission's authority to direct the Department of Energy to disclose classified information to cleared state representatives over DOE's objection as the originating agency is deferred until there is an actual controversy over a specific document request; CLI-08-21, 68 NRC 351 (2008)

although NRC regulations do not provide for a motion to suspend a proceeding, the Commission has considered similar requests in the exercise of its inherent supervisory powers over proceedings; CLI-08-23, 68 NRC 461 (2008)

challenges to NRC's authority to engage in administrative dispute resolution is beyond the scope of enforcement order proceedings; LBP-08-14, 68 NRC 279 (2008)

federal courts have long recognized the right of agencies to tailor their own standing requirements to fit their specific needs; CLI-08-19, 68 NRC 251 (2008)

notwithstanding the requirement that motions initially be addressed to the presiding officer when a proceeding is pending, the Commission sometimes addresses the motions pursuant to its inherent supervisory authority over agency proceedings; CLI-08-23, 68 NRC 461 (2008)

notwithstanding TVA's status as a federal entity, it is within NRC's regulatory authority to review TVA's combined license application, including its compliance with the agency's NEPA requirements; LBP-08-16, 68 NRC 361 (2008)

## SUBJECT INDEX

- only the Commission on its own initiative may review Staff's final no significant hazards consideration determination; LBP-08-20, 68 NRC 549 (2008)
- permission to file an amicus brief under 10 C.F.R. 2.315(d) is at the discretion of the Commission; CLI-08-22, 68 NRC 355 (2008)
- the Atomic Energy Act's hearing requirement does not unduly limit the Commission's wide discretion to structure its licensing hearings in the interests of speed and efficiency; CLI-08-28, 68 NRC 658 (2008)
- the Commission can issue case-specific orders modifying procedural regulations, including milestone schedules; CLI-08-18, 68 NRC 246 (2008)
- the Commission may grant a petition for review at its discretion, giving due weight to the existence of a substantial question with respect to the five considerations listed in 10 C.F.R. 2.341(b)(4); CLI-08-28, 68 NRC 658 (2008)
- NUCLEAR REGULATORY COMMISSION, JURISDICTION**
- whether applicant will be able to obtain permits from and comply with regulatory requirements imposed by other agencies is outside NRC's jurisdiction; LBP-08-15, 68 NRC 294 (2008)
- NUCLEAR WASTE POLICY ACT**
- Subpart K implements the totally new procedure established for adjudicating spent fuel storage controversies expeditiously; CLI-08-26, 68 NRC 509 (2008)
- OFFICIAL NOTICE**
- where a board's decision rests in part on facts officially noticed, any party wishing to controvert the facts officially noticed may do so by filing a motion for reconsideration or an appeal from the decision; LBP-08-25, 68 NRC 763 (2008)
- OPERATING LICENSE AMENDMENT APPLICATIONS**
- mere issuance of requests for additional information does not mean an application is incomplete for docketing; CLI-08-17, 68 NRC 231 (2008)
- OPERATING LICENSE AMENDMENTS**
- a request for a power uprate requires an amendment to the facility's operating license; CLI-08-17, 68 NRC 231 (2008)
- OPERATING LICENSE APPLICATIONS**
- direct transfers entail a change to operating and/or possession authority; CLI-08-19, 68 NRC 251 (2008)
- indirect transfers involve corporate restructuring or reorganizations which leave the licensee itself intact as a corporate entity and therefore involve no application for a new operating license; CLI-08-19, 68 NRC 251 (2008)
- OPERATING LICENSE PROCEEDINGS**
- proximity within 50 miles of a plant is often enough on its own to demonstrate standing; LBP-08-24, 68 NRC 691 (2008)
- OPERATING LICENSE RENEWAL**
- a finding of reasonable assurance that there will be adequate protection to the health and safety of the public is based on judgment, not on the application of a mechanical verbal formula, a set of objective standards, or specific confidence interval; LBP-08-25, 68 NRC 763 (2008)
- a technically accurate projection of the time-limited aging analysis that predicts that the component will fail due to aging during the 20-year period of extended operation will not suffice; LBP-08-25, 68 NRC 763 (2008)
- allowing applicant to postpone performance of an analysis-of-record time-limited aging analysis until after the license renewal is issued is inconsistent with the language, structure, and intent of the Part 54 regulations and inconsistent with NRC precedent; LBP-08-25, 68 NRC 763 (2008)
- an aging management program that consists solely of bald statements does not satisfy the requirement that an applicant demonstrate that it will adequately manage aging; LBP-08-25, 68 NRC 763 (2008)
- an application may be granted only if the Commission finds that the continued operation of the facility will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public; LBP-08-25, 68 NRC 763 (2008)
- analysis of a component subject to aging may be performed showing that the aging mechanism will not cause failure of the component; LBP-08-26, 68 NRC 905 (2008)
- applicant has no obligation to discuss in its environmental report the impacts of a potential expansion of the independent spent fuel storage installation; LBP-08-26, 68 NRC 905 (2008)

## SUBJECT INDEX

applicant must assess whether any historic or archaeological properties will be affected by the proposed project; LBP-08-26, 68 NRC 905 (2008)

applicant must establish an aging management program that is adequate to provide reasonable assurance that the intended function of the piping subject to flow accelerated corrosion will be maintained in accordance with the current licensing basis for the period of extended operation; LBP-08-25, 68 NRC 763 (2008)

applicants must demonstrate that all important systems, structures, and components will continue to perform their intended function in the period of extended operation and must identify any additional actions that will need to be taken to adequately manage the detrimental effects of aging; LBP-08-22, 68 NRC 590 (2008)

current licensing basis represents an evolving set of requirements and commitments for a specific plant that are modified as necessary over the life of a plant to ensure continuation of an adequate level of safety; LBP-08-25, 68 NRC 763 (2008)

current plant licensing remains in effect pending final outcome of any hearing on renewal; LBP-08-12, 68 NRC 5 (2008)

during the license renewal term, the current licensing basis incorporates the CLB for the current license, including all licensee commitments, plus any new commitments to monitor, manage, and correct age-related degradation unique to license renewal; LBP-08-25, 68 NRC 763 (2008)

each application must contain an evaluation of time-limited aging analyses, a list of TLAAs, a demonstration relating to TLAAs, and the actual TLAAs; LBP-08-25, 68 NRC 763 (2008)

each application must demonstrate that the time-limited aging analyses remain valid for the period of extended operation, have been projected to the end of the period of extended operation, or that the effects of aging on the intended function(s) will be adequately managed for the period of extended operation; LBP-08-25, 68 NRC 763 (2008)

if aging-related analysis fails, then the application must include a specific aging program to manage the effects of aging on that component; LBP-08-26, 68 NRC 905 (2008)

if applicant's metal fatigue analyses on Class I components do not comply with the ASME Code and do not provide reasonable assurance as required by 10 C.F.R. 54.21(c)(1) and 54.29(a), then a license renewal cannot be issued; LBP-08-25, 68 NRC 763 (2008)

NRC review is based upon those potential detrimental effects of aging that are not routinely addressed by ongoing regulatory oversight programs; LBP-08-22, 68 NRC 590 (2008)

NRC Staff's review of the safety-related aspects of each license renewal application focuses on the adequacy of the applicant's aging management programs and an evaluation of the applicant's time-limited aging analyses; LBP-08-25, 68 NRC 763 (2008)

offsite radiological impacts are a Category 1 issue, and the Commission has determined such impacts to be "small" for all nuclear power plants seeking a renewed license; LBP-08-26, 68 NRC 905 (2008)

safety issues other than age-related degradation may arise in connection with renewal that are not relevant to safety during the initial operating license term but, because of their plant-specific nature, must be addressed in renewals case by case; LBP-08-25, 68 NRC 763 (2008)

technical accuracy of the time-limited aging analyses is necessary, but not sufficient, to demonstrate that it remains valid, because a technically accurate TLAA that shows that the component will fail during the period of extended operation does not satisfy 10 C.F.R. 54.21(c)(1)(i); LBP-08-25, 68 NRC 763 (2008)

the licensing basis for a nuclear power plant during the renewal term consists of the current licensing basis together with new commitments to monitor, manage, and correct age-related degradation unique to license renewal; LBP-08-25, 68 NRC 763 (2008)

the phrase "reasonable assurance" specified in 10 C.F.R. 54.29 is not defined, but requires, at a minimum, that an applicant demonstrate compliance with all of NRC's safety regulations; LBP-08-25, 68 NRC 763 (2008)

the statutory conditions for grant of a license are described; LBP-08-25, 68 NRC 763 (2008)

the ten elements of an effective aging management program must be addressed only when an applicant's AMP differs from the relevant AMP identified in the GALL Report; LBP-08-26, 68 NRC 905 (2008)

under 10 C.F.R. 2.325, applicant has the burden of proving that it has met the reasonable assurance standard of 10 C.F.R. 54.29; LBP-08-25, 68 NRC 763 (2008)

## SUBJECT INDEX

under NEPA, the Commission is ultimately responsible for analyzing environmental justice issues, but license renewal applicants are required to assist the Commission with that evaluation; LBP-08-26, 68 NRC 905 (2008)

where the application provides a commitment that, should inspection requirements be changed, the applicant will implement those new inspection requirements, it is the responsibility of NRC Staff and the applicant to ensure that this commitment is fulfilled; LBP-08-26, 68 NRC 905 (2008)

### OPERATING LICENSE RENEWAL PROCEEDINGS

cracking of a nonsafety-related steam dryer could cause a release of loose parts that could have an adverse impact on safety-related equipment and thus it is within the scope of aging management review; LBP-08-25, 68 NRC 763 (2008)

if a board finds that the use of a more accurate approach than compliance with regulatory guides is needed to provide reasonable assurance that metal fatigue will be adequately managed during the period of extended operation, then the board is authorized and duty bound to impose such a requirement; LBP-08-25, 68 NRC 763 (2008)

NRC review is limited to plant structures and components that will require an aging management review for the period of extended operation and the plant's systems, structures, and components that are subject to an evaluation of time-limited aging analyses; LBP-08-22, 68 NRC 590 (2008)

the proximity presumption has been found to arise if the petitioner lives within a specific distance from the power reactor; LBP-08-26, 68 NRC 905 (2008)

the regulatory authority relating to renewal of nuclear power plant operating licenses is found in 10 C.F.R. Parts 51 and 54, which enumerate issues to be addressed; LBP-08-22, 68 NRC 590 (2008)

the scope of each proceeding encompasses a review of the plant structures and components that will require an aging management review for the period of extended operation and the plant's systems, structures, and components that are subject to an evaluation of time-limited aging analyses; LBP-08-25, 68 NRC 763 (2008)

the scope of license renewal proceedings is quite limited under Commission rules and case law; LBP-08-22, 68 NRC 590 (2008)

the scope of the proceeding is defined by the Commission in its initial hearing notice and order referring the proceeding to the licensing board; LBP-08-26, 68 NRC 905 (2008)

### OPERATING LICENSES

current plant licensing remains in effect pending final outcome of any hearing on renewal; LBP-08-12, 68 NRC 5 (2008)

General Design Criteria are not applicable to nuclear power plants with construction permits issued prior to May 21, 1971; LBP-08-13, 68 NRC 43 (2008)

### OPINIONS

See Advisory Opinions

### ORAL ARGUMENT

although licensing boards frequently hold oral argument on contention admissibility, a board may instead elect to dispense with oral argument; LBP-09-23, 68 NRC 679 (2008)

neither NRC regulations nor agency policy mandates that the arguments be conducted in person near the site; LBP-09-23, 68 NRC 679 (2008)

### ORDERS

See Confirmatory Order; Intervention Rulings; Licensing Board Decisions; Licensing Board Orders

### OWNERSHIP

continuous and exclusive use of property is sufficient, unless duly extinguished, to establish Indian or aboriginal title; LBP-08-24, 68 NRC 691 (2008)

licensing boards are required to reject treaty-based claims of ownership by Native American tribes; LBP-08-24, 68 NRC 691 (2008)

the difference between "aboriginal title" and "aboriginal lands" is distinguished; LBP-08-24, 68 NRC 691 (2008)

See also Foreign Ownership

### PARTIES

participants in ongoing adjudicatory proceedings that have filed a rulemaking petition should be provided an opportunity to seek a stay of the adjudication pending a resolution of the rulemaking petition;

LBP-08-16, 68 NRC 361 (2008)

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### PIPING

applicant must establish an aging management that is adequate to provide reasonable assurance that the intended function of the piping subject to flow accelerated corrosion will be maintained in accordance with the current licensing basis for the period of extended operation; LBP-08-25, 68 NRC 763 (2008)  
condensate storage system buried pipes are outside the scope of a license renewal proceeding with respect to their safety functionality, but that does not eliminate the need for consideration of potential leaks from those buried pipes because of their role in fire protection; LBP-08-22, 68 NRC 590 (2008)

### PLEADINGS

a reply is not an opportunity for a petitioner to bolster its original contentions with new supporting facts and arguments; LBP-08-26, 68 NRC 905 (2008)  
any material provided by a petitioner in support of its contention, including those portions of the material that are not relied upon, is subject to board scrutiny; LBP-08-26, 68 NRC 905 (2008)  
“notice pleading” is a broad standard requiring only a short and plain statement of the claim; LBP-08-26, 68 NRC 905 (2008)  
petitioners that are not represented by counsel will be held to less rigid standards for pleading, although a totally deficient petition will not be admitted; LBP-08-15, 68 NRC 294 (2008)  
unlike federal court practice, the Commission does not accept mere notice pleading in support of an admissible contention; LBP-08-24, 68 NRC 691 (2008)  
See also Amicus Pleadings

### POLICY

See NRC Policy

### POWER UPRATE

a measurement uncertainty recapture power uprate typically involves a power level increase of less than 2%, achieved by enhanced techniques for calculating reactor power; CLI-08-17, 68 NRC 231 (2008)  
a stretch power uprate typically results in power level increases up to 7% and generally does not involve major plant modifications; CLI-08-17, 68 NRC 231 (2008)  
an amendment to the facility’s operating license is required; CLI-08-17, 68 NRC 231 (2008)  
an extended power uprate usually requires significant modifications to major plant equipment, and may be for power level increases as high as 20%; CLI-08-17, 68 NRC 231 (2008)  
NRC labels or classifies uprates based on the relative magnitude of the power increase and the methods used to achieve the increase; CLI-08-17, 68 NRC 231 (2008)

### PRECEDENTIAL EFFECT

although the Commission abolished the Atomic Safety and Licensing Appeal Board in 1991, its decisions still carry precedential weight; CLI-08-19, 68 NRC 251 (2008)

### PRESIDING OFFICER, AUTHORITY

an exceptionally grave issue may be considered in the discretion of the presiding officer even if untimely presented; LBP-08-12, 68 NRC 5 (2008)  
extensions of time may be granted by the presiding officer for individual milestones for the participants’ filings, and it may delay its own issuances for up to 30 days beyond the date of the milestone set in the hearing schedule; CLI-08-18, 68 NRC 246 (2008)  
motions must be initially addressed to the presiding officer when a proceeding is pending; CLI-08-23, 68 NRC 461 (2008)  
the presiding officer has no authority or duty to resolve uncontested issues in the high-level waste proceeding; CLI-08-25, 68 NRC 497 (2008)

### PRESSURE VESSEL

See Reactor Pressure Vessel

### PRO SE LITIGANTS

although boards are to provide latitude to pro se participants, petitioner’s decision to provide an expert affidavit, available when it filed its hearing petition, at the time it submitted its reply runs afoul of the Commission’s directive that reply pleadings cannot be used to introduce additional supporting information relative to a contention; LBP-08-16, 68 NRC 361 (2008)  
although latitude is to be afforded a pro se intervenor in the mechanics of contention pleading and citation, an organization that has appeared several times previously is expected to have a heightened awareness of the agency’s pleading rules; LBP-08-16, 68 NRC 361 (2008)

## SUBJECT INDEX

any ambiguity relative to the filing date for hearing requests arising from the language of the agency's hearing opportunity notice should be construed in favor of a participant who was seeking to comply with the notice; LBP-08-16, 68 NRC 361 (2008)

petitioners that are not represented by counsel will be held to less rigid standards for pleading, although a totally deficient petition will not be admitted; LBP-08-15, 68 NRC 294 (2008)

### PROOF

See Burden of Proof

### PROPRIETARY INFORMATION

if litigation over a contention brings into play financial or other information that has been designated as nonpublic, petitioners must request that the board issue a protective order that permits access; LBP-08-16, 68 NRC 361 (2008)

### PROTECTIVE ORDERS

DOE's request for Commission approval of a protective order in anticipation of allowing access to the classified information in its application pertaining to naval spent nuclear fuel is referred to the Pre-License Application Presiding Officer Board; CLI-08-21, 68 NRC 351 (2008)

if litigation over a contention brings into play financial or other information that has been designated as nonpublic, petitioners must request that the board issue a protective order that permits access; LBP-08-16, 68 NRC 361 (2008)

### PROXIMITY PRESUMPTION

in a case involving an enforcement order, the standing requirement is based on the confirmatory order itself, and petitioner must show that he will be adversely affected by the terms of the order; LBP-08-14, 68 NRC 279 (2008)

in an indirect license transfer case involving no change in the facility, its operation, licensees, personnel, or financing, petitioners living within 5-10 miles of the plant do not qualify for proximity-based standing; CLI-08-19, 68 NRC 251 (2008)

in cases involving possible construction or operation of a nuclear power reactor, proximity to the proposed facility has been considered sufficient to establish the requisite standing elements; LBP-08-15, 68 NRC 294 (2008); LBP-08-16, 68 NRC 361 (2008); LBP-08-24, 68 NRC 691 (2008)

in reactor licensing proceedings, that zone of possible harm for proximity-based standing is generally deemed to constitute the areas within a 50-mile radius of the site; LBP-08-13, 68 NRC 43 (2008); LBP-08-15, 68 NRC 294 (2008); LBP-08-17, 68 NRC 431 (2008); LBP-08-18, 68 NRC 533 (2008)

petitioner is presumed to have standing to intervene without the need to specifically plead injury, causation, and redressability if the petitioner lives within, or otherwise has frequent contacts with, the zone of possible harm from the nuclear reactor or other source of radioactivity; LBP-08-17, 68 NRC 431 (2008); LBP-08-26, 68 NRC 905 (2008)

petitioners in direct license transfer cases who live within a 5-1/2-mile radius of their plant qualify for proximity-based standing; CLI-08-19, 68 NRC 251 (2008)

proximity alone is not sufficient to establish standing for a petitioner's proximity to a source materials activity; LBP-08-24, 68 NRC 691 (2008)

standing rests on the presumption that an accident associated with the nuclear facility could adversely affect the health and safety of people working, living, or regularly engaging in activities offsite but within a certain distance of that facility; CLI-08-19, 68 NRC 251 (2008)

the presumption of standing based on geographic proximity applies in proceedings for nuclear power plant construction permits, operating licenses, or significant amendments thereto; LBP-08-13, 68 NRC 43 (2008); LBP-08-15, 68 NRC 294 (2008)

### PUBLIC INTEREST ORGANIZATIONS

petitioner's status as an anti-nuclear advocate and a source of information for its community is insufficient, without more, to qualify it for organizational standing; CLI-08-19, 68 NRC 251 (2008)

the principle regarding the representational standing of unions is also applicable of public interest groups, who also, in significant part, exist to represent the interests of their members; CLI-08-19, 68 NRC 251 (2008)

### QUALITY ASSURANCE

programs must include written test procedures that incorporate the requirements and acceptance limits contained in applicable design documents, and, as appropriate, proof tests prior to installation,

## SUBJECT INDEX

- preoperational tests, and operational tests during nuclear power plant operation, of structures, systems, and components; LBP-08-22, 68 NRC 590 (2008)
- requirements of 10 C.F.R. Part 50, Appendix B apply to license renewal aging management plans; LBP-08-22, 68 NRC 590 (2008)
- RADIATION MONITORING SYSTEM**
- monitoring, and the installation of monitoring wells, is a matter for ongoing operation and maintenance, and not within the scope of matters properly considered in a license renewal; LBP-08-22, 68 NRC 590 (2008)
- RADIATION PROTECTION STANDARDS**
- a challenge to the pending EPA proposed rule setting standards for offsite releases from radioactive materials that would be stored in the proposed Yucca Mountain high-level waste geologic repository is inadmissible; LBP-08-16, 68 NRC 361 (2008)
- a substantial regulatory framework governs release limits on radioactive gases and requires calculations or measurements of radioactive releases; CLI-08-17, 68 NRC 231 (2008)
- no protection standard has been promulgated for the high-level waste repository post-closure period beyond 10,000 years following disposal of high-level waste; CLI-08-20, 68 NRC 272 (2008)
- NRC must modify its technical requirements and criteria for the high-level waste repository as necessary to be consistent with final EPA standards; CLI-08-20, 68 NRC 272 (2008)
- petitioners' allegation that NRC regulations are insufficient to protect the constitutional right of due process under the law by allowing citizens to be exposed to impermissible levels of radiation is inadmissible; LBP-08-16, 68 NRC 361 (2008)
- See also Dose Limits
- RADIATION SURVEYS**
- licensee's actions to survey an abnormal radiological effluent release affecting groundwater conform to regulatory requirements; DD-08-2, 68 NRC 339 (2008)
- RADIOACTIVE EFFLUENTS**
- inadequacy of environmental report's reliance on Table S-3 regarding radioactive effluents from the uranium fuel cycle is not litigable in a combined license proceeding; LBP-08-16, 68 NRC 361 (2008)
- licensee's efforts to maintain compliance with dose limits for individual members of the public in light of radiological release from cracked spent fuel pool are described; DD-08-2, 68 NRC 339 (2008)
- petitioner's concerns regarding underground leakage of contaminated water at Indian Point are addressed; DD-08-2, 68 NRC 339 (2008)
- RADIOACTIVE RELEASES**
- a substantial regulatory framework governs release limits on radioactive gases and requires calculations or measurements of radioactive releases; CLI-08-17, 68 NRC 231 (2008)
- contentions relating to the conclusions that the NRC Staff reaches in its NEPA analysis with regard to the environmental impacts from radiological releases to groundwater must await future publication of its supplemental environmental impact statement; LBP-08-13, 68 NRC 43 (2008)
- to the extent that petitioners have any basis for claiming that there are current, ongoing excessive radiological releases from a facility, petitioners may seek NRC enforcement action under 10 C.F.R. 2.206; CLI-08-17, 68 NRC 231 (2008)
- RADIOACTIVE WASTE**
- depleted uranium is classified as Class A waste under current agency regulations; LBP-08-16, 68 NRC 361 (2008)
- RADIOACTIVE WASTE, LOW-LEVEL**
- application for license to import low-level radioactive waste from Italy for processing and ultimate disposal in Utah is held in abeyance; CLI-08-24, 68 NRC 491 (2008)
- because applicant did not apply for an early site permit, petitioners thus are not precluded from raising an environmental issue relative to failure of applicant's environmental report to assess the onsite impacts associated with the potential long-term storage of low-level waste; LBP-08-16, 68 NRC 361 (2008)
- criteria for NRC issuance of an import license are described; CLI-08-24, 68 NRC 491 (2008)
- RADIOACTIVE WASTE DISPOSAL**
- no facility located in any party state may accept low-level waste generated outside the region comprised of the party states, except under a specific procedure requiring approval of the member states; CLI-08-24, 68 NRC 491 (2008)

## SUBJECT INDEX

### RADIOACTIVE WASTE MANAGEMENT

an integral aspect of the Commission's determination of a facility's appropriateness for disposal of imported waste is whether the facility can actually accept that waste for disposal; CLI-08-24, 68 NRC 491 (2008)

application for license to import low-level radioactive waste from Italy for processing and ultimate disposal in Utah is held in abeyance; CLI-08-24, 68 NRC 491 (2008)

creation of interstate compacts is authorized as may be necessary to provide for the establishment and operation of regional disposal facilities for low-level radioactive waste; CLI-08-24, 68 NRC 491 (2008)

when authorized by Congress, interstate compacts are allowed to restrict the use of regional disposal facilities under the compact to the disposal of low-level radioactive waste generated within the compact region; CLI-08-24, 68 NRC 491 (2008)

### RADIOACTIVE WASTE STORAGE

applicant's environmental report must address the environmental costs of management of low-level wastes and high-level wastes related to uranium fuel cycle activities; LBP-08-15, 68 NRC 294 (2008)

applicant's plan for storage of low-level radioactive waste is a litigable issue because it is material to the findings the NRC must make to support the action that is involved in a combined license proceeding; LBP-08-15, 68 NRC 294 (2008)

because applicant did not apply for an early site permit, petitioners thus are not precluded from raising an environmental issue relative to failure of applicant's environmental report to assess the onsite impacts of potential long-term storage of low-level waste; LBP-08-16, 68 NRC 361 (2008)

petitioner failed to establish materiality of its contention related to management of low-level radioactive waste by referring to 10 C.F.R. Part 61 because applicant was not seeking a license under Part 61, and it was speculative whether such a license would ever be necessary; LBP-08-15, 68 NRC 294 (2008)

See also High-Level Waste Repository

### RADIOLOGICAL CONTAMINATION

offsite radiological impacts are a Category 1 issue, and the Commission has determined such impacts to be "small" for all nuclear power plants seeking a renewed license; LBP-08-26, 68 NRC 905 (2008)

### RADIOLOGICAL EXPOSURE

allegation that NRC has inadequately characterized human health impacts of radiation exposure from the high-level waste repository is inadmissible in a combined license proceeding; LBP-08-16, 68 NRC 361 (2008)

the safety analysis report for the high-level waste repository application must contain information pertaining to evaluation of potential exposures during the post-closure period beyond 10,000 years following disposal; CLI-08-20, 68 NRC 272 (2008)

See also Dose Limits

### REACTOR COOLING SYSTEMS

asserted deficiencies in the environmental report intake/discharge impact discussion as it is associated with the baseline discussion of aquatic resources, if properly supported, can be admitted for further litigation; LBP-08-16, 68 NRC 361 (2008)

components such as the recirculation outlet nozzle must meet the requirements for Class 1 components in Section III of the ASME Boiler and Pressure Vessel Code; CLI-08-28, 68 NRC 658 (2008)

### REACTOR DESIGN

concerns relating specifically to the AP1000 reactor design amendment may be raised by filing comments on the proposed rule when it is issued; LBP-08-17, 68 NRC 431 (2008)

if applicant proceeds with a site-specific reactor design instead of a certified design, any admissible issues would have to be addressed in the licensing adjudication; CLI-08-15, 68 NRC 1 (2008)

in its combined license application, applicant may reference a reactor design for which a design certification application has been docketed but not yet granted, but does so at its own risk; LBP-08-17, 68 NRC 431 (2008)

in the absence of a 10 C.F.R. 2.335 waiver petition, any challenge brought to aspects of a referenced certified reactor design is outside the scope of a combined license proceeding; LBP-08-16, 68 NRC 361 (2008)

petitioner's dispute with the combined license application concerning completeness of the AP1000 Design Certification Document is referred to Staff for resolution during the rulemaking on the certification of



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- the API1000 design and any hearing on the merits is held in abeyance pending the outcome of the rulemaking; LBP-08-21, 68 NRC 554 (2008)
- REACTOR DESIGN CERTIFICATION**  
issues concerning a reactor design certification application should be resolved in the design certification rulemaking and not in an individual combined license proceeding; CLI-08-15, 68 NRC 1 (2008)
- REACTOR PRESSURE VESSEL**  
whether a plan is necessary to manage the cumulative effects of embrittlement of the reactor pressure vessels and associated internals is within the scope of a license renewal proceeding; LBP-08-13, 68 NRC 43 (2008)
- REASONABLE ASSURANCE**  
a "compelling reasons" standard should not be applied; LBP-08-22, 68 NRC 590 (2008)  
a finding of reasonable assurance that there will be adequate protection to the health and safety of the public is based on judgment, not on the application of a mechanical verbal formula, a set of objective standards, or specific confidence interval; LBP-08-25, 68 NRC 763 (2008)  
applicants for license renewal must demonstrate how their programs will be effective in managing the effect of aging during the period of extended operations and identify any additional actions that will need to be taken to adequately manage the detrimental effects of aging; LBP-08-22, 68 NRC 590 (2008)  
neither the Atomic Energy Act nor the regulations require totally risk-free siting; LBP-08-22, 68 NRC 590 (2008)  
the phrase as specified in 10 C.F.R. 54.29 is not defined, but requires, at a minimum, that an applicant demonstrate compliance with all of NRC's safety regulations; LBP-08-25, 68 NRC 763 (2008)  
the standard should not be interpreted to require proof beyond a reasonable doubt; LBP-08-22, 68 NRC 590 (2008)  
under 10 C.F.R. 2.325, applicant has the burden of proving that it has met the reasonable assurance standard of 10 C.F.R. 54.29; LBP-08-25, 68 NRC 763 (2008)
- RECIRCULATION SPRAY SYSTEM**  
components that are part of the reactor coolant pressure boundary must meet the requirements of Class 1 components in Section III of the ASME Boiler and Pressure Vessel Code; LBP-08-25, 68 NRC 763 (2008)  
conservatism in use of Green's function to determine cumulative usage factor for metal fatigue in the recirculation nozzle is discussed; LBP-08-12, 68 NRC 5 (2008)
- RECONSIDERATION**  
See Motions for Reconsideration
- RECORDKEEPING**  
an agency employee's working file constitutes an "agency record" if it both contains unique information that underlies an agency decision and it was also made available to other agency employees for purposes of helping to reach or support that decision; CLI-08-23, 68 NRC 461 (2008)  
failure to document a falsified work order is a violation of 10 C.F.R. 50.9; LBP-08-14, 68 NRC 279 (2008)  
federal agencies have some discretion in determining which documentary materials are appropriate for preservation as an agency "record"; CLI-08-23, 68 NRC 461 (2008)  
materials created by an employee for the individual's own use in performing his or her job, and which are not circulated and are not otherwise required by NRC policy to be maintained, may be discarded at the employee's discretion; CLI-08-23, 68 NRC 461 (2008)  
See also Documentation
- REDRESSABILITY**  
if petitioner requests a remedy that is beyond the scope of the hearing, then the hearing request must be denied because redressability is an element of standing; LBP-08-14, 68 NRC 279 (2008)
- REFERRAL OF RULING**  
novel issues that the Commission may wish to address generically at the earliest opportunity are appropriately referred to the Commission; LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008)

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### REGULATIONS

absent a waiver, no rule or regulation of the Commission is subject to attack in any adjudicatory proceeding; CLI-08-15, 68 NRC 1 (2008); CLI-08-17, 68 NRC 231 (2008); LBP-08-13, 68 NRC 43 (2008); LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008)

allowing applicant to postpone performance of an analysis-of-record time-limited aging analysis until after the license renewal is issued is inconsistent with the language, structure, and intent of the Part 54 regulations and inconsistent with NRC precedent; LBP-08-25, 68 NRC 763 (2008)

as Class I components, the feedwater, reactor recirculation, and core spray outlet nozzles on a boiling water reactor must be designed, fabricated, erected, and tested to the highest quality standards practical as specified in Part 50, Appendix A, GDC 30; LBP-08-25, 68 NRC 763 (2008)

contentions that advocate more stringent requirements than the NRC rules impose or that otherwise seek to litigate a generic determination that the Commission has established by rulemaking, or that raise a matter that is or is about to become the subject of rulemaking are barred; LBP-08-17, 68 NRC 431 (2008)

in the license renewal context, regulations established under Part 50, including compliance with the ASME Code, must be followed during the period of extended operation; CLI-08-28, 68 NRC 658 (2008)

the regulatory authority relating to renewal of nuclear power plant operating licenses is found in 10 C.F.R. Parts 51 and 54, which enumerate issues to be addressed in license renewal proceedings; LBP-08-22, 68 NRC 590 (2008)

under 10 C.F.R. 50.55a, components that are part of the reactor coolant pressure boundary must meet the requirements of Class I components in Section III of the ASME Boiler and Pressure Vessel Code; LBP-08-25, 68 NRC 763 (2008)

### REGULATIONS, INTERPRETATION

a matter need not be actually litigated in order to be "resolved" in an early site permit proceeding; LBP-08-15, 68 NRC 294 (2008)

in any conflict between a general rule in Part 2, Subpart C, and a special rule in Part 2, the special rule governs; LBP-08-16, 68 NRC 361 (2008)

interpretation of a regulation, like the interpretation of a statute, begins with the language and structure of the provision itself, and the entirety of the provision must be given effect; CLI-08-28, 68 NRC 658 (2008)

participants in Subpart J proceedings must make a good-faith effort to have made available all documentary material by the date specified for initial compliance; CLI-08-22, 68 NRC 355 (2008)

"reasonable assurance" specified in 10 C.F.R. 54.29 is not defined, but requires, at a minimum, that an applicant demonstrate compliance with all of NRC's safety regulations; LBP-08-25, 68 NRC 763 (2008)

section 54.21(c)(1)(i)-(iii) requires that the applicant make its demonstration that the effects of aging will be adequately managed during the period of extended operation in the application, which is necessarily before the license may be granted; LBP-08-25, 68 NRC 763 (2008)

summary disposition standards are not applicable to and do not replace the standards applicable to motions to reopen; CLI-08-28, 68 NRC 658 (2008)

the "demonstrations" mandated by 10 C.F.R. 54.21(c)(1)(i) and (ii) require that the time-limited aging analyses both be performed in a technically accurate manner and produce a prediction that the component will not fail due to aging during the period of extended operation; LBP-08-25, 68 NRC 763 (2008)

the "reasonable assurance" requirement of section 54.29(a) is interpreted; LBP-08-22, 68 NRC 590 (2008)

the language of the Commission's case-specific notice establishing 11:59 p.m. Eastern Standard Time as the filing time for hearing petitions controls over the agency's rule of general applicability for all cases that refers only to 11:59 p.m. Eastern Time; LBP-08-16, 68 NRC 361 (2008)

the plain meaning of a regulation controls its interpretation; CLI-08-23, 68 NRC 461 (2008)

the term "demonstrate" as used in 10 C.F.R. 54.21 is a strong, definitive verb that logically requires an applicant to provide a reasonably thorough description of its aging management program and to show conclusively how this program will ensure that the effects of aging will be managed for its specific plant; LBP-08-25, 68 NRC 763 (2008)

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the term "likely" in section 2.326(a)(3) is construed to be synonymous with "probable" or "more likely than not"; LBP-08-12, 68 NRC 5 (2008)

use of the term "resolved" in 10 C.F.R. 52.39(a) implies an intent to grant preclusive effect only when the appropriate agency official makes a determination concerning the issue in dispute; LBP-08-15, 68 NRC 294 (2008)

### REGULATORY GUIDES

although NRC guidance documents are entitled to some weight, they do not have the force of a legally binding regulation and, like any guidance document, may be challenged in an adjudicatory proceeding; LBP-08-22, 68 NRC 590 (2008)

although some special weight should be given to some NRC guidance documents, the same does not apply to industry guidance documents; LBP-08-25, 68 NRC 763 (2008)

compliance with NRC guidance documents is neither necessary nor necessarily sufficient to satisfy the legal requirements that each application must meet under the Atomic Energy Act; LBP-08-25, 68 NRC 763 (2008)

guidance documents are not legally binding, but are useful in instances where legal authority is lacking; LBP-08-24, 68 NRC 691 (2008)

if a board finds that the use of a more accurate approach than compliance with regulatory guides is needed to provide reasonable assurance that metal fatigue will be adequately managed during the period of extended operation, then the board is authorized and duty bound to impose such a requirement; LBP-08-25, 68 NRC 763 (2008)

NRC Staff's guidance document NUREG/CR-6909, which prescribes guidance on the calculation of metal fatigue on reactor components in a light water reactor environment, is built upon a larger and more recent database than NUREG/CR-5704 and -6583, but use of the earlier NUREGs is sufficient; LBP-08-25, 68 NRC 763 (2008)

### REOPENING A RECORD

a licensing board need not formally reopen the record in order to assess the relative worth of the parties' competing evidence; LBP-08-12, 68 NRC 5 (2008)

a mere showing of a possible violation is not enough to reopen a closed record; CLI-08-28, 68 NRC 658 (2008)

a motion filed 4 months after release of the information on which it is based is not timely; CLI-08-23, 68 NRC 461 (2008)

a newly proffered contention submitted after the close of the record must meet timeliness standards as well as the requirements of 10 C.F.R. 2.309(c); LBP-08-12, 68 NRC 5 (2008)

a presiding officer considering environmental contentions in the high-level waste proceeding should apply NRC reopening procedures and standards in 10 C.F.R. 2.326 to the extent possible; CLI-08-25, 68 NRC 497 (2008)

availability of Staff review outside the hearing process generally does not constitute adequate protection of a private party's rights when considering 10 C.F.R. 2.309(c)(1)(ii); LBP-08-12, 68 NRC 5 (2008)

discovery is not permitted for the purpose of developing a motion to reopen or to assist a petitioner in the framing of contentions; LBP-08-12, 68 NRC 5 (2008)

evidence contained in supporting affidavits must meet the regulatory admissibility standards of relevance, materiality, and reliability; LBP-08-12, 68 NRC 5 (2008)

for determining the "likelihood" that a motion to reopen would change the outcome of a license renewal proceeding, the Commission indicated that a "would have been reached" standard is too strict, and a "might have been reached" standard is too lax; LBP-08-12, 68 NRC 5 (2008)

if a matter as presented is devoid of safety significance, there is no likelihood whatsoever that a materially different result would have been likely had the newly proffered evidence been considered initially; LBP-08-12, 68 NRC 5 (2008)

if standards for reopening were not strict and demanding, there would be little hope of completing administrative proceedings if each newly arising allegation required an agency to reopen its hearings; LBP-08-12, 68 NRC 5 (2008)

if the problem raised in a late-filed contention presents a sufficiently grave threat to public safety, a board should reopen the record to consider it even if it is not newly discovered and could have been raised in timely fashion; LBP-08-12, 68 NRC 5 (2008)

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in evaluating a motion to reopen, a licensing board properly considers the movant's new allegations and the nonmovant's contrary evidence in determining whether there is a real issue at stake warranting a reopened hearing; LBP-08-12, 68 NRC 5 (2008)

motions must be accompanied by affidavits that set forth the factual and/or technical bases for the movant's claim that the criteria in 10 C.F.R. 2.326(a) have been satisfied; LBP-08-12, 68 NRC 5 (2008)

movant must show that a balancing of eight factors of 10 C.F.R. 2.309(c)(1), to the extent they are relevant to the particular filing, weighs in favor of reopening; LBP-08-12, 68 NRC 5 (2008)

movants must satisfy a multifactor test in 10 C.F.R. 2.326(a) and (d) that is governed by prescribed evidentiary requirements; LBP-08-12, 68 NRC 5 (2008)

NRC Staff's revision of the Final Safety Evaluation Report to account for applicant's confirmatory analysis would not, standing alone, be a materially different result that justifies reopening the record, because it would neither change the outcome of the renewal proceeding nor impose a different licensing condition on an applicant; LBP-08-12, 68 NRC 5 (2008)

petitioners must demonstrate that their motion to reopen is timely; LBP-08-12, 68 NRC 5 (2008)

proponents of motions to reopen bear a heavy burden; LBP-08-12, 68 NRC 5 (2008)

relevant, material, and reliable evidence of a significant safety issue in the form of expert affidavit, Staff reports, and statements by the Commission and the NRC must be provided to support a motion to reopen; LBP-08-12, 68 NRC 5 (2008)

speculation that NRC Staff may have failed to identify a health or safety issue because its review was insufficiently thorough does not meet the requirement that the motion address a significant safety or environmental issue; CLI-08-23, 68 NRC 461 (2008)

the addition of a condition on a license to operate would constitute a materially different result warranting reopening; LBP-08-12, 68 NRC 5 (2008)

the affidavit supporting a motion to reopen a license renewal proceeding must provide sufficient information to support a prima facie showing that a deficiency exists in the application and the deficiency presents a significant safety issue; LBP-08-12, 68 NRC 5 (2008)

the goal of this procedure is to maintain "finality" of the hearing process while still enabling participants to bring to light new post-hearing information concerning significant safety situations; LBP-08-12, 68 NRC 5 (2008)

the standard for admitting a new contention after the record is closed is higher than for an ordinary late-filed contention; CLI-08-28, 68 NRC 658 (2008)

the term "likely" in section 2.326(a)(3) is construed to be synonymous with "probable" or "more likely than not"; LBP-08-12, 68 NRC 5 (2008)

to reopen a closed record to introduce a new issue, movant has the burden of showing that the new information will likely trigger a different result; LBP-08-12, 68 NRC 5 (2008)

See also Motions to Reopen

### REPLY BRIEFS

a claim not raised in the hearing petition, but added as a new claim in petitioners' reply brief is considered impermissibly late; CLI-08-17, 68 NRC 231 (2008)

a moving party has no right to reply except as permitted by the presiding officer; CLI-08-23, 68 NRC 461 (2008)

a reply cannot be used to substantively supplement or amend a contention; LBP-08-18, 68 NRC 533 (2008); LBP-08-26, 68 NRC 905 (2008)

although boards are to provide latitude to pro se participants, petitioner's decision to provide an expert affidavit, available when it filed its hearing petition, at the time it submitted its reply runs afoul of the Commission's directive that reply pleadings cannot be used to introduce additional supporting information relative to a contention; LBP-08-16, 68 NRC 361 (2008)

authorization affidavits for representational standing may not be filed with a reply; CLI-08-19, 68 NRC 251 (2008)

the proper purpose of a reply is to discuss alleged deficiencies in a petition, not to try to fix them; LBP-08-17, 68 NRC 431 (2008)

were the Commission to accept and consider a belatedly submitted representative-standing affidavit attached to a reply brief, the applicant would be deprived of the right to challenge the substantive sufficiency of the affidavit; CLI-08-19, 68 NRC 251 (2008)

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### REPORTING REQUIREMENTS

failure to document a falsified work order is a violation of 10 C.F.R. 50.9; LBP-08-14, 68 NRC 279 (2008)

### REQUEST FOR ACTION

the appropriate avenue for resolution of concerns regarding an ongoing operational issue at a facility is via a request under section 2.206; CLI-08-23, 68 NRC 461 (2008)

### REQUEST FOR ADDITIONAL INFORMATION

mere issuance of RAIs does not mean an application is incomplete for docketing; CLI-08-15, 68 NRC 1 (2008); CLI-08-17, 68 NRC 231 (2008)

### REVIEW

See also Appellate Review; NRC Staff Review; Standard of Review

### REVIEW, DISCRETIONARY

the Commission may grant a petition for review at its discretion, giving due weight to the existence of a substantial question with respect to the five considerations listed in 10 C.F.R. 2.341(b)(4); CLI-08-28, 68 NRC 658 (2008)

### REVIEW, INTERLOCUTORY

whether NEPA requires the NRC to consider potential health effects of consuming irradiated food raises the kind of broad legal question appropriate for Commission review; CLI-08-16, 68 NRC 221 (2008)

### REVIEW, SUA SPONTE

it is appropriate for the Commission to take review of a claim that raises a threshold legal question going to the proper scope of a proceeding, and a matter with potential new significant NEPA implications for the NRC; CLI-08-16, 68 NRC 221 (2008)

whether NEPA requires the NRC to consider potential health effects of consuming irradiated food raises the kind of broad legal question appropriate for Commission interlocutory review; CLI-08-16, 68 NRC 221 (2008)

### RULEMAKING

a contention that seeks to litigate a matter that is, or clearly is about to become, the subject of a rulemaking, is inadmissible; LBP-08-21, 68 NRC 554 (2008)

a petition for rulemaking is a more appropriate venue to resolve generic concerns about spent fuel fires; LBP-08-13, 68 NRC 43 (2008)

challenges to the adequacy of Table S-3, which was initially prepared more than 25 years ago, may be made through a petition for rulemaking; LBP-08-17, 68 NRC 431 (2008)

if petitioner believes that current NRC regulations are inadequate, the venue for raising such a concern is a section 2.802 petition to institute a rulemaking action; LBP-08-13, 68 NRC 43 (2008)

if petitioners are dissatisfied with the Commission's generic approach to a problem, their remedy lies in the rulemaking process, not in adjudication; LBP-09-23, 68 NRC 679 (2008)

issues concerning a reactor design certification application should be resolved in the design certification rulemaking and not in an individual COL proceeding; CLI-08-15, 68 NRC 1 (2008); LBP-08-17, 68 NRC 431 (2008)

participants in ongoing adjudicatory proceedings that have filed a rulemaking petition should be provided an opportunity to seek a stay of the adjudication pending a resolution of the rulemaking petition; LBP-08-16, 68 NRC 361 (2008)

### RULES OF PRACTICE

a board in one proceeding is not constrained to follow the rulings of another board absent explicit affirmation by the Commission; LBP-08-24, 68 NRC 691 (2008)

a board is not to permit incorporation by reference where the effect would be to circumvent NRC-prescribed specificity requirements; LBP-08-24, 68 NRC 691 (2008)

a claim not raised in the hearing petition, but added as a new claim in petitioners' reply brief is considered impermissibly late; CLI-08-17, 68 NRC 231 (2008)

a contention of omission claims that the application fails to contain information on a relevant matter as required by law and provides the supporting reasons for the petitioner's belief; LBP-08-15, 68 NRC 294 (2008)

a contention that attacks a Commission rule or that seeks to litigate a matter that is, or clearly is about to become, the subject of a rulemaking, is inadmissible; LBP-08-16, 68 NRC 361 (2008); LBP-08-21, 68 NRC 554 (2008)

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- a contention that challenges applicant's reliance on a pending design certification fundamentally on procedural grounds, constitutes an impermissible challenge to NRC regulations that allow the procedure applicant has chosen; LBP-08-17, 68 NRC 431 (2008)
- a filing will be considered complete by electronic transmission when the filer performs the last act that it must perform to transmit a document, in its entirety, electronically; LBP-08-16, 68 NRC 361 (2008)
- a hearing must be held upon the request of any person whose interest may be affected by the proceeding; LBP-08-14, 68 NRC 279 (2008)
- a licensing board is clearly authorized to dismiss a party who obstructs the discovery process, disobeys the board orders, and engages in willful, bad-faith, and prejudicial conduct toward another party; CLI-08-29, 68 NRC 899 (2008)
- a licensing board need not formally reopen the record in order to assess the relative worth of the parties' competing evidence; LBP-08-12, 68 NRC 5 (2008)
- a litany of "facts" and "figures" on various items without citation to a specific document, expert opinion, or other supporting source reduces them to bare assertions and speculation that will not support the contention admission; LBP-08-16, 68 NRC 361 (2008)
- a motion for reconsideration may not be filed except with leave of the licensing board, upon a showing of compelling circumstances, such as the existence of a clear and material error in a decision, which could not reasonably have been anticipated, that renders the decision invalid; LBP-09-23, 68 NRC 679 (2008)
- a newly proffered contention submitted after the close of the record must meet timeliness standards as well as the requirements of 10 C.F.R. 2.309(c); LBP-08-12, 68 NRC 5 (2008)
- a party seeking to reopen a closed record to raise a new matter faces an elevated burden to lay a proper foundation for its claim; CLI-08-28, 68 NRC 658 (2008)
- a petition or other request for review of or hearing on the Staff's significant hazards consideration determination will not be entertained by the Commission; LBP-08-18, 68 NRC 533 (2008)
- a reply is not an opportunity for a petitioner to bolster its original contentions with new supporting facts and arguments; LBP-08-26, 68 NRC 905 (2008)
- a safety contention arising from a matter resolved in an early site permit proceeding is within the scope of a combined license proceeding that references the ESP if it concerns whether the site characteristics and design parameters specified in the ESP have been met; LBP-08-15, 68 NRC 294 (2008)
- a Staff request to an applicant for more information does not make an application incomplete; CLI-08-15, 68 NRC 1 (2008)
- a state or local governmental entity that wishes to be a party in a proceeding that involves a facility located within its boundaries is automatically deemed to have standing; LBP-08-13, 68 NRC 43 (2008)
- a statement of petitioner's views about what regulatory policy should be does not present a litigable issue; LBP-08-16, 68 NRC 361 (2008)
- absent a waiver, no rule or regulation of the Commission is subject to attack in any adjudicatory proceeding; CLI-08-15, 68 NRC 1 (2008); CLI-08-17, 68 NRC 231 (2008); LBP-08-13, 68 NRC 43 (2008); LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008)
- adjudication is not the proper forum for challenging applicable statutory requirements; LBP-08-16, 68 NRC 361 (2008)
- agencies should be accorded broad discretion in establishing and applying rules for public participation, including rules for determining which community representatives are to be allowed to participate; CLI-08-19, 68 NRC 251 (2008)
- all motions are required to include a certification that the sponsor of the motion has made a sincere effort to contact the other parties and to resolve the issues raised in the motion; CLI-08-22, 68 NRC 355 (2008)
- all of the contention admissibility requirements of 10 C.F.R. 2.309(f)(1) must be met for a contention to be admissible; LBP-08-19, 68 NRC 545 (2008); LBP-08-20, 68 NRC 549 (2008)
- although a board may appropriately view a petitioner's supporting information in a light favorable to the petitioner, failure to provide such information regarding a proffered contention requires that the contention be rejected; LBP-08-16, 68 NRC 361 (2008)
- although boards are to provide latitude to pro se participants, petitioner's decision to provide an expert affidavit, available when it filed its hearing petition, at the time it submitted its reply runs afoul of the

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Commission's directive that reply pleadings cannot be used to introduce additional supporting information relative to a contention; LBP-08-16, 68 NRC 361 (2008)

although boards generally are to litigate a contention rather than the basis that provides the issue statement's foundational support, the reach of a contention necessarily hinges upon its terms coupled with its stated basis; LBP-08-16, 68 NRC 361 (2008)

although latitude is to be afforded a pro se intervenor in the mechanics of contention pleading and citation, an organization that has appeared several times previously is expected to have a heightened awareness of the agency's pleading rules; LBP-08-16, 68 NRC 361 (2008)

although petitioner does not have to prove its contention at the admissibility stage, mere notice pleading is insufficient; LBP-08-17, 68 NRC 431 (2008)

although the Commission abolished the Atomic Safety and Licensing Appeal Board in 1991, its decisions still carry precedential weight; CLI-08-19, 68 NRC 251 (2008)

although the Commission customarily follows judicial concepts of standing, it is not bound to do so given that it is not an Article III court; LBP-08-24, 68 NRC 691 (2008)

although the Commission has long looked for guidance to judicial concepts of standing, it is not bound to do so; CLI-08-19, 68 NRC 251 (2008)

amicus briefs must be filed by the same deadline as the brief of the party whose side the amicus brief supports, unless the Commission provides otherwise; CLI-08-22, 68 NRC 355 (2008)

an admissible contention must include a specific statement of the issue of law or fact to be raised or controverted as well as a brief explanation of the basis for the contention; LBP-08-26, 68 NRC 905 (2008)

an admissible contention must raise an issue that is both within the scope of the proceeding, normally defined by the hearing notice, and material to the findings the NRC must make to support the action involved; LBP-08-17, 68 NRC 431 (2008)

an affidavit supporting representational standing must describe precisely how the affiant is aggrieved, whether based on employment, residence, or activities; CLI-08-19, 68 NRC 251 (2008)

an allegation that some aspect of a license application is inadequate or unacceptable does not give rise to a genuine dispute unless it is supported by facts and a reasoned statement of why the application is unacceptable in some material respect; LBP-08-17, 68 NRC 431 (2008)

an ambiguous provision is construed most strongly against the person who selected the language; LBP-08-16, 68 NRC 361 (2008)

an entity seeking to intervene on behalf of its members must show it has an individual member who can fulfill all the necessary standing elements and who has authorized the organization to represent his or her interests; LBP-08-16, 68 NRC 361 (2008)

an environmental contention may be admitted during a combined license proceeding if it concerns a significant issue that was not resolved in the early site permit proceeding or if it involves the impacts of construction and operation of the facility and significant new information has been identified; LBP-08-15, 68 NRC 294 (2008)

an interested governmental entity that has not been admitted as a party under section 2.309 must be provided a reasonable opportunity to participate in a hearing; LBP-08-21, 68 NRC 554 (2008); LBP-08-24, 68 NRC 691 (2008)

an interested local governmental body may introduce evidence, interrogate witnesses in circumstances where cross-examination by the parties is allowed, advise the Commission without being required to take a position on any issue, file proposed findings where such are allowed, and seek Commission review on admitted contentions; LBP-08-24, 68 NRC 691 (2008)

an organization seeking to intervene in its own right must demonstrate a palpable injury in fact to its organizational interests that is within the zone of interests protected by the Atomic Energy Act or the National Environmental Policy Act; LBP-08-24, 68 NRC 691 (2008)

an organization that wants to intervene in a representational capacity must demonstrate that the licensing action will affect at least one of its members, identify that member by name and address, and show that it is authorized by that member to request a hearing on his or her behalf; CLI-08-19, 68 NRC 251 (2008); LBP-08-13, 68 NRC 43 (2008); LBP-08-17, 68 NRC 431 (2008); LBP-08-24, 68 NRC 691 (2008)

an organization's member seeking representation must qualify for standing in his or her own right; CLI-08-19, 68 NRC 251 (2008)

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any ambiguity relative to the filing date for hearing requests arising from the language of the agency's hearing opportunity notice should be construed in favor of a participant who was seeking to comply with the notice; LBP-08-16, 68 NRC 361 (2008)

any contention that fails to controvert the application directly, or that mistakenly asserts the application fails to address an issue that the application does address, is defective; LBP-08-17, 68 NRC 431 (2008)

any contention that falls outside the specified scope of a proceeding must be rejected; LBP-08-26, 68 NRC 905 (2008)

any material provided by a petitioner in support of its contention, including those portions of the material that are not relied upon, is subject to board scrutiny; LBP-08-26, 68 NRC 905 (2008)

any request for waiver of or exception to a rule must be accompanied by an affidavit that identifies with particularity the special circumstances alleged to justify the waiver or exception requested; LBP-08-17, 68 NRC 431 (2008)

any supporting material provided by petitioner, including those portions of material that are not relied upon, is subject to Board scrutiny; LBP-08-16, 68 NRC 361 (2008)

applicant's plan for storage of low-level radioactive waste is a litigable issue because it is material to the findings the NRC must make to support the action that is involved in a combined license proceeding; LBP-08-15, 68 NRC 294 (2008)

applicants are not required to address or demonstrate whether the issuance of a combined license will improve the general welfare, increase the standard of living, or strengthen free competition in private enterprise; LBP-08-17, 68 NRC 431 (2008)

as a general matter, a board ruling denying a waiver request is interlocutory in nature, and therefore not appealable until the board has issued a final decision resolving the case; CLI-08-27, 68 NRC 655 (2008)

as long as counsel is an attorney in good standing and a member of the bar, a Notice of Appearance is sufficient in itself for him or her to represent an Indian tribe in a proceeding; LBP-08-26, 68 NRC 905 (2008)

before a participant may be precluded from litigating an issue because it failed to raise the issue in an earlier proceeding, it must have had reasonable notice that such an opportunity existed; LBP-08-15, 68 NRC 294 (2008)

boards are to construe intervention petitions in favor of the petitioners; LBP-08-16, 68 NRC 361 (2008)

boards have discretion to reframe contentions for purposes of clarity, succinctness, and a more efficient proceeding; LBP-08-12, 68 NRC 5 (2008)

by complying with the six contention requirements in 10 C.F.R. 2.309(f)(1)(i)-(vi), petitioner must demonstrate that a contention raises an issue that is appropriate for a licensing board hearing and that such a hearing would not likely be a waste of time and resources; LBP-08-17, 68 NRC 431 (2008)

collateral estoppel should be applied in appropriate circumstances in NRC proceedings; LBP-08-15, 68 NRC 294 (2008)

Commission has authority to issue case-specific orders modifying procedural regulations, including milestone schedules; CLI-08-18, 68 NRC 246 (2008)

Commission rules bar contentions where petitioners have only what amounts to generalized suspicions that they hope to substantiate later; LBP-08-17, 68 NRC 431 (2008)

contention admissibility requirements are strict by design to ensure that hearings cover only genuine and pertinent issues of concern and that the issues are framed and supported concisely enough at the outset to ensure that the proceedings are effective and focused on real, concrete issues; LBP-08-24, 68 NRC 691 (2008)

contention admissibility requirements for a hearing on a confirmatory order are addressed; LBP-08-14, 68 NRC 279 (2008)

contention alleging that worldwide uranium supplies will be inadequate is dismissed for failure to provide expert opinion, documents, or other sources to support its allegation; LBP-08-15, 68 NRC 294 (2008)

contention that asks the licensing board to determine whether applicant would be able to obtain permits from and comply with regulatory requirements imposed by other agencies is outside NRC's jurisdiction; LBP-08-15, 68 NRC 294 (2008)

contention that suggests that financial qualifications information should be provided in the application submitted by a regulated electric utility represents an impermissible challenge to Commission regulations; LBP-08-17, 68 NRC 431 (2008)



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contention that worldwide uranium supplies will be inadequate to permit the anticipated power production benefits during the license term is potentially material to the licensing proceeding; LBP-08-15, 68 NRC 294 (2008)

contentions alleging deficiencies or errors in an application must indicate some significant link between the claimed deficiency and either the health and safety of the public or the environment; LBP-08-16, 68 NRC 361 (2008)

contentions challenging Commission regulations are not admissible in agency adjudications; LBP-08-26, 68 NRC 905 (2008)

contentions challenging Staff's significant hazards consideration determination are not appropriate for review in a license amendment proceeding; LBP-08-19, 68 NRC 545 (2008); LBP-08-20, 68 NRC 549 (2008)

contentions must assert an issue of law or fact that is material to the outcome of a licensing proceeding, meaning that the subject matter of the contention must impact the grant or denial of a pending license application; LBP-08-16, 68 NRC 361 (2008)

contentions must be based on documents or other information available at the time the petition is to be filed; LBP-08-27, 68 NRC 951 (2008)

contentions must be within the scope of the proceeding as defined by the Commission in its initial hearing notice and order referring the proceeding to the licensing board; LBP-08-16, 68 NRC 361 (2008)

contentions must focus on the license application in question, challenging either specific portions of or alleged omissions from the application; LBP-08-16, 68 NRC 361 (2008)

contentions must satisfy six pleading requirements to be admissible; LBP-08-13, 68 NRC 43 (2008); LBP-08-16, 68 NRC 361 (2008)

contentions pertaining to issues dealing with the current operating license, including the Updated Final Safety Analysis Report, are not within the scope of license renewal review; LBP-08-13, 68 NRC 43 (2008)

contentions relating to the conclusions that the NRC Staff reaches in its NEPA analysis with regard to the environmental impacts from radiological releases to groundwater must await future publication of its supplemental environmental impact statement; LBP-08-13, 68 NRC 43 (2008)

contentions that advocate stricter requirements than agency rules impose or that otherwise seek to litigate a generic determination established by a Commission rulemaking are inadmissible; LBP-08-17, 68 NRC 431 (2008); LBP-08-16, 68 NRC 361 (2008)

contentions that fail to directly controvert the application or that mistakenly assert the application does not address a relevant issue can be dismissed; LBP-08-16, 68 NRC 361 (2008)

contentions that fail to provide supporting facts or expert opinion are inadmissible; LBP-08-19, 68 NRC 545 (2008)

contentions that fail to raise a genuine dispute of material fact or law with the applicant are inadmissible; LBP-08-19, 68 NRC 545 (2008)

contentions that fail to satisfy the pleading requirements of 10 C.F.R. 2.309(f)(1) are inadmissible; LBP-08-18, 68 NRC 533 (2008)

contentions that fall outside the specified scope of the proceeding must be rejected; LBP-08-16, 68 NRC 361 (2008)

contentions will be ruled inadmissible if petitioner has offered no tangible information, no experts, no substantive affidavits, but instead only bare assertions and speculation; LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008)

damage to a nuclear power facility's reputation does not constitute a threatened injury to the interests of the Local's members who work at the facility; CLI-08-19, 68 NRC 251 (2008)

discovery is not permitted for the purpose of developing a motion to reopen the record or to assist a petitioner in the framing of contentions; LBP-08-12, 68 NRC 5 (2008)

dismissal due to counsel's malfeasance is a logical extension of the board's disciplinary authority to reprimand, censure, or suspend from a proceeding any party or representative who refuses to comply with its directions; CLI-08-29, 68 NRC 899 (2008)

dismissal of a party falls within the spectrum of sanctions available to the boards to assist in the management of proceedings, although dismissal should be reserved for severe cases; CLI-08-29, 68 NRC 899 (2008)

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docketing decisions are not challengeable in an adjudicatory proceeding; CLI-08-15, 68 NRC 1 (2008)

electronic production, filing, and service of all documents are required in the high-level waste proceeding; CLI-08-25, 68 NRC 497 (2008)

even if neither applicant nor the NRC Staff challenges petitioner's standing, the board must make its own determination; LBP-08-15, 68 NRC 294 (2008)

evidence contained in affidavits supporting motions to reopen must meet the regulatory admissibility standards of relevance, materiality, and reliability; LBP-08-12, 68 NRC 5 (2008)

facts relied on in support of a contention of omission need not show that applicant's facility cannot be safely operated, but rather that the application is incomplete under the governing regulations; LBP-08-15, 68 NRC 294 (2008)

failure by movant to address all reopening requirements in its motion is reason enough to deny the motion; LBP-08-12, 68 NRC 5 (2008)

failure of a contention to meet any of the requirements of 10 C.F.R. 2.309(f)(1) renders it inadmissible; LBP-08-16, 68 NRC 361 (2008); LBP-08-24, 68 NRC 691 (2008); LBP-08-26, 68 NRC 905 (2008)

failure to specify the language of a contention and distinguish it from the discussion that might otherwise be considered the basis for the issue statement might be grounds for dismissing the contention; LBP-08-16, 68 NRC 361 (2008)

federal courts have long recognized the right of agencies to tailor their own standing requirements to fit their specific needs; CLI-08-19, 68 NRC 251 (2008)

for determining the "likelihood" that a motion to reopen would change the outcome of a license renewal proceeding, the Commission indicated that a "would have been reached" standard is too strict, and a "might have been reached" standard is too lax; LBP-08-12, 68 NRC 5 (2008)

for organizations to demonstrate standing to intervene, they must allege that the challenged action will cause a cognizable injury to the organization's interests or to the interests of its members; LBP-08-13, 68 NRC 43 (2008); LBP-08-24, 68 NRC 691 (2008)

for systems, structures, and components subject to aging management review, discussion of proposed inspection and monitoring details will come before a board only as they are needed to demonstrate that the intended function of relevant SSCs will be maintained for the license renewal period; LBP-08-13, 68 NRC 43 (2008)

general allegations covering the overall adequacy of structures, systems, and components, with no mention of potential errors or deficiencies in an applicant's license renewal application, do not support the admissibility of a contention; LBP-08-13, 68 NRC 43 (2008)

general counsel for an Indian tribe is not required to submit a declaration stating the basis of his or her authority to represent the tribe; LBP-08-26, 68 NRC 905 (2008)

generic NRC policies and standards and the nature of the NRC Staff's licensing review are not subject to challenge in an adjudicatory proceeding; CLI-08-17, 68 NRC 231 (2008)

given that the *Federal Register* notice defines the scope of the issues that may properly be raised in a request for a hearing, it also defines the scope of the issues that could reasonably be deemed resolved during an ESP proceeding; LBP-08-15, 68 NRC 294 (2008)

how the Commission determines proximity-based standing in license transfer cases is described; CLI-08-19, 68 NRC 251 (2008)

if a contention challenges the legal sufficiency of the application that is the subject of the Notice of Hearing and Opportunity to Petition for Leave to Intervene, the contention is within the scope of the proceeding; LBP-08-15, 68 NRC 294 (2008)

if applicant cures the omission, the contention of omission will become moot, and then intervenor must timely file a new or amended contention if it intends to challenge the sufficiency of the new information supplied by applicant; LBP-08-12, 68 NRC 5 (2008); LBP-08-15, 68 NRC 294 (2008)

if none of the affidavits submitted in support of a hearing request indicate that an organization seeking to intervene represents the interests of the submitter, the organization has failed to establish it has standing; LBP-08-16, 68 NRC 361 (2008)

if petitioner fails to provide the requisite support for its contentions, the board may not make assumptions of fact that favor the petitioner or supply information that is lacking; LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008)

if petitioner identifies specific omissions in the combined license application, those omissions should be addressed in a contention to the board which, in turn, should refer such a contention to the Staff for

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consideration in the design certification rulemaking, and hold that contention in abeyance, if it is otherwise admissible; LBP-08-21, 68 NRC 554 (2008)

if petitioner requests a remedy that is beyond the scope of the hearing, then the hearing request must be denied because redressability is an element of standing; LBP-08-14, 68 NRC 279 (2008)

if petitioner wishes to challenge a generic determination in a license renewal proceeding, it must seek and receive a waiver; LBP-08-26, 68 NRC 905 (2008)

if standards for reopening were not strict and demanding, there would be little hope of completing administrative proceedings if each newly arising allegation required an agency to reopen its hearings; LBP-08-12, 68 NRC 5 (2008)

if there are problems with meeting a filing date, participants should seek an extension of time or, if the time for filing has passed, submit a motion for leave to file out of time; LBP-08-16, 68 NRC 361 (2008)

in a case involving an enforcement order, the standing requirement is based on the confirmatory order itself, and petitioner must show that he will be adversely affected by the terms of the order; LBP-08-14, 68 NRC 279 (2008)

in adjudicatory proceedings it is the license application, not the NRC staff review, that is at issue; CLI-08-15, 68 NRC 1 (2008)

in any conflict between a general rule in Part 2, Subpart C, and a special rule in Part 2, the special rule governs; LBP-08-16, 68 NRC 361 (2008)

in cases involving possible construction or operation of a nuclear power reactor, proximity to the proposed facility has been considered sufficient to establish the requisite standing elements; LBP-08-16, 68 NRC 361 (2008)

in determining whether a petitioner has established standing, boards are to construe the petition in favor of the petitioner; LBP-08-17, 68 NRC 431 (2008); LBP-08-26, 68 NRC 905 (2008)

in determining whether an individual or organization should be granted party status in a proceeding based on standing "as of right," the agency applies contemporaneous judicial standing concepts; LBP-08-26, 68 NRC 905 (2008)

in evaluating a motion to reopen the record, a licensing board properly considers the movant's new allegations and the nonmovant's contrary evidence in determining whether there is a real issue at stake warranting a reopened hearing; LBP-08-12, 68 NRC 5 (2008)

in license amendment cases, petitioner cannot base standing simply upon a residence or visits near the plant, unless the proposed action quite obviously entails an increased potential for offsite consequences; LBP-08-18, 68 NRC 533 (2008)

in power reactor license proceedings, proximity within 50 miles of a plant is often enough on its own to demonstrate standing; LBP-08-17, 68 NRC 431 (2008); LBP-08-24, 68 NRC 691 (2008)

in ruling on standing, NRC cannot automatically assume that an organization member necessarily considers him- or herself potentially aggrieved by a particular outcome of the proceeding; CLI-08-19, 68 NRC 251 (2008)

in the case of the yet-to-issue NRC rules for the high-level waste proceeding, the Commission is dispensing in advance with all late-filing factors except the "good cause" factor; CLI-08-25, 68 NRC 497 (2008)

interests of an organization's member seeking representation must be germane to the organization's purpose; CLI-08-19, 68 NRC 251 (2008); LBP-08-17, 68 NRC 431 (2008)

intervention petitioners are not required to demonstrate their asserted injury with certainty or to provide extensive technical studies in support of their standing argument; LBP-08-24, 68 NRC 691 (2008)

intervention petitioner's claimed injury must be arguably within the zone of interests protected by the governing statute; LBP-08-24, 68 NRC 691 (2008)

intervention petitioners must allege a concrete and particularized injury that is fairly traceable to the challenged action and is likely to be redressed by a favorable decision; LBP-08-24, 68 NRC 691 (2008)

intervention petitions are to be construed in favor of the petitioner; LBP-08-21, 68 NRC 554 (2008)

intervention petitions must establish the nature of the petitioner's right under the governing statutes to be made a party, its interest in the proceeding, and the possible effect of any decision or order on the petitioner's interest; LBP-08-17, 68 NRC 431 (2008)

it is the admissibility of the contention, not the basis, that must be determined; LBP-08-17, 68 NRC 431 (2008)

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judicial concepts of standing are applied in NRC proceedings; LBP-08-13, 68 NRC 43 (2008); LBP-08-14, 68 NRC 279 (2008); LBP-08-15, 68 NRC 294 (2008); LBP-08-16, 68 NRC 361 (2008)

judicial standing concepts require participant to establish that it has suffered or will suffer a distinct and palpable injury that constitutes injury-in-fact within the zones of interests arguably protected by the governing statutes, the injury is fairly traceable to the challenged action, and the injury is likely to be redressed by a favorable decision; LBP-08-13, 68 NRC 43 (2008); LBP-08-14, 68 NRC 279 (2008); LBP-08-16, 68 NRC 361 (2008)

licensing boards are not foreclosed from considering docketed licensing material that has been submitted to the board and that, on its face, appears to be relevant to the disposition of a pending motion; LBP-08-12, 68 NRC 5 (2008)

licensing boards are required to reject treaty-based claims of ownership by Native American tribes; LBP-08-24, 68 NRC 691 (2008)

material provided in support of a contention will be carefully examined by the board to confirm that on its face it does supply an adequate basis for the contention; LBP-08-16, 68 NRC 361 (2008)

mere conclusory allegations about potential harm to petitioner or others is insufficient to confer standing; LBP-08-24, 68 NRC 691 (2008)

mere notice pleading is insufficient for contention admission; LBP-08-26, 68 NRC 905 (2008)

mere reference to general materials on a website is insufficient to provide support for a contention; LBP-08-21, 68 NRC 554 (2008)

motions to reopen must address a significant safety or environmental issue; CLI-08-23, 68 NRC 461 (2008)

motions to reopen must be accompanied by affidavits that set forth the factual and/or technical bases for the movant's claim that the criteria in 10 C.F.R. 2.326(a) have been satisfied; LBP-08-12, 68 NRC 5 (2008)

motions to reopen must satisfy a multifactor test in 10 C.F.R. 2.326(a) and (d) that is governed by prescribed evidentiary requirements; LBP-08-12, 68 NRC 5 (2008)

movant must show that a balancing of eight factors of 10 C.F.R. 2.309(c)(1), to the extent they are relevant to the particular filing, weighs in favor of reopening; LBP-08-12, 68 NRC 5 (2008)

neither mere speculation nor bare or conclusory assertions, even by an expert, alleging that a matter should be considered will suffice to allow the admission of a proffered contention; LBP-08-16, 68 NRC 361 (2008)

neither the asserted claim nor the requested relief must require an individual member to participate in the organization's legal action; CLI-08-19, 68 NRC 251 (2008)

new or amended contentions can be filed with leave of the board if the information upon which the amended or new contention is based was not previously available, the information is materially different from information previously available, and the contention has been submitted in a timely fashion based on the availability of the subsequent information; LBP-08-27, 68 NRC 951 (2008)

newly filed contentions must meet the requirements of 10 C.F.R. 2.309(f)(2) as well as the six basic contention admissibility standards set forth in section 2.309(f)(1)(i)-(vi); LBP-08-27, 68 NRC 951 (2008)

nontimely contentions may be accepted under this section only upon a showing of good cause for failure to file in a timely manner and a weighing of a number of factors; LBP-08-27, 68 NRC 951 (2008)

NRC Staff's revision of the Final Safety Evaluation Report to account for applicant's confirmatory analysis would not, standing alone, be a materially different result that justifies reopening the record, because it would neither change the outcome of the renewal proceeding nor impose a different licensing condition on an applicant; LBP-08-12, 68 NRC 5 (2008)

organizational standing arises if the organization can demonstrate that the licensing action will cause an institutional injury to the organization's interests; LBP-08-26, 68 NRC 905 (2008)

petitioner does not have standing to assert rights of employees or caretakers on her land where caretakers are not minors or otherwise legally incapable of representing their own interests; LBP-08-18, 68 NRC 533 (2008)

petitioner failed to establish materiality of its contention related to management of low-level radioactive waste by referring to 10 C.F.R. Part 61 because applicant was not seeking a license under Part 61, and it was speculative whether such a license would ever be necessary; LBP-08-15, 68 NRC 294 (2008)

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petitioner is presumed to have standing to intervene without the need specifically to plead injury, causation, and redressability if the petitioner lives within 50 miles of the nuclear power reactor; LBP-08-13, 68 NRC 43 (2008); LBP-08-15, 68 NRC 294 (2008); LBP-08-26, 68 NRC 905 (2008)

petitioner may have standing based entirely upon its geographical proximity to a particular proposed facility; LBP-08-15, 68 NRC 294 (2008); LBP-08-26, 68 NRC 905 (2008)

petitioner may not claim standing based on vague assertions, and when that fails, attempt to repair the defective pleading with fresh details offered for the first time in a petition for reconsideration; CLI-08-19, 68 NRC 251 (2008)

petitioner may not demand a hearing to express generalized grievances about NRC policies or to attack the NRC's general competence; LBP-08-17, 68 NRC 431 (2008)

petitioner may not simply incorporate massive documents by reference as the basis for a statement of his contentions; LBP-08-21, 68 NRC 554 (2008)

petitioner must demonstrate that the issue raised in the contention is within the scope of the proceeding and material to the findings the NRC must make to support the action that is involved; LBP-08-16, 68 NRC 361 (2008); LBP-08-21, 68 NRC 554 (2008); LBP-08-26, 68 NRC 905 (2008)

petitioner must meet the prudential standing requirement by showing that the asserted interest arguably falls within the zone of interests protected by the governing law; LBP-08-15, 68 NRC 294 (2008)

petitioner must provide basic information supporting its claim to standing in order to satisfy the requirements of 10 C.F.R. 2.309(d)(1)(ii)-(iv); LBP-08-13, 68 NRC 43 (2008)

petitioner must provide factual or expert support for its contention, which includes the specific sources or documents on which it relies to support its position; LBP-08-16, 68 NRC 361 (2008)

petitioner must show some risk of discrete institutional injury to itself, other than the general environmental and policy interests of the sort repeatedly found insufficient for organizational standing; CLI-08-19, 68 NRC 251 (2008)

petitioner requesting a hearing on a confirmatory order must show that the request is within the scope of the proceeding by demonstrating that the petitioner will be adversely affected by the existing terms of the enforcement order; LBP-08-14, 68 NRC 279 (2008)

petitioner who has not submitted an admissible contention is not allowed adopt the contentions of other petitioners; LBP-08-13, 68 NRC 43 (2008)

petitioner's proximity to the pertinent facility triggers a presumption that it has standing to intervene without the need to specifically plead injury, causation, and redressability if the petitioner lives within, or otherwise has frequent contacts with, the zone of possible harm; LBP-08-17, 68 NRC 431 (2008)

petitioner's status as an anti-nuclear advocate and a source of information for its community is insufficient, without more, to qualify it for organizational standing; CLI-08-19, 68 NRC 251 (2008)

petitioners may not seek to enhance the measures outlined in an enforcement order; LBP-08-14, 68 NRC 279 (2008)

petitioners may not seek to skirt contention rules by initially filing unsupported contentions, and later recasting or modifying their contentions on appeal with new arguments never raised before the board; CLI-08-17, 68 NRC 231 (2008)

petitioners must demonstrate that their motion to reopen is timely; LBP-08-12, 68 NRC 5 (2008)

petitioners who are not represented by counsel will be held to less rigid standards for pleading, although a totally deficient petition will not be admitted; LBP-08-15, 68 NRC 294 (2008)

preservation of cultural traditions is a protected interest under federal law, and its endangerment or harm qualifies as an injury for the purposes of establishing standing; LBP-08-24, 68 NRC 691 (2008)

proponents of motions to reopen the record bear a heavy burden; LBP-08-12, 68 NRC 5 (2008)

proximity alone is not sufficient to establish standing for a petitioner's proximity to a source materials activity; LBP-08-24, 68 NRC 691 (2008)

proximity standing rests on the presumption that an accident associated with the nuclear facility could adversely affect the health and safety of people working, living, or regularly engaging in activities offsite but within a certain distance of that facility; CLI-08-19, 68 NRC 251 (2008)

reopening a closed record requires, among other things, a showing that the motion is timely; CLI-08-23, 68 NRC 461 (2008)

representational standing requires a demonstration that one or more of an organization's members would otherwise have standing to intervene on their own, and that the identified members have authorized the organization to request a hearing on their behalf; LBP-08-15, 68 NRC 294 (2008)

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representational standing requires the organization to demonstrate that the licensing action will affect at least one of its members, identify the member by name and address, demonstrate that the member has standing, and show that the organization is authorized to request a hearing on that member's behalf; LBP-08-26, 68 NRC 905 (2008)

request for waiver is required for contentions that challenge Commission's regulations; LBP-08-21, 68 NRC 554 (2008)

requirements for representational standing apply to labor unions; CLI-08-19, 68 NRC 251 (2008)

rules on contention admissibility are strict by design; CLI-08-17, 68 NRC 231 (2008); LBP-08-14, 68 NRC 279 (2008)

sanctions have been imposed against a party seeking to file a written request for hearing only when that party has not followed established Commission procedures; LBP-08-19, 68 NRC 545 (2008); LBP-08-20, 68 NRC 549 (2008)

simply attaching material or documents as a basis for a contention, without setting forth an explanation of that information's significance, is inadequate to support admission; LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008)

state agencies may participate as nonparty interested states; LBP-08-15, 68 NRC 294 (2008)

strict contention standards ensure that those admitted to NRC hearings bring actual knowledge of safety and environmental issues that bear on the licensing decision, and therefore can litigate issues meaningfully; CLI-08-17, 68 NRC 231 (2008)

strict pleading requirements under 10 C.F.R. 2.309(f)(1) must be satisfied for a contention to be admissible; LBP-08-21, 68 NRC 554 (2008)

the affidavit supporting a motion to reopen a license renewal proceeding must provide sufficient information to support a prima facie showing that a deficiency exists in the application and the deficiency presents a significant safety issue; LBP-08-12, 68 NRC 5 (2008)

the brief explanation of the logical underpinnings of a contention does not require a petitioner to provide an exhaustive list of possible bases, but simply to provide sufficient alleged factual or legal bases to support the contention; LBP-08-26, 68 NRC 905 (2008)

the Commission and licensing boards have imposed sanctions against a party seeking to file a written request for hearing only when that party has not followed established Commission procedures despite prior agency warnings; LBP-08-18, 68 NRC 533 (2008)

the Commission may consider a request for discretionary intervention when at least one requestor/petitioner has established standing and at least one admissible contention has been admitted so that a hearing will be held; CLI-08-19, 68 NRC 251 (2008)

the Commission may reject an appeal summarily for violating NRC procedural regulations; CLI-08-17, 68 NRC 231 (2008)

the Commission seeks wherever possible to avoid the delays, such as an additional round of pleadings, caused by a petitioner's attempt to backstop elemental deficiencies in its original petition to intervene; CLI-08-19, 68 NRC 251 (2008)

the general rule on amicus briefs, 10 C.F.R. 2.315(d), as a formal matter applies only to petitions for review filed under section 2.341 or to matters taken up by the Commission *sua sponte*, not to appeals filed under section 2.1015; CLI-08-22, 68 NRC 355 (2008)

the Licensing Support Network functions as a mechanism for early collection of all extant documents that normally would be collected later through traditional discovery; CLI-08-22, 68 NRC 355 (2008)

the presiding officer must assess a petition to intervene even if there are no objections to a petitioner's standing; LBP-08-16, 68 NRC 361 (2008)

the proper purpose of a reply is to discuss alleged deficiencies in a petition, not to try to fix them; LBP-08-17, 68 NRC 431 (2008)

the proximity presumption applies in proceedings for nuclear power plant construction permits, operating licenses, or significant amendments thereto; LBP-08-13, 68 NRC 43 (2008); LBP-08-15, 68 NRC 294 (2008)

the proximity presumption extends to petitioners living in or having frequent contacts with an area within a 50-mile radius of a nuclear reactor; LBP-08-18, 68 NRC 533 (2008)

the purpose of NRC adjudicatory hearings is to consider claims of deficiencies in a license application; CLI-08-20, 68 NRC 272 (2008)

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the purpose of the contention rule is to focus litigation on concrete issues and should result in a clearer and more focused record for decision; LBP-08-14, 68 NRC 279 (2008)

the representative of an interested local governmental body must identify those contentions on which it will participate in advance of any hearing held; LBP-08-24, 68 NRC 691 (2008)

the role of "private attorney general" is not contemplated under the Atomic Energy Act; CLI-08-19, 68 NRC 251 (2008)

the standard for admitting a new contention after the record is closed is higher than for an ordinary late-filed contention; CLI-08-28, 68 NRC 658 (2008)

the term "likely" in section 2.326(a)(3) is construed to be synonymous with "probable" or "more likely than not"; LBP-08-12, 68 NRC 5 (2008)

the time an E-Filing submission is received by the system server is not necessarily controlling relative to the timeliness of the filing; LBP-08-16, 68 NRC 361 (2008)

the underlying purpose of NEPA as an information-gathering and disclosure mechanism requires a different view of the concept of "materiality" under 10 C.F.R. 2.309(f)(1)(iv) than might be applied to a contention seeking to establish a health and safety issue; LBP-08-16, 68 NRC 361 (2008)

there is a difference between contentions that allege that a license application suffers from an improper omission and contentions that raise a specific substantive challenge to how particular information or issues have been discussed in a license application; LBP-08-12, 68 NRC 5 (2008)

threshold contention standards are imposed to avoid admission of contentions based on little more than speculation and intervenors who have negligible knowledge of nuclear power issues; CLI-08-17, 68 NRC 231 (2008)

timeliness as measured under NRC regulations is from the point at which new information is discovered relevant to the question; LBP-08-12, 68 NRC 5 (2008)

to be considered timely, a document must be submitted to the E-Filing system for docketing and service by 11:59 p.m. Eastern Time; LBP-08-16, 68 NRC 361 (2008)

to demonstrate organizational standing, petitioner must show injury in fact to the interests of the organization itself; LBP-08-15, 68 NRC 294 (2008)

to demonstrate standing, petitioner must identify an interest in the proceeding and specify the facts pertaining to that interest; CLI-08-19, 68 NRC 251 (2008)

to determine whether petitioner has an interest potentially affected by a proceeding, the licensing board considers the nature of the petitioner's right under the Atomic Energy Act to be made a party, the nature and extent of petitioner's property, financial, or other interest in the proceeding, and the possible effect of any decision or order on petitioner's interest; LBP-08-14, 68 NRC 279 (2008)

to establish representational standing, the member must qualify for standing in his or her own right, the interests that the organization seeks to protect must be germane to its own purpose, and neither petitioner's contentions nor the requested relief must require an individual member to participate in the proceeding; LBP-08-17, 68 NRC 431 (2008)

to establish standing, petitioner must show that he or she has suffered or will suffer a distinct and palpable harm that constitutes injury in fact that can fairly be traced to the challenged action and is likely to be redressed by a favorable decision; LBP-08-15, 68 NRC 294 (2008)

to intervene as a party in an adjudicatory proceeding, a petitioner must offer at least one admissible contention; CLI-08-17, 68 NRC 231 (2008); LBP-08-24, 68 NRC 691 (2008)

to reopen a closed record to introduce a new issue, movant has the burden of showing that the new information will likely trigger a different result; LBP-08-12, 68 NRC 5 (2008)

unless a proposed action involves obvious potential for offsite consequences, such as with construction or operation of reactor or certain major alterations to facility, petitioner must allege some specific injury in fact that will result from the action taken; LBP-08-18, 68 NRC 533 (2008)

unlike federal court practice, the Commission does not accept mere notice pleading in support of an admissible contention; LBP-08-24, 68 NRC 691 (2008)

vague assertions of possible harm do not amount to a showing of concrete and particularized injury to petitioner's interests that is actual or imminent, not conjectural or hypothetical; LBP-08-18, 68 NRC 533 (2008)

waiver of a rule can be granted only in unusual and compelling circumstances; LBP-08-17, 68 NRC 431 (2008)

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were the Commission to accept and consider a belatedly submitted representative-standing affidavit attached to a reply brief, the applicant would be deprived of the right to challenge the substantive sufficiency of the affidavit; CLI-08-19, 68 NRC 251 (2008)

when assessing whether petitioner has set forth a sufficient interest to intervene, licensing boards apply judicial concepts of standing; LBP-08-18, 68 NRC 533 (2008)

when considering whether to undertake pendent appellate review of otherwise unappealable issues, the Commission has expressed a willingness to take up otherwise unappealable issues that are "inextricably intertwined" with appealable issues; CLI-08-27, 68 NRC 655 (2008)

when new contentions are based on breaking developments of information, they are to be treated as new or amended, not as nontimely; LBP-08-27, 68 NRC 951 (2008)

where a motion to reopen the record seeks to admit a new contention that has not previously been in controversy among the parties, movant must show that a balancing of the factors of 10 C.F.R. 2.309(c)(1) weighs in favor of reopening; LBP-08-12, 68 NRC 5 (2008)

where a petitioner is accorded standing in one proceeding, that petitioner need not make a separate demonstration of standing in another proceeding regarding that same facility and the same parties; LBP-08-24, 68 NRC 691 (2008)

where petitioner has established standing to intervene, but has not submitted an admissible contention, its request for an evidentiary hearing is denied; LBP-08-17, 68 NRC 431 (2008)

### RULES OF PROCEDURE

Commission rules and longstanding precedent bar discovery in connection with the preparation of proposed contentions; CLI-08-28, 68 NRC 658 (2008)

motions to reopen must be accompanied by affidavits of qualified experts presenting the factual and/or technical bases for the claim that there is a significant safety issue, together with evidence that satisfies the admissibility standards; CLI-08-28, 68 NRC 658 (2008)

the Commission may grant a petition for review at its discretion, giving due weight to the existence of a substantial question with respect to the five considerations listed in 10 C.F.R. 2.341(b)(4); CLI-08-28, 68 NRC 658 (2008)

the presiding officer is allowed to resolve factual and legal disputes in spent fuel storage controversies, including disagreements between experts, on the basis of a brief discovery period and written submissions and oral argument without a full trial-type evidentiary hearing; CLI-08-26, 68 NRC 509 (2008)

under Subpart K and the Nuclear Waste Policy Act, the Commission resorts to full evidentiary hearings on spent fuel storage controversies only when necessary for accuracy; CLI-08-26, 68 NRC 509 (2008)

where a motion to reopen proposes a contention not previously part of the proceeding, the requirements for late-filed contentions set out in 10 C.F.R. 2.309(c) must also be satisfied; CLI-08-28, 68 NRC 658 (2008)

### SAFEGUARDS INFORMATION

hearings on alternative terrorist scenario claims could not be conducted in a meaningful way without substantial disclosure of classified and safeguards information on threat assessments and security arrangements and without substantial litigation over their significance; CLI-08-26, 68 NRC 509 (2008)

### SAFETY ANALYSIS REPORT

the high-level waste repository application must contain information pertaining to evaluation of potential exposures during the post-closure period beyond 10,000 years following disposal; CLI-08-20, 68 NRC 272 (2008)

See also Final Safety Analysis Report

### SAFETY CULTURE

allegations of historical improprieties are relevant in a license renewal proceeding because NRC must assure the public that the facility's current management encourages a safety-conscious attitude and must provide reasonable assurance that the facility can be safely operated; LBP-08-24, 68 NRC 691 (2008)

### SAFETY ISSUES

a finding of reasonable assurance that there will be adequate protection to the health and safety of the public is based on judgment, not on the application of a mechanical verbal formula, a set of objective standards, or specific confidence interval; LBP-08-25, 68 NRC 763 (2008)

a safety contention arising from a matter resolved in an early site permit proceeding is within the scope of a combined license proceeding that references the ESP if it concerns whether the site characteristics



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and design parameters or terms or conditions specified in the ESP have been met or a requested variance from the ESP is unwarranted or should be modified; LBP-08-15, 68 NRC 294 (2008)

a technically accurate projection of the time-limited aging analysis that predicts that the component will fail due to aging during the 20-year period of extended operation will not suffice; LBP-08-25, 68 NRC 763 (2008)

adequate aging management programs are both a required element of the license renewal application and a central finding that NRC must make before it can issue a license renewal; LBP-08-25, 68 NRC 763 (2008)

burden is on applicant to show that concrete in containment structures will maintain its integrity during the extended period of operations or to develop an aging management plan that ensures that any indication of degradation is detected and remediated; LBP-08-13, 68 NRC 43 (2008)

current licensing basis represents an evolving set of requirements and commitments for a specific plant that are modified as necessary over the life of a plant to ensure continuation of an adequate level of safety; LBP-08-25, 68 NRC 763 (2008)

during the license renewal term, the current licensing basis incorporates the CLB for the current license, including all licensee commitments, plus any new commitments to monitor, manage, and correct age-related degradation unique to license renewal; LBP-08-25, 68 NRC 763 (2008)

each application must contain an Integrated Plant Assessment for which specified components will demonstrate that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the current licensing basis for the period of extended operation; LBP-08-13, 68 NRC 43 (2008)

each license renewal application must contain an evaluation of time-limited aging analyses, a list of TLAAs, a demonstration relating to TLAAs, and the actual TLAAs; LBP-08-25, 68 NRC 763 (2008)

even if the time-limited aging analyses predict that the component will fail during the period of extended operation, a license renewal can still be granted if the applicant demonstrates that the effects of aging will be adequately managed during the period of extended operation; LBP-08-25, 68 NRC 763 (2008)

if a matter as presented is devoid of safety significance, there is no likelihood whatsoever that a materially different result would have been likely had the newly proffered evidence been considered initially; LBP-08-12, 68 NRC 5 (2008)

if the problem raised in a late-filed contention presents a sufficiently grave threat to public safety, a board should reopen the record to consider it even if it is not newly discovered and could have been raised in timely fashion; LBP-08-12, 68 NRC 5 (2008)

in evaluating metal fatigue, a component's cumulative usage factor is the fundamental parameter used to determine whether it will likely develop cracks during the license renewal period and thus is subject to an aging management plan; LBP-08-13, 68 NRC 43 (2008)

issues that were reviewed for the initial license and that have been closely monitored by NRC inspection during the license term need not be reviewed again in the context of a license renewal application; LBP-08-13, 68 NRC 43 (2008)

protection against a highly unlikely loss-of-coolant accident has long been an essential part of the defense-in-depth concept used by the nuclear power industry and the AEC to ensure the safety of nuclear power plants; LBP-08-12, 68 NRC 5 (2008)

safety issues other than age-related degradation may arise in connection with renewal that are not relevant to safety during the initial operating license term but, because of their plant-specific nature, must be addressed in renewals case by case; LBP-08-25, 68 NRC 763 (2008)

technical accuracy of the time-limited aging analyses is necessary, but not sufficient, to demonstrate that it remains valid because a technically accurate TLAA that shows that the component will fail during the period of extended operation does not satisfy 10 C.F.R. 54.21(c)(1)(i); LBP-08-25, 68 NRC 763 (2008)

the "demonstrations" mandated by 10 C.F.R. 54.21(c)(1)(i) and (ii) require that the time-limited aging analyses both be performed in a technically accurate manner and produce a prediction that the component will not fail due to aging during the period of extended operation; LBP-08-25, 68 NRC 763 (2008)

the licensing basis for a nuclear power plant during the renewal term consists of the current licensing basis together with new commitments to monitor, manage, and correct age-related degradation unique to license renewal; LBP-08-25, 68 NRC 763 (2008)

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the statutory conditions for grant of a license renewal are described; LBP-08-25, 68 NRC 763 (2008)  
under 10 C.F.R. 2.325, applicant has the burden of proving that it has met the reasonable assurance  
standard of 10 C.F.R. 54.29; LBP-08-25, 68 NRC 763 (2008)

### SAFETY REVIEW

claims about the adequacy of the Staff's review are not litigable in licensing proceedings; CLI-08-23, 68  
NRC 461 (2008)  
cracking of a nonsafety-related steam dryer could cause a release of loose parts that could have an  
adverse impact on safety-related equipment and thus it is within the scope of aging management review  
in a license renewal proceeding; LBP-08-25, 68 NRC 763 (2008)  
for operating license renewal, NRC review is based upon those potential detrimental effects of aging that  
are not routinely addressed by ongoing regulatory oversight programs; LBP-08-22, 68 NRC 590 (2008)  
if a structure or component is already required to be replaced at mandated, specified time periods, it  
would fall outside the scope of license renewal review; LBP-08-22, 68 NRC 590 (2008)  
it is neither possible nor necessary for the Staff to verify each and every factual assertion in complex  
license applications; CLI-08-23, 68 NRC 461 (2008)  
monitoring, and the installation of monitoring wells, is a matter for ongoing operation and maintenance,  
and not within the scope of matters properly considered in a license renewal; LBP-08-22, 68 NRC 590  
(2008)  
NRC Staff review for license renewals focuses on certain aging effects that would not reveal themselves  
through performance indicators associated with active functions; CLI-08-23, 68 NRC 461 (2008)  
NRC Staff's review of the safety-related aspects of each license renewal application focuses on the  
adequacy of the applicant's aging management programs and an evaluation of the applicant's  
time-limited aging analyses; LBP-08-25, 68 NRC 763 (2008)  
Staff's audit, or sampling, method of verifying a license renewal applicant's aging management programs,  
together with the other components of its review, enables the Staff to make the safety findings  
necessary for issuance of a renewed license; CLI-08-23, 68 NRC 461 (2008)

### SAFETY-RELATED

cracking of a nonsafety-related steam dryer could cause a release of loose parts that could have an  
adverse impact on safety-related equipment and thus it is within the scope of aging management review  
in a license renewal proceeding; LBP-08-25, 68 NRC 763 (2008)

### SANCTIONS

a licensing board is clearly authorized to dismiss a party who obstructs the discovery process, disobeys  
the board orders, and engages in willful, bad-faith, and prejudicial conduct toward another party;  
CLI-08-29, 68 NRC 899 (2008)  
dismissal due to counsel's malfeasance is a logical extension of the board's disciplinary authority to  
reprimand, censure, or suspend from a proceeding any party or representative who refuses to comply  
with its directions; CLI-08-29, 68 NRC 899 (2008)  
dismissal of a party falls within the spectrum of sanctions available to the boards to assist in the  
management of proceedings, although dismissal should be reserved for severe cases; CLI-08-29, 68  
NRC 899 (2008)  
sanctions have been imposed against a party seeking to file a written request for hearing only when that  
party has not followed established Commission procedures; LBP-08-18, 68 NRC 533 (2008);  
LBP-08-19, 68 NRC 545 (2008); LBP-08-20, 68 NRC 549 (2008)  
the Commission may reject an appeal summarily for violating NRC procedural regulations; CLI-08-17, 68  
NRC 231 (2008)

### SCHEDULE, BRIEFING

Commission has authority to issue case-specific orders modifying procedural regulations, including  
milestone schedules; CLI-08-18, 68 NRC 246 (2008)  
the Presiding Officer may grant extensions of time for individual milestones for the participants' filings,  
and may delay its own issuances for up to 30 days beyond the date of the milestone set in the hearing  
schedule; CLI-08-18, 68 NRC 246 (2008)

### SCHEDULING

hearing schedule milestones have been modified for the high-level-waste proceeding; CLI-08-25, 68 NRC  
497 (2008)

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### SECURITY

a senior plant supervisor's deliberate failure to contact the appropriate site security manager to initiate an assessment of the trustworthiness and reliability of two contract technicians who falsified a maintenance report is a violation; LBP-08-14, 68 NRC 279 (2008)

measures the NRC has imposed upon its licensees since September 11, 2001, and national anti-terrorist measures, coupled with the robust nature of spent fuel pools, make the probability of a successful terrorist attack, though numerically indeterminable, very low; LBP-08-21, 68 NRC 554 (2008)

### SECURITY CLEARANCES

high assurance must be provided that individuals granted unescorted access are trustworthy and reliable, and do not constitute an unreasonable risk to the public health and safety, including a potential to commit radiological sabotage; LBP-08-14, 68 NRC 279 (2008)

### SECURITY PLANS

hearings on alternate terrorist scenario claims could not be conducted in a meaningful way without substantial disclosure of classified and safeguards information on threat assessments and security arrangements and without substantial litigation over their significance; CLI-08-26, 68 NRC 509 (2008)

### SEISMIC ANALYSIS

adequacy of the analysis for the site found in the Final Safety Analysis Report is not a litigable issue; LBP-08-16, 68 NRC 361 (2008)

### SERVICE OF DOCUMENTS

a filing will be considered complete by electronic transmission when the filer performs the last act that it must perform to transmit a document, in its entirety, electronically; LBP-08-16, 68 NRC 361 (2008)

any ambiguity relative to the filing date for hearing requests arising from the language of the agency's hearing opportunity notice should be construed in favor of a participant who was seeking to comply with the notice; LBP-08-16, 68 NRC 361 (2008)

electronic production, filing, and service of all documents are required in the high-level waste proceeding; CLI-08-25, 68 NRC 497 (2008)

the language of the Commission's case-specific notice establishing 11:59 p.m. Eastern Standard Time as the filing time for hearing petitions controls over the agency's rule of general applicability for all cases that refers only to 11:59 p.m. Eastern Time; LBP-08-16, 68 NRC 361 (2008)

the time an E-Filing submission is received by the system server is not necessarily controlling relative to the timeliness of the filing; LBP-08-16, 68 NRC 361 (2008)

to be considered timely, a document must be submitted to the E-Filing system for docketing and service by 11:59 p.m. Eastern Time; LBP-08-16, 68 NRC 361 (2008)

### SEVERE ACCIDENT MITIGATION ALTERNATIVES ANALYSIS

petitioner is not required to redo SAMA analyses in order to raise a material issue; LBP-08-13, 68 NRC 43 (2008)

petitioner's assumption that, because it cannot check all SAMA analysis details, the analysis is incomplete or incorrect is mere speculation and is insufficient to support the admissibility of its contention; LBP-08-13, 68 NRC 43 (2008)

whether a SAMA must be analyzed in an environmental report hinges on whether it could potentially be cost-beneficial; LBP-08-13, 68 NRC 43 (2008)

### SHOW-CAUSE PROCEEDINGS

The proper vehicle to challenge the adequacy of the Updated Final Safety Analysis Report would be a section 2.206 petition, not a challenge to the license renewal; LBP-08-13, 68 NRC 43 (2008)

### SOURCE MATERIALS LICENSE AMENDMENT

proximity alone is not sufficient to establish standing for a petitioner's proximity to a source materials activity; LBP-08-24, 68 NRC 691 (2008)

### SPENT FUEL POOLS

fires are Category 1 environmental issues and therefore are addressed generically in the generic environmental impact statement for license renewals; LBP-08-13, 68 NRC 43 (2008)

petitioner's concerns regarding underground leakage of contaminated water from a crack in the spent fuel pool at Indian Point are addressed; DD-08-2, 68 NRC 339 (2008)

security and mitigation measures the NRC has imposed upon its licensees since September 11, 2001, and national anti-terrorist measures coupled with the robust nature of SFPs, make the probability of a successful terrorist attack, though numerically indeterminable, very low; LBP-08-21, 68 NRC 554 (2008)

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the National Environmental Policy Act does not require NRC to revisit matters related to high-density spent fuel pool coolant loss or other SFP events in combined license proceedings; LBP-08-21, 68 NRC 554 (2008)

### SPENT FUEL STORAGE

the waste confidence rule applies to the spent fuel discharged from any new generation of reactor designs; LBP-08-21, 68 NRC 554 (2008)

### STANDARD OF PROOF

to prevail on factual issues, the position must be supported by a preponderance of the evidence; CLI-08-26, 68 NRC 509 (2008)

### STANDARD OF REVIEW

a licensing board's review of a petition for standing is to avoid the familiar trap of confusing the standing determination with the assessment of a petitioner's case on the merits; LBP-08-24, 68 NRC 691 (2008)

the Commission gives substantial deference to board conclusions on standing and contention admissibility unless the appeal points to an error of law or abuse of discretion; CLI-08-17, 68 NRC 231 (2008)

where a party merely complains that the board improperly weighed the evidence and identifies no clear board factual or legal error requiring further Commission consideration on appellate review, the Commission is disinclined to second-guess the board's assessment of the party's affidavits; CLI-08-28, 68 NRC 658 (2008)

### STANDING TO INTERVENE

a board in one proceeding is not constrained to follow the rulings of another board absent explicit affirmation by the Commission; LBP-08-24, 68 NRC 691 (2008)

a determination that an injury is fairly traceable to the challenged action does not depend on whether the cause of the injury flows directly from the challenged action, but whether the chain of causation is plausible; LBP-08-24, 68 NRC 691 (2008)

a hearing must be held upon the request of any person whose interest may be affected by the proceeding; LBP-08-14, 68 NRC 279 (2008)

a licensing board's review of a petition for standing is to avoid the familiar trap of confusing the standing determination with the assessment of a petitioner's case on the merits; LBP-08-24, 68 NRC 691 (2008)

a state or local governmental entity that wishes to be a party in a proceeding that involves a facility located within its boundaries is automatically deemed to have standing; LBP-08-13, 68 NRC 43 (2008)

a union in one facility lacks standing to participate in other interrelated license transfer proceedings, given that the union did not represent employees at the other facilities; CLI-08-19, 68 NRC 251 (2008)

agencies should be accorded broad discretion in establishing and applying rules for public participation, including rules for determining which community representatives are to be allowed to participate; CLI-08-19, 68 NRC 251 (2008)

although the Commission customarily follows judicial concepts of standing, it is not bound to do so given that it is not an Article III court; CLI-08-19, 68 NRC 251 (2008); LBP-08-24, 68 NRC 691 (2008)

an interested governmental entity that has not been admitted as a party under section 2.309 must be provided a reasonable opportunity to participate in a hearing; LBP-08-21, 68 NRC 554 (2008)

any Native American treaty-based claims to ownership of the land upon which a mining site sits cannot support standing; LBP-08-24, 68 NRC 691 (2008)

because federal agencies are neither constrained by Article III nor governed by judicially created standing doctrines, the criteria for establishing administrative standing therefore may permissibly be less demanding than the criteria for judicial standing; LBP-08-24, 68 NRC 691 (2008)

boards are to construe intervention petitions in favor of the petitioners; LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008); LBP-08-21, 68 NRC 554 (2008)

courts' refusal to grant automatic standing to labor unions may lie in the fact that unions are formed to represent their members in collective bargaining and other employment-related negotiations, not in administrative or judicial litigation; CLI-08-19, 68 NRC 251 (2008)

damage to a nuclear power facility's reputation does not constitute a threatened injury to the interests of the Local's members who work at the facility; CLI-08-19, 68 NRC 251 (2008)

even if neither applicant nor NRC Staff challenges petitioner's standing, the board must make its own determination; LBP-08-15, 68 NRC 294 (2008)

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federal courts have long recognized the right of agencies to tailor their own standing requirements to fit their specific needs; CLI-08-19, 68 NRC 251 (2008)

general counsel for an Indian tribe is not required to submit a declaration stating the basis of his or her authority to represent the tribe; LBP-08-26, 68 NRC 905 (2008)

how the Commission determines proximity-based standing in license transfer cases is described; CLI-08-19, 68 NRC 251 (2008)

if petitioner fails to show that a particular licensing action raises an obvious potential for offsite consequences, then the standing inquiry reverts to a traditional standing analysis of whether the petitioner has made a specific showing of injury, causation, and redressability; CLI-08-19, 68 NRC 251 (2008)

if petitioner requests a remedy that is beyond the scope of the hearing, then the hearing request must be denied because redressability is an element of standing; LBP-08-14, 68 NRC 279 (2008)

in a case involving an enforcement order, the standing requirement is based on the confirmatory order itself, and petitioner must show that he will be adversely affected by the terms of the order; LBP-08-14, 68 NRC 279 (2008)

in an indirect license transfer case involving no change in the facility, its operation, licensees, personnel, or financing, petitioners living within 5-10 miles of the plant did not qualify for proximity-based standing; CLI-08-19, 68 NRC 251 (2008)

in cases involving possible construction or operation of a nuclear power reactor, proximity within a 50-mile radius of the proposed facility has been considered sufficient to establish the requisite standing elements; LBP-08-13, 68 NRC 43 (2008); LBP-08-15, 68 NRC 294 (2008); LBP-08-16, 68 NRC 361 (2008)

in determining whether a petitioner has met the requirements for standing, the board must construe the petition in favor of the petitioner; LBP-08-26, 68 NRC 905 (2008)

in determining whether an individual or organization should be granted party status in a proceeding based on standing "as of right," the agency applies contemporaneous judicial standing concepts; LBP-08-26, 68 NRC 905 (2008)

in license amendment cases, petitioner cannot base standing simply upon a residence or visits near the plant, unless the proposed action quite obviously entails an increased potential for offsite consequences; LBP-08-18, 68 NRC 533 (2008)

in power reactor license proceedings, proximity within 50 miles of a plant is often enough on its own to demonstrate standing; LBP-08-24, 68 NRC 691 (2008)

in reactor license proceedings, that zone of possible harm for proximity-based standing is generally deemed to constitute the areas within a 50-mile radius of the site; LBP-08-17, 68 NRC 431 (2008)

in ruling on a hearing request, a licensing board must determine whether petitioner has an interest potentially affected by the proceeding; LBP-08-15, 68 NRC 294 (2008)

in the high-level waste proceeding, the presiding officer shall consider the factors in 10 C.F.R. 2.309; CLI-08-25, 68 NRC 497 (2008)

intervention petitioners are not required to demonstrate their asserted injury with certainty or to provide extensive technical studies in support of their standing argument; LBP-08-24, 68 NRC 691 (2008)

it is unlikely that petitioners will often obtain hearings on confirmatory enforcement orders; LBP-08-14, 68 NRC 279 (2008)

judicial concepts of standing are applied in NRC proceedings; LBP-08-13, 68 NRC 43 (2008); LBP-08-14, 68 NRC 279 (2008); LBP-08-15, 68 NRC 294 (2008); LBP-08-16, 68 NRC 361 (2008); LBP-08-18, 68 NRC 533 (2008)

judicial concepts of standing require a showing that petitioner has suffered or will suffer palpable harm that constitutes an injury in fact, the injury can fairly be traced to the challenged action, and the injury is likely to be redressed by a favorable decision; LBP-08-13, 68 NRC 43 (2008); LBP-08-14, 68 NRC 279 (2008); LBP-08-15, 68 NRC 294 (2008); LBP-08-16, 68 NRC 361 (2008)

mere conclusory allegations about potential harm to petitioner or others is insufficient to confer standing; LBP-08-24, 68 NRC 691 (2008)

petitioner does not have standing to assert rights of employees or caretakers on her land where caretakers are not minors or otherwise legally incapable of representing their own interests; LBP-08-18, 68 NRC 533 (2008)

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petitioner may have standing based upon its geographical proximity to a particular facility; LBP-08-26, 68 NRC 905 (2008)

petitioner must meet the prudential standing requirement by showing that the asserted interest arguably falls within the zone of interests protected by the governing law; LBP-08-15, 68 NRC 294 (2008)

petitioner must provide basic information supporting its claim to standing in order to satisfy the requirements of 10 C.F.R. 2.309(d)(1)(ii)-(iv); LBP-08-13, 68 NRC 43 (2008)

petitioner's proximity to the pertinent facility triggers a presumption that it has standing to intervene without the need to specifically plead injury, causation, and redressability if the petitioner lives within, or otherwise has frequent contacts with, the zone of possible harm; LBP-08-15, 68 NRC 294 (2008); LBP-08-17, 68 NRC 431 (2008); LBP-08-26, 68 NRC 905 (2008)

petitioners in direct license transfer cases who qualified for proximity-based standing lived within a 5-1/2-mile radius of their plant; CLI-08-19, 68 NRC 251 (2008)

petitioners who rely on water supplies adjacent to a mining site have a right to a hearing; LBP-08-24, 68 NRC 691 (2008)

preservation of cultural traditions is a protected interest under federal law, and its endangerment or harm qualifies as an injury for the purposes of establishing standing; LBP-08-24, 68 NRC 691 (2008)

procedural violations of the National Historic Preservation Act have resulted in a grant of standing to tribes; LBP-08-24, 68 NRC 691 (2008)

proximity alone is not sufficient to establish standing for a petitioner's proximity to a source materials activity; LBP-08-24, 68 NRC 691 (2008)

proximity standing rests on the presumption that an accident associated with the nuclear facility could adversely affect the health and safety of people working, living, or regularly engaging in activities offsite but within a certain distance of that facility; CLI-08-19, 68 NRC 251 (2008)

state and local governmental bodies in which the geologic repository operations area is located and any affected federally recognized Indian tribe need not address the standing requirements; CLI-08-25, 68 NRC 497 (2008)

the person who has been accorded a procedural right to protect his concrete interests can assert that right without meeting all the normal standards for redressability and immediacy; LBP-08-24, 68 NRC 691 (2008)

the presiding officer must assess a petition to intervene even if there are no objections to a petitioner's standing; LBP-08-16, 68 NRC 361 (2008)

the proximity presumption applies in proceedings for nuclear power plant construction permits, operating licenses, or significant amendments thereto; LBP-08-13, 68 NRC 43 (2008); LBP-08-15, 68 NRC 294 (2008)

the proximity presumption extends to petitioners living in or having frequent contacts with an area within a 50-mile radius of a nuclear reactor; LBP-08-18, 68 NRC 533 (2008)

the role of "private attorney general" is not contemplated under the Atomic Energy Act; CLI-08-19, 68 NRC 251 (2008)

to demonstrate standing, petitioner must identify an interest in the proceeding and specify the facts pertaining to that interest; CLI-08-19, 68 NRC 251 (2008)

to determine whether petitioner has an interest potentially affected by a proceeding, the licensing board considers the nature of the petitioner's right under the Atomic Energy Act to be made a party, the nature and extent of petitioner's property, financial, or other interest in the proceeding, and the possible effect of any decision or order on petitioner's interest; LBP-08-14, 68 NRC 279 (2008)

to establish an injury in fact, a party merely has to show some threatened concrete interest personal to the party that the National Historic Preservation Act was designed to protect; LBP-08-24, 68 NRC 691 (2008)

to the extent contaminants can plausibly migrate from leach mining operations to the aquifer from which a petitioner obtains his or her water, a petitioner would have a claim of a cognizable injury and could be accorded standing; LBP-08-24, 68 NRC 691 (2008)

unless a proposed action involves obvious potential for offsite consequences, such as with construction or operation of reactor or certain major alterations to facility, petitioner must allege some specific injury in fact that will result from the action taken; LBP-08-18, 68 NRC 533 (2008)

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vague assertions of possible harm do not amount to a showing of concrete and particularized injury to petitioner's interests that is actual or imminent, not conjectural or hypothetical; LBP-08-18, 68 NRC 533 (2008)

where a petitioner is accorded standing in one proceeding, that petitioner need not make a separate demonstration of standing in another proceeding regarding that same facility and the same parties; LBP-08-24, 68 NRC 691 (2008)

### STANDING TO INTERVENE, ORGANIZATIONAL

an organization seeking to intervene in its own right must demonstrate a palpable injury in fact to its organizational interests that is within the zone of interests protected by the Atomic Energy Act or the National Environmental Policy Act; LBP-08-24, 68 NRC 691 (2008); LBP-08-26, 68 NRC 905 (2008) for an organizational petitioner to establish standing, it must show immediate or threatened injury to either its organizational interests or to the interest of identified members; LBP-08-24, 68 NRC 691 (2008)

petitioner must show some risk of discrete institutional injury to itself, other than the general environmental and policy interests of the sort repeatedly found insufficient for organizational standing; CLI-08-19, 68 NRC 251 (2008); LBP-08-13, 68 NRC 43 (2008); LBP-08-15, 68 NRC 294 (2008) petitioner's status as an anti-nuclear advocate and a source of information for its community is insufficient, without more, to qualify it for organizational standing; CLI-08-19, 68 NRC 251 (2008)

### STANDING TO INTERVENE, REPRESENTATIONAL

a member must qualify for standing in his or her own right, the interests that the organization seeks to protect must be germane to its own purpose, and neither petitioner's contentions nor the requested relief must require an individual member to participate in the proceeding; CLI-08-19, 68 NRC 251 (2008); LBP-08-15, 68 NRC 294 (2008); LBP-08-17, 68 NRC 431 (2008)

an affidavit supporting representational standing must describe precisely how the affiant is aggrieved, whether based on employment, residence, or activities; CLI-08-19, 68 NRC 251 (2008)

an entity seeking to intervene on behalf of its members must show it has an individual member who can fulfill all the necessary standing elements and who has authorized the organization to represent his or her interests; LBP-08-16, 68 NRC 361 (2008)

an organization must demonstrate that the licensing action will affect at least one of its members, identify the member by name and address, demonstrate that the member has standing, and show that the organization is authorized to request a hearing on that member's behalf; LBP-08-24, 68 NRC 691 (2008); LBP-08-26, 68 NRC 905 (2008)

authorization affidavits for representational standing may not be filed with a reply; CLI-08-19, 68 NRC 251 (2008)

if none of the affidavits submitted in support of a hearing request indicate that an organization seeking to intervene represents the interests of the submitter, the organization has failed to establish it has standing; LBP-08-16, 68 NRC 361 (2008)

in ruling on standing, NRC cannot automatically assume that an organization member necessarily considers him- or herself potentially aggrieved by a particular outcome of the proceeding; CLI-08-19, 68 NRC 251 (2008)

neither the asserted claim nor the requested relief must require an individual member to participate in the organization's legal action; CLI-08-19, 68 NRC 251 (2008)

organization must identify a member by name and address, show how that member would be affected by the licensing action, and demonstrate that the member has authorized the organization to request a hearing on his or her behalf; CLI-08-19, 68 NRC 251 (2008); LBP-08-13, 68 NRC 43 (2008); LBP-08-15, 68 NRC 294 (2008); LBP-08-17, 68 NRC 431 (2008)

petitioner may not claim standing based on vague assertions, and when that fails, attempt to repair the defective pleading with fresh details offered for the first time in a petition for reconsideration; CLI-08-19, 68 NRC 251 (2008)

requirements apply to labor unions; CLI-08-19, 68 NRC 251 (2008)

the principle regarding the representational standing of unions is also applicable of public interest groups, who also, in significant part, exist to represent the interests of their members; CLI-08-19, 68 NRC 251 (2008)

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### STATE GOVERNMENT

a state or local governmental entity that wishes to be a party in a proceeding that involves a facility located within its boundaries is automatically deemed to have standing; LBP-08-13, 68 NRC 43 (2008)  
the Commission shall permit intervention by the state governmental body in which the geologic repository operations area is located if the contention requirements in 10 C.F.R. 2.309(f) are satisfied with respect to at least one contention; CLI-08-25, 68 NRC 497 (2008)

### STATE STATUTES

a contention that involves an issue of state law is outside the scope of a materials license renewal proceeding; LBP-08-24, 68 NRC 691 (2008)

### STATUTES

adjudication is not the proper forum for challenging applicable statutory requirements or the basic structure of the agency's regulatory process; LBP-08-16, 68 NRC 361 (2008); LBP-08-17, 68 NRC 431 (2008)

See also Atomic Energy Act; Energy Policy Act of 1992; Federal Food, Drug, and Cosmetic Act; National Environmental Policy Act

### STATUTORY CONSTRUCTION

the "direct participation of local citizens in nuclear reactor licensing" is not a right to have all legal arguments on contention admissibility take place near the facility at issue, but rather the right of persons with standing to file contentions in licensing proceedings and litigate admissible contentions; LBP-09-23, 68 NRC 679 (2008)

the doctrine of *expressio unis est exclusio alterius* instructs that where a law expressly describes a particular situation to which it shall apply, what was omitted or excluded was intended to be omitted or excluded; LBP-08-24, 68 NRC 691 (2008)

the specific prevails over the general; CLI-08-26, 68 NRC 509 (2008)

### STAY

participants in ongoing adjudicatory proceedings that have filed a rulemaking petition should be provided an opportunity to seek a stay of the adjudication pending a resolution of the rulemaking petition; LBP-08-16, 68 NRC 361 (2008)

### STEAM DRYER

cracking of a dryer could cause a release of loose parts that could have an adverse impact on safety-related equipment and thus it is within the scope of aging management review in a license renewal proceeding; LBP-08-25, 68 NRC 763 (2008)

### SUBPART G PROCEDURES

a board would only be allowed to choose a Subpart G hearing process if issues of motive or intent of the party or eyewitness material to the resolution of the contested matter are in dispute; LBP-08-24, 68 NRC 691 (2008)

petitioner requesting a Subpart G hearing must demonstrate, by reference to the contention and the bases provided and the specific procedures in Subpart G of Part 2, that resolution of the contention necessitates resolution of material issues of fact which may be best determined through the use of the identified procedures; LBP-08-24, 68 NRC 691 (2008)

### SUBPART J PROCEEDINGS

the general rule on amicus briefs, 10 C.F.R. 2.315(d), as a formal matter applies only to petitions for review filed under section 2.341 or to matters taken up by the Commission *sua sponte*, not to appeals filed under section 2.1015; CLI-08-22, 68 NRC 355 (2008)

the Licensing Support Network functions as a mechanism for early collection of all extant documents that normally would be collected later through traditional discovery; CLI-08-22, 68 NRC 355 (2008)

### SUBPART K PROCEDURES

the Commission's rules in 10 C.F.R. 2.1113 do not provide for supplementing Subpart K presentations; CLI-08-26, 68 NRC 509 (2008)

the presiding officer is allowed to resolve factual and legal disputes in spent fuel storage controversies, including disagreements between experts, on the basis of a brief discovery period and written submissions and oral argument without a full trial-type evidentiary hearing; CLI-08-26, 68 NRC 509 (2008)



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### SUBPART L PROCEDURES

a board has discretion to allow parties to cross-examine witnesses in Subpart L proceedings if the board deems this practice necessary to establish an adequate record; LBP-08-24, 68 NRC 691 (2008)

in conducting Subpart L hearings, board members pose questions to the parties' witnesses in those areas that, in the board's judgment, require additional clarification and development; LBP-08-22, 68 NRC 590 (2008)

parties may file motions with the board to request cross-examination if they choose; LBP-08-24, 68 NRC 691 (2008)

### SUMMARY DISPOSITION

summary disposition standards are not applicable to and do not replace the standards applicable to motions to reopen; CLI-08-28, 68 NRC 658 (2008)

### SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

contentions relating to the conclusions that the NRC Staff reaches in its NEPA analysis with regard to the environmental impacts from radiological releases to groundwater must await future publication of its SEIS; LBP-08-13, 68 NRC 43 (2008)

### SUSPENSION OF PROCEEDING

although NRC regulations do not provide for a motion to suspend a proceeding, the Commission has considered similar requests in the exercise of its inherent supervisory powers over proceedings; CLI-08-23, 68 NRC 461 (2008)

this drastic action is not warranted absent immediate threats to public health and safety; CLI-08-23, 68 NRC 461 (2008)

### TERRORISM

a NEPA analysis is not the vehicle for exploring questions about the potential for a terrorist attack on a proposed nuclear facility; LBP-08-16, 68 NRC 361 (2008)

hearings on alternative terrorist scenario claims could not be conducted in a meaningful way without substantial disclosure of classified and safeguards information on threat assessments and security arrangements and without substantial litigation over their significance; CLI-08-26, 68 NRC 509 (2008)

NEPA imposes no legal duty on the NRC to consider intentional malevolent acts on a case-by-case basis in conjunction with commercial power reactor license renewal applications; LBP-08-13, 68 NRC 43 (2008)

security and mitigation measures the NRC has imposed upon its licensees since September 11, 2001, and national anti-terrorist measures, coupled with the robust nature of SFPs, make the probability of a successful terrorist attack, though numerically indeterminable, very low; LBP-08-21, 68 NRC 554 (2008)

the National Environmental Policy Act does not require NRC to revisit matters related to high-density spent fuel pool coolant loss or other SFP events in combined license proceedings; LBP-08-21, 68 NRC 554 (2008)

the National Environmental Policy Act does not require the analysis of potential terrorist attacks on a proposed nuclear facility; LBP-08-21, 68 NRC 554 (2008)

### THERMAL DISCHARGE IMPACTS

applicant is required to provide in its environmental report a site-specific analysis of entrainment, impingement, and heat shock/thermal discharge impacts from its once-through cooling systems; LBP-08-13, 68 NRC 43 (2008)

### TIME LIMITED AGING ANALYSES

a technically accurate projection of the time-limited aging analysis that predicts that the component will fail due to aging during the 20-year period of extended operation will not suffice; LBP-08-25, 68 NRC 763 (2008)

allowing applicant to postpone performance of an analysis-of-record time-limited aging analysis until after the license renewal is issued is inconsistent with the language, structure, and intent of the Part 54 regulations and inconsistent with NRC precedent; LBP-08-25, 68 NRC 763 (2008)

analysis of metal fatigue that ignores the known and substantial effects of the light-water reactor environment is insufficient, as both a technical and a legal matter; LBP-08-25, 68 NRC 763 (2008)

applicant's use of a conservative number of transients in the calculations of the environmentally adjusted cumulative usage factor is adequate to provide the degree of assurance required by 10 C.F.R. 54.29(a); LBP-08-25, 68 NRC 763 (2008)

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- as the threshold parameter of the TLAA for metal fatigue, applicant must complete the analysis of the cumulative usage factors for the license renewal period and include the results in the license renewal application; LBP-08-13, 68 NRC 43 (2008)
- each license renewal application must contain an evaluation of TLAAs, a list of TLAAs, a demonstration relating to TLAAs, and the actual TLAAs; LBP-08-25, 68 NRC 763 (2008)
- each license renewal application must demonstrate that the time-limited aging analyses remain valid for the period of extended operation, have been projected to the end of the period of extended operation, or that the effects of aging on the intended function(s) will be adequately managed for the period of extended operation; LBP-08-25, 68 NRC 763 (2008)
- even if the TLAAs predict that the component will fail during the period of extended operation, a license renewal can still be granted if applicant demonstrates that the effects of aging will be adequately managed during the PEO; LBP-08-25, 68 NRC 763 (2008)
- if applicant's metal fatigue analyses on Class I components do not comply with the ASME Code and do not provide reasonable assurance as required by 10 C.F.R. 54.21(c)(1) and 54.29(a), then a license renewal cannot be issued; LBP-08-25, 68 NRC 763 (2008)
- NRC Staff's guidance document NUREG/CR-6909, which prescribes guidance on the calculation of metal fatigue on reactor components in a light water reactor environment, is built upon a larger and more recent database than NUREG/CR-5704 and -6583 but use of the earlier NUREGs is sufficient; LBP-08-25, 68 NRC 763 (2008)
- section 54.21(c)(1)(i)-(iii) requires that the applicant make its demonstration that the effects of aging will be adequately managed during the period of extended operation in the application, which is necessarily before the license may be granted; LBP-08-25, 68 NRC 763 (2008)
- technical accuracy of the time-limited aging analyses is necessary, but not sufficient, to demonstrate that it remains valid because a technically accurate TLAA that shows that the component will fail during the period of extended operation does not satisfy 10 C.F.R. 54.21(c)(1)(i); LBP-08-25, 68 NRC 763 (2008)
- the "demonstrations" mandated by 10 C.F.R. 54.21(c)(1)(i) and (ii) require that the TLAAs both be performed in a technically accurate manner and produce a prediction that the component will not fail due to aging during the period of extended operation; LBP-08-25, 68 NRC 763 (2008)
- the differences between predictive and tracking TLAAs is discussed; LBP-08-25, 68 NRC 763 (2008)
- the statutory conditions for grant of a license renewal are described; LBP-08-25, 68 NRC 763 (2008)
- use of a simplified Green's function methodology for the environmentally adjusted cumulative usage factor metal fatigue analyses for the core spray and reactor recirculation outlet nozzles is inconsistent with the ASME Code and thus cannot serve as the analysis-of-record and does not satisfy the requirements of 10 C.F.R. 54.21(c)(1) or 54.29(a); LBP-08-25, 68 NRC 763 (2008)
- TREATIES**
- licensing boards are required to reject treaty-based claims of ownership by Native American tribes; LBP-08-24, 68 NRC 691 (2008)
- plenary authority over the tribal relations of the Indians has been exercised by Congress from the beginning, and the power has always been deemed a political one, not subject to be controlled by the judicial department of the government; LBP-08-24, 68 NRC 691 (2008)
- TRUST RELATIONSHIP DOCTRINE**
- trust responsibility imposes a fiduciary duty on NRC, as a federal agency, to Indian tribes and their members; LBP-08-24, 68 NRC 691 (2008)
- UNCONTESTED ISSUES**
- the presiding officer has no authority or duty to resolve uncontested issues in the high-level waste proceeding; CLI-08-25, 68 NRC 497 (2008)
- UNIONS**
- See Labor Unions
- UPDATED FINAL SAFETY ANALYSIS REPORT**
- adequacy of the UFSAR and compliance with the current licensing basis are outside the scope of license renewal proceedings; LBP-08-13, 68 NRC 43 (2008)

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### URANIUM

contention that worldwide uranium supplies will be inadequate to permit the anticipated power production benefits during the license term is potentially material to the licensing proceeding; LBP-08-15, 68 NRC 294 (2008)

petitioner's failure to cite any document that, read as a whole, supports its theory that uranium supplies will be insufficient to support operation of a reactor unit during its licensed period renders it inadmissible; LBP-08-16, 68 NRC 361 (2008)

See also Depleted Uranium

### URANIUM FUEL CYCLE

inadequacy of environmental report's reliance on Table S-3 regarding radioactive effluents from the uranium fuel cycle is not litigable in a combined license proceeding; LBP-08-16, 68 NRC 361 (2008)

### URANIUM MINING AND MILLING

allegations that mining activities may cause harm to public health and safety are within the scope of a materials license renewal proceeding and material to the findings the NRC must make; LBP-08-27, 68 NRC 951 (2008)

proximity alone is not sufficient to establish standing for a petitioner's proximity to a source materials activity; LBP-08-24, 68 NRC 691 (2008)

### VIOLATIONS

a senior plant supervisor's deliberate failure to contact the appropriate site security manager in order to initiate an assessment of the trustworthiness and reliability of the two contract technicians who falsified a maintenance report is a violation; LBP-08-14, 68 NRC 279 (2008)

failure to document a falsified work order is a violation of 10 C.F.R. 50.9; LBP-08-14, 68 NRC 279 (2008)

### WAIVER OF RULE

absent a waiver pursuant to 10 C.F.R. 2.335, any challenge brought to aspects of a referenced certified reactor design is outside the scope of a combined operating license proceeding; LBP-08-16, 68 NRC 361 (2008)

absent a waiver pursuant to 10 C.F.R. 2.335, Category 1 issues cannot be addressed in a license renewal proceeding; LBP-08-13, 68 NRC 43 (2008)

absent a waiver pursuant to 10 C.F.R. 2.335, no rule or regulation of the Commission is subject to attack in any adjudicatory proceeding; LBP-08-17, 68 NRC 431 (2008)

as a general matter, a board ruling denying a waiver request is interlocutory in nature, and therefore not appealable until the board has issued a final decision resolving the case; CLI-08-27, 68 NRC 655 (2008)

request for waiver is required for contentions that challenges the Commission's regulations; LBP-08-21, 68 NRC 554 (2008)

requests must be accompanied by an affidavit that identifies with particularity the special circumstances alleged to justify the waiver or exception requested; LBP-08-17, 68 NRC 431 (2008)

the sole ground for petition of waiver or exception is that special circumstances with respect to the subject matter of the particular proceeding are such that the application of the rule or regulation would not serve the purposes for which the rule or regulation was adopted; LBP-08-17, 68 NRC 431 (2008)

to challenge a generic determination in a license renewal proceeding, petitioner must seek and receive a waiver; LBP-08-26, 68 NRC 905 (2008)

when considering whether to undertake pendent appellate review of otherwise unappealable issues, the Commission has expressed a willingness to take up otherwise unappealable issues that are "inextricably intertwined" with appealable issues; CLI-08-27, 68 NRC 655 (2008)

### WASTE CONFIDENCE RULE

challenges are inadmissible in licensing proceedings; LBP-08-17, 68 NRC 431 (2008)

if petitioners are dissatisfied with the Commission's generic approach to a problem, their remedy lies in the rulemaking process, not in adjudication; LBP-09-23, 68 NRC 679 (2008)

the Commission has made a determination, on a generic basis, that spent fuel generated by any reactor can be safely managed and that sufficient repository capacity will be available; LBP-08-17, 68 NRC 431 (2008)

the rule applies to the spent fuel discharged from any new generation of reactor designs; LBP-08-21, 68 NRC 554 (2008)

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the rule is applicable to all new reactor proceedings, and contentions challenging the rule or seeking its reconsideration are not admissible; LBP-08-16, 68 NRC 361 (2008)

### WASTE DISPOSAL

because disposal of Greater-Than-Class-C waste is the responsibility of the federal government, the disposal of GTCC radioactive waste is not directly affected by the partial closure of the Barnwell disposal facility and so is not an admissible aspect of a contention; LBP-08-16, 68 NRC 361 (2008)  
further inquiry is warranted into the safety-related matter of whether the Final Safety Analysis Report has failed to include necessary information concerning applicant's plans for onsite management of Class B and C waste; LBP-08-16, 68 NRC 361 (2008)  
whether applicant might someday require a permit under 10 C.F.R. Part 61 for a disposal facility is too speculative and therefore not material to the findings the NRC must make to support the action that is involved; LBP-08-16, 68 NRC 361 (2008)

### WATER POLLUTION

to the extent contaminants can plausibly migrate from leach mining operations to the aquifer from which a petitioner obtains his or her water, a petitioner would have a claim of a cognizable injury and could be accorded standing; LBP-08-24, 68 NRC 691 (2008)

### WITNESSES, EXPERT

neither mere speculation nor bare or conclusory assertions, even by an expert, alleging that a matter should be considered will suffice to allow the admission of a proffered contention; LBP-08-16, 68 NRC 361 (2008)  
when specialists express conflicting views, an agency must have discretion to rely on the reasonable opinions of its own qualified experts; CLI-08-26, 68 NRC 509 (2008)

### ZONE OF INTERESTS

the breadth of the applicable zone of interests will vary according to the particular statutory provisions at issue; LBP-08-24, 68 NRC 691 (2008)  
to determine whether an interest is in the zone of interests of a statute, it is necessary first to discern the interests arguably to be protected by the statutory provision at issue, and then to inquire whether the petitioner's interests affected by the agency action are among them; LBP-08-24, 68 NRC 691 (2008)

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HIGH-LEVEL WASTE REPOSITORY; Docket No. 63-001  
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CLI-08-22, 68 NRC 355 (2008)

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DD-08-2, 68 NRC 339 (2008)

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SHEARON HARRIS NUCLEAR POWER PLANT, Units 2 and 3; Docket Nos. 52-022-COL, 52-023-COL  
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