UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	Docket Nos. 52-012-COL
	)	52-013-COL
STP NUCLEAR OPERATING COMPANY	)	
	)	
(South Texas Project Units 3 and 4)	)	May 18, 2009

STP NUCLEAR OPERATING COMPANY'S ANSWER OPPOSING PETITION FOR INTERVENTION AND REQUEST FOR HEARING

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I. INTRODUCTION

In accordance with 10 C.F.R. § 2.309(h), STP Nuclear Operating Company ("STPNOC" or "Applicant") hereby files this Answer to the Petition for Intervention and Request for Hearing ("Petition") filed on April 21, 2009, by the Sustainable Energy and Economic Development Coalition ("SEED"), Susan Dancer, the South Texas Association for Responsible Energy, Daniel A. Hickl, Public Citizen, and Bill Wagner (collectively, "Petitioners").[1] The Petition responds to the U.S. Nuclear Regulatory Commission ("NRC" or "Commission") "Notice of Order, Hearing, and Opportunity to Petition for Leave to Intervene," published in the *Federal Register* on February 20, 2009 (74 Fed. Reg. 7934) ("Hearing Notice") concerning STPNOC's application for combined licenses ("COLs") to construct and operate two Advanced Boiling Water Reactors ("ABWRs") at the South Texas Project ("STP") site, located in Matagorda County, Texas.

[1] STPNOC filed the application on behalf of the joint applicants for STP Units 3 and 4, including NRG South Texas 3 LLC, NRG South Texas 4 LLC, and the City of San Antonio, Texas, acting by and through the City Public Service Board ("CPS Energy").

As discussed below, Petitioners have not satisfied the Commission's requirements to intervene in this matter, having failed to proffer at least one admissible contention. Therefore, pursuant to 10 C.F.R. § 2.309, the Petition should be denied.

II. BACKGROUND

On September 20, 2007, STPNOC submitted an application to the NRC for COLs for STP Units 3 and 4 ("COLA").[2] The NRC accepted the application for docketing on November 29, 2007, and published the current Hearing Notice on February 20, 2009.[3] The Hearing Notice stated that any person whose interest may be affected by this proceeding and who wishes to participate as a party must file a petition for leave to intervene within 60 days of the notice (*i.e.*, April 21, 2009) in accordance with 10 C.F.R. § 2.309.[4] Petitioners filed the instant Petition on April 21, 2009.

To be admitted as a party to this proceeding, Petitioners must demonstrate standing and submit at least one admissible contention.[5] STPNOC does not object to Petitioners' standing in this proceeding. As discussed in Section III below, however, Petitioners have not submitted any admissible contentions. Therefore, the Petition should be denied in its entirety.

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2 South Texas Project Nuclear Operating Company; Notice of Receipt and Availability of Application for a Combined License, 72 Fed. Reg. 60,394 (Oct. 24, 2007).

3 South Texas Project Nuclear Operating Company; Acceptance for Docketing of an Application for Combined License for South Texas Project Units 3 and 4, 72 Fed. Reg. 68,597 (Dec. 5, 2007); Hearing Notice, 74 Fed. Reg. at 7934.

4 Hearing Notice, 74 Fed. Reg. at 7935.

5 *See* 10 C.F.R. § 2.309(a).

III. PETITIONERS HAVE NOT PROFFERED AN ADMISSIBLE CONTENTION

A. Applicable Legal Standards and Relevant NRC Precedent

To intervene in an NRC licensing proceeding, a petitioner must propose at least one admissible contention.[6] Under 10 C.F.R. § 2.309(f)(1), a hearing request "must set forth with particularity the contentions sought to be raised." In addition, that section specifies that each 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; and (6) provide sufficient information to show that a genuine dispute exists with regard to a material issue of law or fact.[7]

The purpose of these six criteria is to "focus litigation on concrete issues and result in a clearer and more focused record for decision."[8] The NRC will deny a petition to intervene and request for hearing from a petitioner who has standing but has not proffered at least one admissible contention.[9] 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."[10]

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6 *Id.*

7 *See id.* § 2.309(f)(1)(i)-(vi). The seventh contention admissibility requirement—10 C.F.R. § 2.309(f)(1)(vii)—is only applicable in proceedings arising under 10 C.F.R. § 52.103(b) and, therefore, has no bearing on the admissibility of Petitioners' proposed contentions in this proceeding.

8 Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004).

9 *Fla. Power & Light Co.* (Turkey Point Nuclear Power Plant, Units 3 & 4), CLI-01-17, 54 NRC 3, 26 (2001).

10 Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. at 2202.

The Commission's rules on contention admissibility are "strict by design."[11] The rules were "toughened . . . in 1989 because in prior years 'licensing boards had admitted and litigated numerous contentions that appeared to be based on little more than speculation.'"[12] As the Commission has stated:

> Nor does our practice permit "notice pleading," with details to be filled in later. Instead, we require parties to come forward at the outset with sufficiently detailed grievances to allow the adjudicator to conclude that genuine disputes exist justifying a commitment of adjudicatory resources to resolve them.[13]

Furthermore, the failure to comply with any one of the six admissibility criteria is grounds for rejecting a proposed contention.[14]

The legal standards governing each of the six pertinent criteria from 10 C.F.R. § 2.309(f)(1) are discussed below.

1. Petitioners Must Specifically State the Issue of Law or Fact to Be Raised

A petitioner must provide "a specific statement of the issue of law or fact to be raised or controverted."[15] The petitioner must "articulate at the outset the specific issues [it] wish[es] to litigate as a prerequisite to gaining formal admission as [a party]."[16] Namely, an "admissible contention must explain, with specificity, particular safety or legal reasons requiring rejection of

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[11] *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), CLI-01-24, 54 NRC 349, 358 (2001) (citing *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, & 3), CLI-99-11, 49 NRC 328, 334 (1999)).

[12] *Millstone*, CLI-01-24, 54 NRC at 358 (citing *Oconee*, CLI-99-11, 49 NRC at 334).

[13] *N. Atlantic Energy Serv. Corp.* (Seabrook Station, Unit 1), CLI-99-6, 49 NRC 201, 219 (1999).

[14] *See* Final Rule, Changes to Adjudicatory Process, 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).

[15] 10 C.F.R. § 2.309(f)(1)(i).

[16] *Oconee*, CLI-99-11, 49 NRC at 338.

the contested [application]."[17] The contention rules "bar contentions where petitioners have only 'what amounts to generalized suspicions, hoping to substantiate them later.'"[18]

2. Petitioners Must Briefly Explain the Basis for the Contention

A petitioner must provide "a brief explanation of the basis for the contention."[19] This includes "sufficient foundation" to "warrant further exploration."[20] The petitioner's explanation serves to define the scope of a contention, as "[t]he reach of a contention necessarily hinges upon its terms coupled with its stated bases."[21] Licensing boards, however, must determine the admissibility of the contention itself, not the admissibility of individual "bases."[22]

As the Commission has observed, "[i]t is the responsibility of the Petitioner to provide the necessary information to satisfy the basis requirement for the admission of its contentions and demonstrate that a genuine dispute exists within the scope of [the] proceeding."[23] In other words, "[a] contention's proponent, not the licensing board, is responsible for formulating the contention and providing the necessary information to satisfy the basis requirement for the admission of contentions."[24]

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17 *Millstone*, CLI-01-24, 54 NRC at 359-60.

18 *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-03-17, 58 NRC 419, 424 (2003) (quoting *Oconee*, CLI-99-11, 49 NRC at 337-39).

19 10 C.F.R. § 2.309(f)(1)(ii); *see* Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,168 (Aug. 11, 1989).

20 *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), ALAB-942, 32 NRC 395, 428 (1990) (citation omitted).

21 *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), ALAB-899, 28 NRC 93, 97 (1988), *aff'd sub nom.*, *Massachusetts v. NRC*, 924 F.2d 311 (D.C. Cir. 1991).

22 *See La. Energy Servs., L.P.* (National Enrichment Facility), LBP-04-14, 60 NRC 40, 57 (2004) ("licensing boards generally are to litigate 'contentions' rather than 'bases'") (citation omitted).

23 *Balt. Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 & 2), CLI-98-14, 48 NRC 39, 41 (1998).

24 *Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC 18, 22 (1998).

3. Contentions Must Be Within the Scope of the Proceeding

A petitioner must demonstrate "that the issue raised in the contention is within the scope of the proceeding."[25] The scope of the proceeding is defined by the Commission's notice of opportunity for a hearing.[26] Moreover, contentions are necessarily limited to issues that are germane to the specific application pending before the board.[27] Any contention that falls outside the specified scope of the proceeding must be rejected.[28]

A contention that challenges an NRC rule is outside the scope of the proceeding because, absent a waiver, "no rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding."[29] Furthermore, a contention that raises a matter that is, or is about to become, the subject of a rulemaking, is also outside the scope of this proceeding.[30] This includes contentions that advocate stricter requirements than agency rules impose or that otherwise seek to litigate a generic determination established by a Commission rulemaking.[31]

Similarly, any contention that collaterally attacks applicable statutory requirements or the basic structure of the NRC regulatory process must be rejected by the board as outside the scope

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25 10 C.F.R. § 2.309(f)(1)(iii).

26 *See Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), ALAB-825, 22 NRC 785, 790-91 (1985).

27 *See Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 204 (1998).

28 *See Portland Gen. Elec. Co.* (Trojan Nuclear Plant), ALAB-534, 9 NRC 287, 289 n.6 (1979).

29 10 C.F.R. § 2.335(a).

30 *See Oconee*, CLI-99-11, 49 NRC at 345 (citing *Potomac Elec. Power Co.* (Douglas Point Nuclear Generating Station, Units 1 & 2), ALAB-218, 8 AEC 79, 85 (1974)). *See also* Final Policy Statement, Conduct of New Reactor Licensing Proceedings, 73 Fed. Reg. 20,963, 20,972 (Apr. 17, 2008).

31 *See Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), LBP-01-6, 53 NRC 138, 159, *aff'd*, CLI-01-17, 54 NRC 3 (2001).

of the proceeding.[32] Accordingly, a contention that simply states the petitioner's views about what regulatory policy should be does not present a litigable issue.[33]

Furthermore, challenges to the NRC Staff's safety review are outside the scope of this proceeding because "[t]he adequacy of the applicant's license application, not the NRC staff's safety evaluation, is the safety issue in any licensing proceeding, and under longstanding decisions of the agency, contentions on the adequacy of the [content of the] SER are not cognizable in a proceeding."[34]

4. Contentions Must Raise a Material Issue

A petitioner must demonstrate "that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding."[35] The standards defining the findings that the NRC must make to support issuance of COLs in this proceeding are set forth in 10 C.F.R. §§ 51.107 and 52.97. As the Commission has observed, "[t]he dispute at issue is 'material' if its resolution would 'make a difference in the outcome of the licensing proceeding.'"[36] In this regard, each contention must be one that, if proven, would entitle the petitioner to relief.[37] Additionally, contentions alleging an error or omission in an

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[32] *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), LBP-07-11, 65 NRC 41, 57-58 (2007) (citing *Phila. Elec. Co.* (Peach Bottom Atomic Power Station, Units 2 & 3), ALAB-216, 8 AEC 13, 20 (1974)).

[33] *See Peach Bottom*, ALAB-216, 8 AEC at 20-21. Within the adjudicatory context, however, a petitioner may submit a request for waiver of a rule under 10 C.F.R. § 2.335(b) as discussed in Section III.A.7 of this Answer, *infra*. Conversely, outside the adjudicatory context, a petitioner may file a petition for rulemaking under 10 C.F.R. § 2.802 or request that the NRC Staff take enforcement action under 10 C.F.R. § 2.206.

[34] Final Rule, Changes to the Adjudicatory Process, 69 Fed. Reg. at 2202 (citations omitted). Although the adequacy of the NRC Staff's environmental review may be within the scope of this proceeding, a petitioner is initially required to base its environmental contentions on the applicant's Environmental Report ("ER"). *See* 10 C.F.R. § 2.309(f)(2).

[35] 10 C.F.R. § 2.309(f)(1)(iv).

[36] *Oconee*, CLI-99-11, 49 NRC at 333-34 (citing Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,172).

[37] *See Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-26, 56 NRC 358, 363 n.10 (2002).

application must establish some significant link between the claimed deficiency and protection of the health and safety of the public or the environment.[38]

5. Contentions Must Be Supported by Adequate Factual Information or Expert Opinion

A petitioner bears the burden to present the factual information or expert opinions necessary to support its contention adequately, and failure to do so requires a board to reject the contention.[39] The petitioner's obligation in this regard has been described as follows:

> [A]n intervention petitioner has an ironclad obligation to examine the publicly available documentary material pertaining to the facility in question with sufficient care to enable [the petitioner] to uncover any information that could serve as the foundation for a specific contention. Stated otherwise, neither Section 189a. of the Act nor Section [2.309] of the Rules of Practice permits the filing of a vague, unparticularized contention, followed by an endeavor to flesh it out through discovery against the applicant or staff.[40]

Where a 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.[41] The petitioner must explain the significance of any factual information upon which it relies.[42]

With respect to factual information or expert opinion proffered in support of a contention, "the Board is not to accept uncritically the assertion that a document or other factual information

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38 *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), LBP-04-15, 60 NRC 81, 89, *aff'd*, CLI-04-36, 60 NRC 631 (2004).

39 *See* 10 C.F.R. § 2.309(f)(1)(v); *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 262 (1996).

40 *Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), ALAB-687, 16 NRC 460, 468 (1982), *vacated in part on other grounds*, CLI-83-19, 17 NRC 1041 (1983).

41 *See Ariz. Pub. Serv. Co.* (Palo Verde Nuclear Station, Units 1, 2, & 3), CLI-91-12, 34 NRC 149, 155 (1991).

42 *See Fansteel, Inc.* (Muskogee, Oklahoma, Site), CLI-03-13, 58 NRC 195, 203 (2003).

or an expert opinion supplies the basis for a contention."[43] Any supporting material provided by a petitioner, including those portions thereof not relied upon, is subject to board scrutiny, "both for what it does and does not show."[44] A board will examine documents to confirm that they support the proposed contentions.[45] A petitioner's imprecise reading of a document cannot be the basis for a litigable contention.[46] Moreover, vague references to documents do not suffice—the petitioner must identify specific portions of the documents on which it relies.[47] The mere incorporation of massive documents by reference is similarly unacceptable.[48]

In addition, "an expert opinion that merely states a conclusion (*e.g.*, the application is 'deficient,' 'inadequate,' or 'wrong') without providing *a reasoned basis or explanation* for that conclusion is inadequate because it deprives the Board of the ability to make the necessary, reflective assessment of the opinion" as it is alleged to provide a basis for the contention.[49] Conclusory statements cannot provide "sufficient" support for a contention, simply because they are made by an expert.[50] In short, a contention "will be ruled inadmissible if the petitioner 'has

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43 *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 181, *aff'd on other grounds*, CLI-98-13, 48 NRC 26 (1998).

44 *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 90, *rev'd in part on other grounds*, CLI-96-7, 43 NRC 235 (1996).

45 *See Vt. 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).

46 *See Ga. Inst. of Tech.* (Georgia Tech Research Reactor, Atlanta, Ga.), LBP-95-6, 41 NRC 281, 300 (1995).

47 *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), CLI-89-3, 29 NRC 234, 240-41 (1989).

48 *Id.*; *see also Tenn. Valley Auth.* (Browns Ferry Nuclear Plant, Units 1 & 2), LBP-76-10, 3 NRC 209, 216 (1976).

49 *USEC, Inc.* (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 472 (2006) (emphasis added) (quoting *Private Fuel Storage*, LBP-98-7, 47 NRC at 181).

50 *See USEC*, CLI-06-10, 63 NRC at 472.

offered no tangible information, no experts, no substantive affidavits,' but instead only 'bare assertions and speculation.'"[51]

6. Contentions Must Raise a Genuine Dispute of Material Law or Fact

A petitioner must "provide sufficient information to show . . . a genuine dispute . . . with the applicant . . . on a material issue of law or fact."[52] The Commission has stated that the petitioner must "read the pertinent portions of the license application, . . . state the applicant's position and the petitioner's opposing view," and explain why it disagrees with the applicant.[53] If a petitioner believes the license application fails to adequately address a relevant issue, then the petitioner is to "explain why the application is deficient."[54] A contention that does not directly controvert a position taken by the applicant in the application is subject to dismissal.[55]

Similarly, a petitioner's oversight or mathematical error does not raise a genuine issue. For example, if a petitioner submits a contention of omission, but the allegedly missing information is indeed in the license application, then the contention does not raise a genuine issue.[56] Further, 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.[57]

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51 *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)).

52 10 C.F.R. § 2.309(f)(1)(vi).

53 Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *see also Millstone*, CLI-01-24, 54 NRC at 358.

54 Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *see also Palo Verde*, CLI-91-12, 34 NRC at 156.

55 *See Tex. Utils. Elec. Co.* (Comanche Peak Steam Electric Station, Unit 2), LBP-92-37, 36 NRC 370, 384 (1992).

56 *See Millstone*, LBP-04-15, 60 NRC at 95-96.

57 *See Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), LBP-90-16, 31 NRC 509, 521 & n.12 (1990).

7. Waiver of Regulations Under 10 C.F.R. § 2.335

As discussed above, a contention that challenges an NRC rule is outside the scope of the proceeding because, absent a waiver, "no rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding."[58] In order to seek waiver of a rule in a particular adjudicatory proceeding, a petitioner must submit a petition pursuant to 10 C.F.R. § 2.335. The requirements for a Section 2.335 petition are as follows:

> 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 (or a provision of it) would not serve the purposes for which the rule or regulation was adopted.[59]

Further, such a petition, "*must be accompanied by an affidavit* that identifies the specific aspect or aspects of the subject matter of the proceeding as to which the application of the rule or regulation (or provision of it) would not serve the purposes for which the rule or regulation was adopted," and "*must state with particularity* the special circumstances alleged to justify the waiver or exception requested."[60]

In accordance with NRC precedent, a Section 2.335 petition "can be granted only in unusual and compelling circumstances."[61] The Commission decision in *Millstone* states the test for Section 2.335 petitions, under which the petitioner must demonstrate that it satisfies each of the following four criteria:

> (1) the rule's strict application "would not serve the purposes for which [it] was adopted"; (2) the movant has alleged "special circumstances" that were "not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to the

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58 10 C.F.R. § 2.335(a).

59 *Id.* § 2.335(b).

60 *Id*. (emphasis added).

61 *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), ALAB-895, 28 NRC 7, 16 (1988), *aff'd*, CLI-88-10, 28 NRC 573, 597, *recons. denied*, CLI-89-3, 29 NRC 234 (1989) (citation omitted).

> rule sought to be waived"; (3) those circumstances are "unique" to the facility rather than "common to a large class of facilities"; and (4) a waiver of the regulation is necessary to reach a "significant safety problem."[62]

If the petitioner makes the required prima facie showing, then the licensing board must certify the matter to the Commission.[63] However, if the petitioner fails to satisfy any of the factors of the four-part test required for making a prima facie showing, then the matter may not be litigated, and "the presiding officer may not further consider the matter."[64] The Petitioners have not sought any waivers and did not submit any petitions under Section 2.335.

B. Threshold Objection to Contentions 9 and 12-16

Contentions 9 and 12-16 consist simply of a statement of an issue, with a reference to the report of Dr. Lauren Ross ("Ross Report"). For several reasons, such a tactic does not satisfy the Petitioners' obligations under 10 C.F.R. § 2.309(f)(1).

First, Contentions 9 and 12-16 do not identify the basis of the contention, as required by 10 C.F.R. § 2.309(f)(1)(ii). "It is the responsibility of the Petitioner to provide the necessary information to satisfy the basis requirement for the admission of its contentions and demonstrate that a genuine dispute exists within the scope of [the] proceeding."[65] Because the Petition does not identify the bases for Contentions 9 and 12-16, those contentions should be rejected.

Additionally, the general references to the Ross Report are not a substitute for compliance with 10 C.F.R. § 2.309(f)(1)(ii). The other participants and the Licensing Board

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62 *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 1 & 2), CLI-05-24, 62 NRC 551, 559-60 (2005) (citing *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), CLI-89-20, 30 NRC 231, 235 (1989)).

63 *See* 10 C.F.R. § 2.335(c), (d).

64 *Id.* § 2.335(c); *see also Millstone*, CLI-05-24, 62 NRC at 560 ("The use of 'and' in this list of requirements is both intentional and significant. For a waiver request to be granted, *all four* factors must be met.") (citations omitted).

65 *Calvert Cliffs*, CLI-98-14, 48 NRC at 41.

should not be required to guess at the position of Petitioners on which of the statements in that report are relied upon to provide the bases for the contentions. As the Commission has stated, "[a] contention's proponent, not the licensing board, is responsible for formulating the contention and providing the necessary information to satisfy the basis requirement for the admission of contentions."[66] Because Petitioners have not identified the basis for Contentions 9 and 12-16, those contentions should be rejected for failure to meet the requirements of 10 C.F.R. § 2.309(f)(1)(ii).

The bare references to the Ross Report also do not satisfy the Petitioners' obligation under 10 C.F.R. § 2.309(f)(1)(v) to "[p]rovide a concise statement of the alleged facts or expert opinions which support the requestor's/petitioner's position on the issue." It is not sufficient for Petitioners to provide a reference to a report, without explaining the significance of that report. As another licensing board has held, "attaching a document in support of a contention without any explanation of its significance does not provide an adequate basis for a contention."[67] Additionally, as the Commission has stated, the regulations demand more than "one brief reference" to a report, with a "conclusory statement" that the report provides the basis for the contention.[68]

Finally, the bare references to the Ross Report do not satisfy several of the other requirements in 10 C.F.R. § 2.309(f)(1) for contentions:

- Section 2.309(f)(1)(iv) requires that the petition "[d]emonstrate that the issue raised in the contention is material." Contentions 9 and 12-16 make no attempt to demonstrate that the contentions are material.

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66 *Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC at 22.

67 *Private Fuel Storage, LLC* (Independent Spent Fuel Storage), LBP-98-10, 47 NRC 288, 298 (1998).

68 *Fansteel*, CLI-03-13, 58 NRC at 204.

- Section 2.309(f)(1)(vi) requires that the petition "provide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact," including a reference to the specific portions of the application that allegedly are deficient. Contentions 9 and 12-16 make no attempt to identify any portions of the ER for STP Units 3 and 4 that allegedly are deficient, or to show a genuine dispute on a material fact.

The deficiencies discussed above are not simply a question of form. The other participants as well as the Board need this information to understand what the Petitioners desire to litigate and the basis for their request. In essence, the Petitioners are improperly attempting to shift their burden for specifying an acceptable contention to the other participants and the Board, asking them to sift through the Ross Report to identify information that may or may not correspond to the provisions in 10 C.F.R. § 2.309(f)(1). The Board should reject such a tactic and deny Contentions 9 and 12-16 for failing to meet the requirements of Section 2.309(f)(1).

C. Petitioners' Proposed Contentions Are Inadmissible

Applying the legal standards summarized above, each of Petitioners' 28 proposed contentions is deficient on one or more grounds. As a result, the Petition should be denied for failure to proffer an admissible contention in accordance with 10 C.F.R. § 2.309(f)(1).

1. Contention 1 – Pending Permits

Contention 1 asserts that "[t]he number and significance of authorizations and permits required for the combined license that have yet to be obtained by the Applicant preclude issuance of the COL."[69] Additionally, the contention claims that "the outstanding items preclude Petitioners from raising all material issues in this adjudication and they should be given

[69] Petition at 10.

appropriate leave to supplement their contentions as information related to the outstanding items is obtained."[70]

Contention 1 should be rejected. As demonstrated below, the contention is outside the scope of this proceeding, is immaterial, and does not demonstrate a genuine dispute.

The Petitioners list 19 local, state, and federal authorizations/permits and claim that STPNOC must obtain them prior to COL issuance.[71] This argument must fail, because there is no legal requirement to obtain any of the permits listed by the Petitioners prior to COL issuance. The ER for STP Units 3 and 4 includes four tables that describe the authorizations/permits that must be obtained by STPNOC during various phases of licensing and construction. Table 1.2-1 lists the few authorizations/permits that are required before issuance of the COLs, Table 1.2-2 lists the authorizations/permits required for preconstruction activities, Table 1.2-3 lists the authorizations/permits required for construction activities, and Table 1.2-4 lists the authorizations/permits required for operation. Only the authorizations/permits in ER Table 1.2-1 are required prior to COL issuance. The 19 authorizations/permits listed by Petitioners are all from Tables 1.2-2, 1.2-3, and 1.2-4, which do not need to be obtained prior to COL issuance.

The Commission's regulations in 10 C.F.R. § 51.45(d) require an applicant to provide a list of authorizations/permits, but that regulation does not require all of the listed items to be obtained prior to COL issuance. NRC precedent has consistently held that the NRC licensing process does not need to await issuance of authorizations/permits from other agencies. The Commission stated many years ago that "[a]s a general rule it is the practice of the Commission

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70 *Id.*

71 *Id.* at 11-12.

to pursue its administrative procedures while other state and local proceedings are under way."[72] This rule has been consistently followed in NRC licensing proceedings.[73] Therefore, Petitioners' argument is legally baseless and outside the scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii).[74]

Despite the Petitioners' claim to the contrary, failure to obtain certain groundwater use permits and a permit under 10 C.F.R. Part 72 to store spent fuel on-site do not "preclude granting the COL."[75] The Petitioners have cited no legal authority, and none exists, that requires such permits before COL issuance. Additionally, Part 72 provides the license requirements for an Independent Spent Fuel Storage Installation ("ISFSI"). STPNOC will not necessarily need an ISFSI if the spent fuel can be sent offsite for disposal or temporary storage pending disposal. Furthermore, if STPNOC were to need an ISFSI in the future to store spent fuel, it would not necessarily need to apply for a license under Part 72, because Part 72 automatically grants a general license to Part 52 licensees under certain circumstances.[76] Thus, the Petitioners

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72 *Wis. Elec. Power Co.* (Koshkonong Nuclear Plant, Units 1 and 2), CLI-74-45, 8 AEC 928, 930 (1974) (holding that the proceeding may continue before issuance of a water quality certificate by a state agency).

73 *See, e.g.*, *Cleveland Elec. Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-443, 6 NRC 741, 748 (1977); *S. Cal. Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), ALAB-189, 7 AEC 410, 412 (1974) (cautioning "against charting the course of our licensing proceedings with an eye on what might or might not be done in the future by some other federal or state agency"); *S. Cal. Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), ALAB-171, 7 AEC 37, 39 (1974) (stating that "it would be productive of little more than untoward delay were each regulatory agency to stay its hand simply because of the contingency that one of the others might eventually choose to withhold a necessary permit or approval"); *Ariz. Pub. Serv. Co.* (Palo Verde Nuclear Generating Station, Units 1, 2 and 3), LBP-82-117A, 16 NRC 1964, 1991 (1982) (holding that the Commission "should not delay its licensing proceedings or withhold a license merely because some other legal tribunal might conceivably take future action which may later impact upon the operation of a nuclear facility"); *Phila. Elec. Co.* (Limerick Generating Station, Units 1 and 2), LBP-82-43A, 15 NRC 1423, 1470 (1982) (holding that "other permits are not a prerequisite to issuance of an operating license").

74 *See Yankee*, CLI-98-21, 48 NRC at 204 (stating that contentions are limited to issues that are germane to the specific application pending before the board).

75 Petition at 12.

76 10 C.F.R. § 72.210 ("A general license is hereby issued for the storage of spent fuel in an independent spent fuel storage installation at power reactor sites to persons authorized to possess or operate nuclear power reactors under 10 CFR part 50 or 10 CFR part 52."). The NRC regulations explain that "[a]ny general license

mistakenly claim that a Part 72 license is required. As a result, this "contention is [not] material to the findings the NRC must make," contrary to 10 C.F.R. § 2.309(f)(1)(iv), and fails to demonstrate a genuine dispute on a material issue of law, contrary to 10 C.F.R. § 2.309(f)(1)(vi).[77]

The Petitioners further "contend that this adjudication should not proceed to a hearing until all items in Applicant's Environmental Report, Table 1.2-1 have been closed out."[78] Table 1.2-1 includes six authorizations/permits that must be obtained before COL issuance, but as shown on the table, four of these items are already completed. The Petitioners have not disputed the proper completion of these four items. STPNOC has also completed one of the two remaining items regarding spent fuel contracts.[79] The final item, Section 401 certification, is awaiting concurrence.[80] The Petitioners have not disputed STPNOC's ability to obtain this 401 certification. Furthermore, as discussed above, there is no legal basis for requiring STPNOC to obtain the Section 401 certification as a prerequisite to NRC's review of the COLA. Thus, Contention 1 is unsupported, contrary to 10 C.F.R. § 2.309(f)(1)(v), and fails to demonstrate a genuine dispute, contrary to 10 C.F.R. § 2.309(f)(1)(vi).[81]

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provided in this part is effective without the filing of an application with the Commission or the issuance of a licensing document to a particular person." *Id.* § 72.6(a).

77 Item 4.15 of ER Table 1.2-4 (Authorizations/Permits Required for Operation) lists a Part 72 license, but this item states that it will be obtained only "if required." Therefore, an application for a Part 72 license should not be required given the general license, but even if an application is required, it would not be required until after issuance of the COLs.

78 Petition at 11.

79 STPNOC entered into spent fuel contracts with the Department of Energy ("DOE") for STP Units 3 and 4 on November 5, 2008. *See* Letter from M. McBurnett, STPNOC, to NRC, Contracts for Disposal of Spent Nuclear Fuel and/or High-level Radioactive Waste (Mar. 3, 2009), *available at* ADAMS Accession No. ML090640920.

80 ER Table 1.2-1.

81 Although it is unclear exactly what the Petitioners are asking the Board to do with this contention, they state that "the Petitioners specifically reserve the right to seek leave to file further contentions or supplement those herein, pursuant to 10 CFR 2.309 (c)(2) and/or 10 CFR 2.309(f)(2)(i)-(iii), as further information is obtained related to the outstanding items listed above." Petition at 13. The Petitioners do not need to reserve a right to

For the reasons discussed above, this contention incorrectly claims that STPNOC must obtain various authorizations/permits before COL issuance, and provides no legal basis for suspending this proceeding pending issuance of the authorizations/permits that STPNOC has acknowledged must be obtained before COL issuance. Therefore, this contention should be rejected pursuant to 10 C.F.R. § 2.309(f)(1)(iii), (iv), and (vi).

2. Contention 2 – Large Fires and Explosions

Contention 2 states that the COLA (and, in particular, the ER and the ABWR Design Control Document ("DCD")) is incomplete because it fails to address 10 C.F.R. § 52.80(d).[82] That section requires a description and plans for implementation of the guidance and strategies intended to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities under circumstances associated with the loss of large areas of the plant due to explosions or fire as required by 10 C.F.R. § 50.54(hh)(2). For the reasons discussed below, this contention should be rejected.

First, 10 C.F.R. §§ 52.80(d) and 50.54(hh)(2) are not yet effective, and are not yet a requirement for COL applicants. Those sections were published in the *Federal Register* on March 27, 2009.[83] By the terms of that *Federal Register* notice, the rule is not effective until May 26, 2009.[84] Therefore, there is no basis for contending that the COLA is deficient for allegedly failing to address Sections 52.80(d) and 50.54(hh)(2), while those regulations are not yet effective and the COLA has not been required to address them.

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do something that is already authorized by the NRC regulations and such a request does not support admission of this contention. *See* 10 C.F.R. § 2.309(f)(2) ("Contentions must be based on documents or other information available at the time the petition is to be filed."). If information arises at a later time regarding the authorizations/permits that falls within the scope of this proceeding, then the Petitioners can attempt to submit a late-filed contention in accordance with the regulations they have cited.

82 The contention itself mistakenly refers to 10 C.F.R. § 52.80(b). *See* Petition at 5, 13.

83 Final Rule, Power Reactor Security Requirements, 74 Fed. Reg. 13,926 (Mar. 27, 2009).

84 *Id.*

Second, there is no genuine dispute that the COLA does not currently address 10 C.F.R. § 50.54(hh)(2), and therefore this contention should be dismissed pursuant to 10 C.F.R. § 2.309(f)(1)(vi). After the rule becomes effective on May 26, 2009, STPNOC will be required to revise its application to address the rule. At that time, the Petitioners will have an opportunity to submit a new contention challenging the sufficiency of that revision.

In this regard, STPNOC is planning to augment its COLA with information to address the programmatic and operational aspects of 10 C.F.R. § 50.54(hh)(2). As provided in its letter dated April 27, 2009, STPNOC will make such a filing with the NRC in late May of this year.[85] Assuming that the Board does not rule on Contention 2 prior to that date, STPNOC will provide the Board and the parties with a copy of the filing (to the extent that it does not contain safeguards information or sensitive unclassified non-safeguards information). This filing will render the contention moot.[86]

Third, large portions of Contention 2 attack the contents of the DCD for the ABWR. [87] The DCD is incorporated by reference in the ABWR design certification rule.[88] As stated in 10 C.F.R. § 52.63(a)(5):

> Except as provided in 10 CFR 2.335, in making the findings required for issuance of a combined license, construction permit, operating license, or manufacturing license, or for any hearing under § 52.103, the Commission shall treat as resolved those

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[85] Letter from Scott Head, STPNOC, to NRC Document Control Desk, 10 CFR 52.80(d) Report Submittal (Apr. 27, 2009), *available at* ADAMS Accession No. ML091190123. That letter was served on the Secretary of the Commission and the parties to this proceeding by letter dated April 28, 2009 from Steven P. Frantz, counsel for STPNOC.

[86] *USEC Inc.* (American Centrifuge Plant), CLI-06-9, 63 NRC 433, 444 (2006) (quoting *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 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'").

[87] Petition at 15-21.

[88] *See* 10 C.F.R. Part 52, App. A.III.

> matters resolved in connection with the issuance or renewal of a design certification rule.

The Petitioners have not requested a waiver of the ABWR design certification rule pursuant to 10 C.F.R. § 2.335(b). Therefore, this contention should be rejected to the extent that it challenges the ABWR DCD.

Finally, the contention includes a number of allegations related to the ABWR design and the capabilities of local fire departments.[89] However, the Petitioners have not provided references or expert support for any of those allegations. Therefore, such allegations do not satisfy the requirements of 10 C.F.R. § 2.309(f)(1)(v).

For all of the above reasons, Contention 2 is defective and should be dismissed.

3. Contention 3 – Availability of a High-Level Waste Repository

Contention 3 asserts that the ER "erroneously assumes that there will be high-level waste/spent nuclear fuel disposal capacity available at a federal site, presumably Yucca Mountain, Nevada" and that, "even if Yucca Mountain is available as a federal repository for spent nuclear fuel and high-level nuclear waste, its capacity would be reached by waste from the current generation of operating reactors."[90] According to Petitioners, this means that "the spent nuclear fuel and high-level waste generated by STP Units 3 and 4 would have to be dispositioned to a subsequent repository that has been neither sited nor authorized."[91]

As demonstrated below, this contention should be dismissed because it challenges the Commission's Waste Confidence Rule, contrary to 10 C.F.R. § 2.335(a), and it fails to satisfy the requirements for waiver of that regulation as set forth in 10 C.F.R. § 2.335(b).

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89 Petition at 15-22.

90 *Id.* at 23.

91 *Id.*

This contention represents an impermissible challenge to NRC's Waste Confidence Rule in 10 C.F.R. § 51.23. Section 51.23(a) plainly states:

> 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 spent fuel storage installations. Further, the Commission believes 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.

Thus, the Commission has clearly stated that it has confidence that sufficient repository capacity will be available for waste generated by "*any reactor*."[92] Moreover, the regulatory history of the Waste Confidence Rule demonstrates an intention to cover new reactors. Specifically, the Commission noted in 1990 that it believes that "if the need for an additional repository is established, Congress will provide the needed institutional support and funding, as it has for the first repository."[93] Furthermore, the Commission found that "[t]he availability of a second repository would permit spent fuel to be shipped offsite well within 30 years after the expiration of these reactors' [operating licenses]. The same would be true of the spent fuel discharged from any new generation of reactor designs."[94] The Commission also clearly reaffirmed its 1990 findings in a 1999 Status Report on the Waste Confidence Decision.[95]

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92 10 C.F.R. § 51.23(a) (emphasis added).

93 Review and Final Revision of Waste Confidence Decision, 55 Fed. Reg. 38,474, 38,502 (Sept. 18, 1990).

94 *Id.* at 38,504.

95 *See* Status Report on the Review of the Waste Confidence Decision, 64 Fed. Reg. 68,005, 68,007 (Dec. 6, 1999) ("These considerations confirm and strengthen the Commission's 1990 findings and lead the Commission to conclude that no significant and unexpected events have occurred – no major shifts in national policy, no major unexpected institutional developments, no unexpected technical information – that would cast doubt on the Commission's Waste Confidence findings or warrant a detailed reevaluation at this time.").

Importantly, the NRC amended the Waste Confidence Rule in 2007 to clarify that the rule encompasses COL applications.[96] Therefore, in light of the plain language of the Rule and its regulatory history, the Waste Confidence Rule applies to this proceeding and this contention is an impermissible challenge to the Rule.

This contention is essentially identical to contentions rejected by licensing boards in at least nine other proceedings.[97] The rationale of these prior board decisions is equally applicable here—such contentions impermissibly challenge NRC regulations. Accordingly, this proposed contention should be rejected as an unauthorized attack on the Waste Confidence Rule.[98]

Furthermore, Petitioners have not submitted a petition for waiver of the Waste Confidence Rule pursuant to 10 C.F.R. § 2.335(b) with the required supporting affidavit, nor have they addressed the required four-part *Millstone* test for Section 2.335 petitions.[99] And even if Petitioners had submitted a waiver request, the Commission has stated unambiguously that "[w]aiver of a Commission rule is simply not appropriate for a generic issue."[100] Accordingly, this issue does not qualify for a waiver.

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96 Final Rule, Licenses, Certifications, and Approvals for Nuclear Power Plants, 72 Fed. Reg. 49,352, 49,429 (Aug. 28, 2007) ("The NRC is revising §§ 51.23(b) and (c) to indicate that the provisions of these paragraphs also apply to combined licenses.").

97 *See Calvert Cliffs 3 Nuclear Project, LLC* (Combined License Application for Calvert Cliffs Unit 3), LBP-09-4, 69 NRC __, slip op. at 58-59 (Mar. 24, 2009); *Progress Energy Carolinas, Inc.* (Shearon Harris Nuclear Power Plant, Units 2 & 3), LBP-08-21, 68 NRC __, slip op. at 39-40 (Oct. 30, 2008); *William States Lee*, LBP-08-17, slip op. at 29-30; *Tenn. Valley Auth.* (Bellefonte Nuclear Power Plant Units 3 & 4), LBP-08-16, 68 NRC __, slip op. at 61-62 (Sept. 12, 2008); *Va. Elec. & Power Co.* (Combined License Application for North Anna Unit 3), LBP-08-15, 68 NRC __, slip op. at 52-54 (Aug. 15, 2008); *S. 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, 268-70 (2004); *Sys. Energy Res., Inc.* (Early Site Permit for Grand Gulf ESP Site), LBP-04-19, 60 NRC 277, 296-97 (2004).

98 *See* 10 C.F.R. § 2.335(a) (absent a waiver, "no rule or regulation of the Commission . . . is subject to attack by way of discovery, proof, argument, or other means in any adjudicatory proceeding").

99 *See Millstone*, CLI-05-24, 62 NRC at 559-60.

100 *Conn. Yankee Atomic Power Co.* (Haddam Neck Plant), CLI-03-7, 58 NRC 1, 8 (2003) (citing *Metro. Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-80-16, 11 NRC 674, 675 (1980)).

Petitioners also state that they rely upon the report of Arjun Makhijani regarding the ongoing rulemaking to update the Waste Confidence Rule.[101] Because the report challenges this rulemaking, reliance on it constitutes an impermissible attack on an ongoing rulemaking. The Commission has upheld the rejection of contentions that sought to litigate issues subject to a pending rulemaking, such as the update to the Waste Confidence Rule.[102]

For the foregoing reasons, this contention impermissibly attacks the Waste Confidence Rule and fails to satisfy the requirements for waiver of that regulation. Additionally, the contention impermissibly attacks the ongoing update to the Waste Confidence Rule. Therefore, the Board should reject this contention.

4. Contention 4 – Environmental Impacts from Yucca Mountain

This contention alleges that ER Section 5.7.6 erroneously assumes no significant release of radioactivity to the environment related to management of radioactive waste at Yucca Mountain.[103] Petitioners contend that the ER is wrong and should be disregarded or resubmitted using dose assessments based on estimates of radiological releases from the U.S. Environmental Protection Agency ("EPA") and DOE.[104]

As demonstrated below, this contention should be dismissed because it (1) presents an attack on the adequacy of NRC's rule at 10 C.F.R. § 51.51(b), Table S-3, which is precluded under 10 C.F.R. § 2.335(a); (2) is not adequately supported, contrary to 10 C.F.R. § 2.309(f)(1)(v); and (3) fails to demonstrate a genuine dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

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101 Petition at 25-26.

102 *See, e.g.*, *Oconee*, CLI-99-11, 49 NRC at 345 (citing *Douglas Point*, ALAB-218, 8 AEC at 85); *Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), ALAB-813, 22 NRC 59, 86 (1985); *Private Fuel Storage*, LBP-98-7, 47 NRC at 179).

103 Petition at 26.

104 *Id.* at 26-27.

First, Petitioners' attack on ER Section 5.7.6, "Radioactive Waste," represents a frontal challenge to 10 C.F.R. § 51.51. That regulation requires that the ER "take Table S-3 . . . as the basis for evaluating the contribution of the environmental effects of . . . management of . . . high-level wastes related to uranium fuel cycle activities."[105] In accordance with this requirement, ER Section 5.7.6 references Table 5.7-1, which repeats Table S-3 as the reference reactor data, and after applying a scaling factor, provides the plant-specific data for STP Units 3 and 4. Based on those values, the ER concludes that the environmental impacts of radioactive waste disposal are SMALL.

Petitioners assert that NRC's prescribed method of dose assessment is inappropriate because EPA and DOE sources assume some unspecified releases from Yucca Mountain. In essence, Contention 4 focuses not on the ER, but rather on the radiological effluent releases in NRC's Table S-3, upon which the ER is required to rely.[106] As such it presents a challenge to this regulation, contrary to 10 C.F.R. § 2.335(a).

Second, the contention should be rejected because Petitioners fail to provide adequate support for their allegations. In a passing reference to a Nuclear Waste Technical Review Board ("NWTRB") Repository Panel meeting in 1999, Petitioners assert that DOE "recognizes"

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[105] 10 C.F.R. § 51.51(a).

[106] Table S-3 contains no specific entry for post-closure radiological releases from the high-level waste repository. However, as indicated in Note 1 to Table S-3, "[i]n some cases where no entry appears it is clear from the background documents that the matter was addressed and that, in effect, the Table should be read as if a specific zero entry had been made." Table S-3 background documents assume "that after the repository is sealed there would be no further release of radioactive materials to the environment." Final Rule, Licensing and Regulatory Policy and Procedures for Environmental Protection; Uranium Fuel Cycle Impacts from Spent Fuel Reprocessing and Radioactive Waste Management, 44 Fed. Reg. 45,362, 45,368 (Aug. 2, 1979). The Commission found that "taking post-sealing releases as zero does not significantly reduce the overall conservatism of the table" because Table S-3 also assumes complete release of all gaseous and volatile radionuclides during the handling and emplacement of the waste prior to the sealing of the repository. *See id.* at 45,368-369. In *Baltimore Gas & Elec. Co. v. NRDC*, 462 U.S. 87 (1983), the U.S. Supreme Court held that the NRC's use of the zero-release assumption in Table S-3 complied with NEPA.

significant releases of radioactivity from Yucca Mountain.[107] Petitioners say nothing about how, where, or in what manner the 300 page meeting transcript evidences DOE's "recognition," much less undermines the Commission's conclusion in Table S-3.[108] A presentation given at that meeting matching the contention's citation discusses approaches to selection of measures for defense-in-depth in the design of Yucca Mountain.[109] As such, it presents an approach to assess the relative contribution of different engineered barriers, and provides—as examples—dose estimates over time *assuming* individual barriers were removed. Significantly, nowhere does this presentation purport to represent DOE's assessment of the size or likelihood of releases from Yucca Mountain.

Petitioners also assert that EPA's rulemaking, establishing the performance criteria for Yucca Mountain, is "premised on the assumption that there could be significant releases of radiation."[110] This bare assertion is unsupported. In fact, Petitioners' discussion proves exactly the opposite; they point out that the performance standard establishes a very low dose limit for the first 10,000 years (15 mrem/year) and another low dose limit (100 mrem/year) in the subsequent period. Nowhere do Petitioners point to supporting information indicating either the size or likelihood of release from Yucca Mountain. Furthermore, the EPA dose limits apply to all of the waste to be stored in Yucca Mountain. The Petitioners appear to be assuming that the entire amount of radioactive releases from Yucca Mountain will be attributable to the waste from

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107 *See* Presentation by Dennis C. Richardson, DOE, Office of Civilian Radioactive Waste Management, NWTRB Repository Panel Meeting Postclosure Defense in Depth in the Design Selection Process (Jan. 25, 1999), *available at* http://www.nwtrb.gov/meetings/1999/jan/richardson.pdf ("Richardson Presentation").

108 *See* Transcript of NWTRB Repository Panel Meeting (Jan. 25, 1999), *available at* http://www.nwtrb.gov/meetings/1999/jan/99jan25.pdf.

109 Richardson Presentation at 2.

110 Petition at 26.

STP Units 3 and 4, ignoring the fact that the waste contributed by any single reactor will constitute only a small portion of the total waste to be stored at Yucca Mountain.[111]

Finally, Petitioners fail to establish any genuine dispute on a material issue of law or fact. Petitioners do not assert that the environmental impacts of radioactive waste disposal would be anything other than SMALL. Rather, they simply assert that the ER is wrong and should be disregarded. Petitioners do not contend—much less demonstrate—that an evaluation using EPA dose limits would produce an assessment of the impacts that is materially different from that in the ER, or that the impact of such releases would be anything other than SMALL.

As discussed above, the contention presents an impermissible challenge to the Commission's rule on environmental impacts of the uranium fuel cycle, it relies on only vague references to documents unrelated to the subject of the contention, and it does not even suggest that a different analysis would have a material effect on the ER's conclusion that the environmental impacts of spent fuel disposal from STP Units 3 and 4 are SMALL. Accordingly, for each these reasons, the contention should be rejected.

5. Contention 5 – Environmental Impacts of Long-Term Spent Fuel Storage

Contention 5 asserts that the COLA should have considered "the environmental consequences and public health impacts from long-term storage of high-level waste and spent fuel on site at STP Units 3 and 4" because "no spent nuclear fuel and high-level radioactive waste repository site is now available and future availability of such site is problematic."[112] As with Contention 3, this contention should be dismissed because it challenges the Waste

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111 Petitioners also challenge the adequacy of the final Environmental Impact Statement for Yucca Mountain and claim that the DOE license application for Yucca Mountain ignores certain corrosion phenomena. *Id.* at 27. The scope of this proceeding is defined by the Hearing Notice, which does not include issues related to Yucca Mountain such as the adequacy of the DOE license application. *See Catawba*, ALAB-825, 22 NRC at 790-91. Thus, such arguments are outside the scope of this proceeding and do not support admission of this contention.

112 Petition at 28.

Confidence Rule, contrary to 10 C.F.R. § 2.335(a), and it fails to satisfy the requirements for waiver of that regulation as set forth in 10 C.F.R. § 2.335(b).

This contention, like Contention 3, is an impermissible attack on the Waste Confidence Rule in 10 C.F.R. § 51.23(a), which provides that "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 . . . of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel storage installations" 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."

In addition, this contention further attacks the Waste Confidence Rule in 10 C.F.R. § 51.23(b), which states:

> [N]o discussion of any environmental impact of spent fuel storage in reactor facility storage pools or independent spent fuel storage installations (ISFSI) for the period following the term of the . . . reactor combined license . . . is required in any environmental report, environmental impact statement, environmental assessment, or other analysis prepared in connection with the . . . issuance . . . of a combined license for a nuclear power reactor under part[] 52.

Accordingly, to the extent that this contention questions the future availability of repository capacity for high-level waste and spent fuel generated at STP Units 3 and 4, or the environmental impacts of onsite storage of spent fuel until such a repository becomes available, it directly attacks the Waste Confidence Rule, contrary to 10 C.F.R. § 2.335(a).

Absent a waiver, "no rule or regulation of the Commission . . . is subject to attack by way of discovery, proof, argument, or others means in any adjudicatory proceeding."[113] Petitioners

[113] 10 C.F.R. § 2.335(a).

have made no attempt to satisfy the requirements for waiver of the Waste Confidence Rule.[114] Therefore, the Board should reject this contention because it challenges Commission regulations and fails to satisfy the requirements for waiver.[115]

6. Contention 6 – Environmental Impacts of Long-Term Spent Fuel Storage by Governmental Entities

Contention 6 asserts that this COL proceeding "should consider the public health impacts and environmental consequences of requiring governmental units to become the custodian of high-level waste and spent nuclear fuel at the STP site after the operating license has terminated."[116] Petitioners claim that a federal repository will not be available for spent fuel management and thus, the COLA should have considered the impacts of the State of Texas or the U.S. government "becoming the *de facto* custodians" of such spent fuel and high-level waste "for the indefinite future."[117]

As demonstrated below, this contention should be dismissed because it challenges the Waste Confidence Rule, contrary to 10 C.F.R. § 2.335(a), and it fails to satisfy the requirements for waiver of a regulation as set forth in 10 C.F.R. § 2.335(b).

As noted in STPNOC's response to Contentions 3 and 5, the Commission's Waste Confidence Rule in 10 C.F.R. § 51.23(a) specifically states that "spent fuel generated in *any*

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114 *See id.* § 2.335(b).

115 Additionally, Petitioners state that "[d]ry cask storage represents a serious risk for extensive radiological harm if, for example, the storage units were attacked by motivated terrorists." Petition at 29. This argument is invalid for several reasons. First, STPNOC is not seeking a license for dry cask storage. Additionally, the Commission has consistently held that the NRC does not need to consider, as part of its environmental review, terrorist attacks on nuclear plants. *See, e.g.*, *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-07-8, 65 NRC 124 (2007), *aff'd sub nom.*, *N.J. Dep't of Envtl. Protection v. NRC*, 561 F.3d 132 (3d Cir. 2009); *Sys. Energy Res., Inc.* (Early Site Permit for Grand Gulf ESP Site), CLI-07-10, 65 NRC 144 (2007); *Nuclear Mgmt. Co., LLC* (Palisades Nuclear Plant), CLI-07-9, 65 NRC 139 (2007). Finally, the NRC regulations require that the annual whole body doses from spent fuel storage be less than 25 mrem outside the controlled area. *See* 10 C.F.R. § 72.104(a).

116 Petition at 30.

117 *Id.*

reactor can be stored safely and *without significant environmental impacts* for at least 30 years beyond the licensed life for operation . . . of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel storage installations" and that "the Commission believes there is reasonable assurance that . . . 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."[118]

Furthermore, based on this generic finding, 10 C.F.R. § 51.23(b) further states:

> [N]o discussion of *any environmental impact* of spent fuel storage in reactor facility storage pools or independent spent fuel storage installations (ISFSI) for the period following the term of the . . . reactor combined license . . . is required in any environmental report, environmental impact statement, environmental assessment, or other analysis prepared in connection with the . . . issuance . . . of a combined license for a nuclear power reactor under part[] 52.[119]

Here, Petitioners impermissibly challenge both of these aspects of the Waste Confidence Rule by questioning (1) whether a federal repository will be available for high-level waste and spent fuel generated at STP Units 3 and 4; and (2) the environmental impacts of onsite spent fuel storage. It is well established that, absent a waiver, "no rule or regulation of the Commission . . . is subject to attack by way of discovery, proof, argument, or other means in any adjudicatory proceeding."[120] Thus, like Contentions 3 and 5, this contention is an impermissible challenge to the Waste Confidence Rule under 10 C.F.R. § 2.335(a) and Petitioners have not attempted to

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[118] 10 C.F.R. § 51.23(a) (emphasis added).

[119] *Id.* § 51.23(b) (emphasis added).

[120] *Id.* § 2.335(a).

satisfy the requirements for waiver set forth in 10 C.F.R. § 2.335(b).[121] Therefore, the Board should reject this contention.

7. Contention 7 – Environmental Impacts from Transportation and Offsite Disposal of Radioactive Waste

Petitioners assert that the discussion of the impacts of the uranium fuel cycle in Section 5.7 of the ER incorrectly states that there will be no significant radioactive releases due to offsite disposal of radioactive waste streams.[122] The Petitioners assert that the ER "should fully consider" the environmental consequences of major releases of radioactive material from on-site processing, transportation accidents, offsite processing, and long term releases.[123]

As demonstrated below, this contention should be dismissed because (1) it presents an attack on the adequacy of 10 C.F.R. § 51.51, which is precluded under 10 C.F.R. § 2.335(a); (2) the contention is not adequately supported, contrary to 10 C.F.R. § 2.309(f)(1)(v); and (3) the contention fails to demonstrate a genuine dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

First, like their similar claims in Contention 4, Petitioners' allegations regarding radioactive waste disposal, as discussed in ER Section 5.7 on the uranium fuel cycle effects, constitutes a collateral attack on NRC's regulation for ERs in 10 C.F.R. § 51.51(a). In Table S-3 in 10 C.F.R. § 51.51, the Commission has considered generically the environmental impacts of radioactive waste disposal as part of its evaluation of the uranium fuel cycle. Section 51.51 requires that the ER use Table S-3 regarding the uranium fuel cycle. ER Section 5.7.6 references Table 5.7-1, which repeats Table S-3 as the reference reactor data, and after applying a scaling

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[121] Additionally, the Petitioners fail to understand that the title of any spent fuel would not transfer from the licensee to the government until "delivery" of the waste to a repository. 42 U.S.C. § 10143. Therefore, contrary to this contention, the government would not take possession of any spent fuel at the site.

[122] Petition at 31.

[123] *Id.*

factor, provides the plant-specific data for STP Units 3 and 4. Based on application of Table S-3, the ER concludes that the environmental impacts of radioactive waste disposal are SMALL.[124] As such, the contention presents a challenge to the rules and is prohibited under 10 C.F.R. § 2.335(a). As the Commission recently repeated, "[a]bsent a waiver, parties are prohibited from collaterally attacking our regulations in an adjudication."[125] Petitioners have neither requested such a waiver, nor addressed the criteria upon which a waiver request could be based. Accordingly, the contention should be rejected.[126]

Second, the contention should be rejected because Petitioners fail to provide support, as required by 10 C.F.R. § 2.309(f)(1)(v), for any alternative consideration of the issues associated with radioactive waste. The contention asserts that these issues "should" be addressed, but fails to say why, how, or in what manner the ER's analysis is flawed. Further, the contention lacks reference to any document, information, or authority explaining how the ER's analysis is lacking.

Finally, Petitioners fail to establish any genuine dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Petitioners do not dispute that the environmental impacts of radioactive waste disposal or waste transportation are SMALL. Rather, they simply assert that some unspecified assumption in the ER should not be used. Importantly, Petitioners do not contend that an assessment using other assumptions or methodologies would produce conclusions that are materially different from those in the ER.

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124 ER at 5.7-6.

125 *Tenn. Valley Auth.* (Bellefonte Nuclear Power Plant, Units 3 & 4), CLI 09-3, 69 NRC __, slip op at 9 (Feb. 17, 2009) (citing 10 C.F.R. § 2.335).

126 *See* 10 C.F.R. § 2.335(c). To the extent that this contention raises issues related to transportation accidents, these issues are not covered by Table S-3. Because STP Units 3 and 4 do not meet all of the conditions in 10 C.F.R. § 51.52(a), the ER contains a full description and detailed analysis of the environmental effects of waste transportation, including an analysis of transportation accidents. *See* ER Sections 3.8, 5.11, and 7.4. Petitioners fail to controvert any aspect of these analyses, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

As discussed above, the contention presents an impermissible challenge to the Commission's rules, it offers no support whatsoever for its allegations, and it does not even suggest that a different analysis would have a material effect on the ER's conclusions that the impacts of waste disposal and transportation are SMALL. Accordingly, for each of these reasons, the contention should be rejected.

8. Contention 8 – Radioactive Sediment in Reservoir

Contention 8 alleges that "[t]he COLA is inadequate because it fails to fully analyze the radiological hazards that will occur from operation of the STP Units 3 and 4 nuclear plants based on discharge of water that contains radioactive particulates to the Main Cooling Reservoir (MCR)."[127] Petitioners allege that the "MCR is and will continue to be an unlicensed radioactive waste disposal facility" for STPNOC operations, and that "there is no plan to do anything to remove or remediate the radioactive contamination that is systematically being discharged into the MCR."[128] Finally, Petitioners assert that STPNOC must consider the potential environmental and public health consequences resulting from the postulated (1) failure of the MCR embankment and washing of radioactive sediment downstream; (2) "dewatering" of the MCR due to protracted drought and blowing of radioactive sediment offsite; and (3) migration of radionuclides from the MCR to groundwater to offsite.[129]

As demonstrated below, this contention should be dismissed because Petitioners' speculative and hyperbolic allegations regarding the "radiological hazards" of the MCR lack adequate factual, documentary, and expert support, and fail to establish the existence of a genuine dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi).

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127 Petition at 32.

128 *Id.* at 33.

129 *Id.* at 32-35.

a. The MCR Is Not a "Radioactive Waste Disposal Facility" and There Is No Genuine Material Dispute Regarding Tritium and Radioactivity in the MCR Sediment

The linchpin of Contention 8 is Petitioners' erroneous assertion that the MCR is an "unlicensed radioactive waste disposal facility."[130] This claim is factually and legally without basis.

As discussed in detail below, the ER demonstrates that liquid radioactive effluents from STP Units 3 and 4 will comply with NRC regulations; that the results of monitoring programs show no problem with radionuclides in either the water or sediments in the MCR; and that monitoring of the MCR in the future will continue to ensure compliance with applicable regulatory requirements.

As discussed in ER Section 3.5.2, the Liquid Waste Management System ("LWMS") for STP Units 3 and 4 is designed to ensure that potentially radioactive liquids are not discharged to the environment *unless* they have first been monitored and confirmed to be within acceptable limits.[131] STPNOC uses a Radiological Environmental Monitoring Program ("REMP") to ensure that the plant is operated within its design parameters and to ensure that offsite doses are as low as reasonably achievable.[132] The REMP also ensures that radioactive materials that are released from the plant do not re-concentrate in the environment and are as modeled in the Off-site Dose Calculation Manual ("ODCM").[133]

As stated in ER Section 6.2, the REMP requires that STPNOC perform routine monitoring of direct, airborne, waterborne, and ingestion pathways. The REMP requires routine monitoring of levels of radioactive materials, including tritium, in the MCR, groundwater, and

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130 *Id.* at 33.

131 ER at 3.5-6.

132 *Id.* at 6.2-1.

133 *Id.*

other water bodies near the plant.[134] ER Tables 6.2-3 and 6.2-4 identify sampling locations. The ODCM and REMP will apply to effluent releases from proposed Units 3 and 4.[135] Therefore, STPNOC will closely monitor radioactive effluents, including tritium.

Petitioners ignore ER Section 6.2.6, which summarizes the results of tritium monitoring at STP. Specifically, this section states:

> Although tritium has been identified and analyzed in groundwater and surface water samples, the average annual tritium concentrations observed in the MCR have remained below United States Nuclear Regulatory Commission reporting limits (30,000 pCi/l) and within United States Environmental Protection Agency (40CFR141.66[d]) and State of Texas (30 Texas Administrative Code 290.108) drinking water standards (20,000 pCi/l).

Thus, any identified tritium in the MCR has been within regulatory limits.

Similarly, there is no appreciable radioactivity in the sediment of the MCR. As support for their arguments related to radioactivity in the MCR sediment, the Petition cites to pages 6-7 and 6-8 of the 2007 Annual Environmental Operating Report for STP Units 1 and 2.[136] However, those pages contain the following information related to radioactivity in the MCR sediment:

> Bottom sediment samples are taken from the Main Cooling Reservoir each year. Figure 6-6 shows the positive results from two plant-produced radioactive materials, Cobalt-58 and Cobalt-60. The Cobalt-58 and Cobalt-60 inventory in the reservoir has decreased since 1992 because of equipment installed to reduce radioactive effluents. The amount of Cobalt-58 has decreased below levels that can be reliably detected. The concentration of Cobalt-60 in the reservoir bottom sediment samples varies and this year could not be detected. Figure 6-7 demonstrates the decline in the total amount of Cobalt-60 in the reservoir.

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134 *Id.* at 6.2-4 and Table 6.2-3 (Radiological Environmental Monitoring Program (Pre-Application, Construction, Preoperation, Operation)).

135 *See id.* at 6.2-1 ("Addition of STP 3 & 4 will not require changes to the monitoring requirements in the existing REMP for STP 1 & 2.").

136 Petition at 32-33.

> Cesium-137 was measured in one of the Main Cooling Reservoir bottom sediment samples. However, Cesium-137 was present in the environment before the operation of the South Texas Project and the sample concentrations were approximately equal to pre-operational values. The Cesium-137 measured in the Main Cooling Reservoir does not suggest an increase due to plant operation.[137]

Therefore, the reference in Contention 8 reports that there is no appreciable radioactivity in the MCR sediment, and accordingly it does not establish a genuine dispute of material fact. Therefore, pursuant to 10 C.F.R. § 2.309(f)(1)(vi), Contention 8 should not be admitted for litigation.

Finally, as a matter of law, Petitioners are incorrect in implying that "[d]ischarging radioactive particulate and tritium into the MCR [is subject to the requirements for] 'disposal' under 42 USC 2021b that requires 'permanent isolation' of radioactive materials."[138] Section 2 of the Low Level Radioactive Waste Policy Act, 42 U.S.C. § 2021b, defines "disposal" as the "permanent isolation of low-level radioactive waste pursuant to the requirements established by the Nuclear Regulatory Commission." In turn, 10 C.F.R. § 61.2 defines disposal as the "isolation of radioactive wastes from the biosphere inhabited by man and containing his food chains by emplacement in a land disposal facility." Radioactive discharges into the air and water are authorized by the NRC regulations, and such discharges do not need a license under Part 61 for a waste disposal facility.[139] Part 61 is not applicable here because it applies only to "disposal

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137 2007 Annual Environmental and Annual Radiological Environmental Operating Reports, at 6-7 and 6-8, provided in Letter from W. Bullard, STPNOC, to NRC Document Control Desk (Apr. 30, 2008), *available at* ADAMS Accession No. ML081280093. Essentially identical results were identified in 2008. *See* 2008 Annual Environmental and Annual Radiological Environmental Operating Reports, at 6-8, provided in Letter from J. Ashcraft, STPNOC, to NRC Document Control Desk (Apr. 30, 2009).

138 Petition at 33.

139 *See* 10 C.F.R. §§ 20.1302(b)(2)(i) (specifying limits on radioactive material in gaseous and liquid effluents); 20.2001(a)(3) (identifying release in effluents as an authorized means for disposal of licensed material); and

of radioactive wastes containing byproduct, source and special nuclear material received from other persons. Disposal of waste by an individual licensee is set forth in part 20."[140] Thus, STPNOC does not need to seek a license (other than a COL) to discharge radioactive effluents to the MCR.

In short, contrary to the entire premise of Contention 8, there is no appreciable radioactivity in the water or sediment of the MCR due to the operation of STP Units 1 and 2. NRC-required effluent controls and routine radiological monitoring ensure that proposed Units 3 and 4 will not cause the accumulation of appreciable radioactivity in MCR water and sediment. Petitioners have provided no basis or support for their allegation that the MCR sediment contains, or will contain, excessive radioactivity. Since the premise of Contention 8 is without any factual or legal basis, it should be rejected.[141]

b. Petitioners' Claims Regarding MCR Embankment Failure, Dewatering of the MCR, and MCR-Related Groundwater Contamination Are Not Material and Lack Any Factual, Documentary, or Expert Support

Contention 8 should be rejected for the foregoing reasons alone. As shown above, there is no factual or technical underpinning for the contention's central premise (*i.e.*, that STPNOC has released, or will release, unacceptable quantities of radioactive particulates and tritium into the MCR). As such, Petitioners' subsidiary claims regarding failure of the MCR embankment, dewatering of the MCR, and migration of radionuclides from the MCR to groundwater are not material. In any event, those claims lack any factual or technical support.

50.34a (providing "Design objectives for equipment to control releases of radioactive material in effluents—nuclear power reactors").

[140] *Id.* § 61.1(a); *see also Bellefonte*, CLI-09-3, slip op. at 5-6.

[141] Additionally, the NRC regulations already establish standards for radioactive effluents in 10 C.F.R. Part 50, App. I and 10 C.F.R. § 20.1302(b)(2)(i). Any attempt by the Petitioners to seek different standards is an impermissible challenge to these regulations, contrary to 10 C.F.R. § 2.335.

First, Petitioners offer no facts, documents, or expert opinion to support their claim that the MCR embankment may fail during the licensed operating life of any STP unit.[142] In fact, as stated in Section 2.4S4.1.2 of the Final Safety Analysis Report ("FSAR") (and uncontested by the Petitioners), failure of the MCR embankment is not a credible event.

Second, Petitioners provide no support for their claim that STPNOC must evaluate potential airborne transport of radioactive particulates caused by dewatering of the MCR. Petitioners again hypothesize, without any supporting information or analysis, that the MCR may become a "dry lakebed" due to protracted drought conditions and the effects of global warming.[143]

Finally, Petitioners provide no basis for the claim that "[t]ritium contaminated groundwater could also migrate with off-site radiological consequences."[144] Petitioners only reference a scant 2-page declaration from George Rice who states that there is "insufficient time to perform a thorough review of the groundwater system and assess the potential groundwater contamination at the South Texas Project (STP) Nuclear Power Plant."[145] Nevertheless, he speculates that "if" released from the plant or associated facilities, radionuclides "may" contaminate the local groundwater system and any lakes and streams to which groundwater

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142 NRC reviewed the design, construction, and operation of the MCR, including planned monitoring during plant operation, in the safety review of Units 1 and 2, and "concluded that there is reasonable assurance that the MCR dike in the vicinity of plant structures is capable of containing the reservoir under all anticipated operational conditions." NUREG-0781, Safety Evaluation Report Related to the Operation of South Texas Project, Units 1 and 2, App. J at 6 (Apr. 30, 1986), *available at* ADAMS Legacy No. 8605060475. Operation and maintenance of the MCR embankment is subject to Texas Commission on Environmental Quality ("TCEQ") oversight. Title 30, Chapter 299 of the Texas Administrative Code and the associated guidelines referenced therein ensure that the embankment meets all TCEQ requirements. Those requirements include, but are not limited to, monthly inspections, preventive maintenance, and third-party inspection of the dam.

143 Petition at 34.

144 *Id.* at 33.

145 Rice Declaration at 1. Additionally, Mr. Rice, apparently referring to the time period between the Hearing Notice and the deadline for petitions to intervene, states that "[t]he 60-day time period is insufficient to perform a thorough review" at STP. *Id.* at 2. This statement does not support the declaration and ignores the fact that the COLA has been available since Fall 2007.

discharges.[146] But Mr. Rice does not claim, let alone provide a "reasoned basis or explanation"[147] for claiming, that STPNOC will release unacceptable quantities of radionuclides into the MCR, and that such radionuclides "may" migrate to groundwater. Indeed, he fails to address any of the extensive groundwater information and related analyses contained in the COLA,[148] including the radionuclide transport analyses in FSAR Section 2.4.[149]

In summary, the Petitioners have offered no support for their allegations that the MCR embankment could fail, that the MCR could dry up, or that groundwater beneath the MCR may become contaminated. Instead, these allegations are based upon nothing but pure speculation. As the Commission has held, a 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.'"[150] Accordingly, these allegations in Contention 8 should be rejected for failure to satisfy 10 C.F.R. § 2.309(f)(1)(v).

c. Contention 8 Does Not Raise a Material Dispute

Even if Petitioners' factual allegations were assumed to be accurate (*i.e.*, that there is appreciable radioactivity in the MCR sediment that could be released to the public through a break in the MCR embankment or wind-blow sediment from a dry MCR), Contention 8 still would not raise a genuine dispute of material fact.

Petitioners provide no basis for believing that either wind-blown or water-borne sediment would pose a significant environmental impact that needs to be discussed in the ER. To the

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146 *Id.* at 1.

147 *See USEC*, CLI-06-10, 63 NRC at 472.

148 *See* ER Sections 2.3.1.2, 2.3.2.2, 2.3.3.2, 5.2.2.2; FSAR Section 2.4.

149 Furthermore, while Mr. Rice cites a 2004 study that he reportedly prepared concerning groundwater transport of contaminants from the Lawrence Livermore National Laboratory in New Mexico to the Rio Grande River, he fails to explain the relevance (if any) of that study to the STP site.

150 *Fansteel*, CLI-03-13, 58 NRC at 203.

contrary, as discussed in ER Section 3.5.2, the concentrations of radionuclides in liquid effluents will comply with the Commission's regulations in 10 C.F.R. Part 20 and Appendix I of 10 C.F.R. Part 50, and Petitioners have not contested that analysis. Furthermore, ER Table 5.10-1 states that the impacts of liquid radiological effluents will be SMALL.

Given that the effluents will comply with regulatory requirements, there is no material dispute that the impacts of those effluents will be SMALL. As stated in 10 C.F.R. Part 51, Subpart A, Appendix B, Table B-1, "[f]or the purposes of assessing radiological impacts, the Commission has concluded that those impacts that do not exceed permissible levels in the Commission's regulations are considered small." Thus, because there is no dispute that the liquid radioactive effluents will comply with NRC regulations, the environmental impacts of such effluents will be SMALL by definition. Therefore, Contention 8 does not raise a genuine material dispute, and should be rejected for failure to satisfy the requirements of 10 C.F.R. § 2.309(f)(1)(vi).

9. Contention 9 – Increasing Levels of Groundwater Tritium

Contention 9 asserts that the ER fails to predict or evaluate the effects of increasing groundwater tritium concentrations. Contention 9 does not include any explanation of its basis. Instead, in support of this contention, Petitioners only provide a reference to the Ross Report.[151] The discussion of Contention 9 in the Petition does not state any reason for believing that the ER fails to predict or evaluate the effects of increasing groundwater tritium concentrations.

As discussed in Section III.B, this contention does not contain the information required by 10 C.F.R. § 2.309(f)(1)(ii), (iv), (v), and (vi) and therefore should be denied without further consideration of the Ross Report. In any event, even if the Board were to consider the

[151] Petition at 35.

information in the Ross Report, it does not provide a sufficient basis for admission of this contention.

The Ross Report cites the tritium levels reported in the ER for MCR relief wells during the period from 1990 to 2005 (*i.e.*, during the full power operation of STP Units 1 and 2), and then asserts that "[w]ith the addition of two proposed nuclear power generating stations, tritium concentrations in MCR and in the wastewater that is leaking through its unlined bottom are likely to increase."[152] Thus, the Ross Report assumes that operation of the two proposed ABWR reactors will increase tritium concentrations in the MCR, but does not provide any justification for this assumption.[153] As previously stated by the Commission, an expert opinion that merely provides a conclusion without a "reasoned basis or explanation" does not satisfy 10 C.F.R. § 2.309(f)(1)(v).[154] For this reason, as well, Contention 9 does not meet 10 C.F.R. § 2.309(f)(1)(v), and should be rejected.

The Ross Report also does not demonstrate that it raises an issue that is material to any finding the NRC must make to grant COLs for STP Units 3 and 4, and therefore does not meet the requirement of 10 C.F.R. § 2.309(f)(1)(iv). Tritium is one of the least dangerous radionuclides because it emits very weak radiation and leaves the body relatively quickly.[155] The Ross Report does not assert that the alleged increase in tritium levels would be significant or that

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152 Ross Report at 6.

153 As explained in the FSAR, "[t]he ABWR is designed not to release radioactive liquid effluents." FSAR Section 12.2.2.5. However, the FSAR assumes a minimal release to account for certain operational occurrences. *Id.* Under these assumptions, tritium in liquid releases to the MCR from Units 3 and 4 will be less than one percent of the amount in releases from Units 1 and 2. *Compare* FSAR Table 12.2-22 (showing tritium (H-3) release of 2.96E+05 MBq/year) and 2008 Radioactive Effluent Release Report for STP Units 1 and 2, at 1-4 (Apr. 2009) (showing an onsite liquid tritium release of 2100 Ci/yr, which equals 7.77E+7 MBq/year based upon one curie equals 3.7 x 10^{10} Bq as provided in 10 C.F.R. § 20.1005(b)), *available at* ML091200487. In any event, Petitioners' assumption that MCR tritium will increase is unsupported.

154 *USEC*, CLI-06-10, 63 NRC at 472.

155 *See* NRC response to frequently asked question "How can Tritium and Strontium-90 affect me?," http://www.nrc.gov/reactors/operating/ops-experience/tritium/faqs.html.

it would affect any finding that the NRC must make to issue COLs for STP Units 3 and 4. In fact, the Ross Report indicates that groundwater tritium levels during the operation of STP Units 1 and 2 have been much less than the level considered generally acceptable by the EPA for drinking water.[156] Petitioners have not provided any basis for alleging that the alleged increase in groundwater tritium levels would exceed the EPA drinking water standard, and have not met their burden to demonstrate that Contention 9 raises an issue that is material to any finding the NRC must make in this proceeding. Consequently, Contention 9 does not meet the requirement of 10 C.F.R. § 2.309(f)(1)(iv) and should be rejected on this basis as well.

Finally, the Ross Report does not provide sufficient information to show that a genuine dispute exists with STPNOC on a material issue of law or fact. The Ross Report references, and relies upon, a portion of the ER that discusses historic tritium levels in the MCR pressure relief wells that discharge to surface water and ignores considerable data in the ER on actual groundwater monitoring for tritium trends. The Ross Report does not dispute any of the statements in the ER that it references, and does not reference any other portion of the ER. Contention 9 also does not satisfy 10 C.F.R. § 2.309(f)(1)(vi) because it does not "include references to specific portions of the application (including the applicant's environmental report and safety report) that the petitioner disputes and the supporting reasons for each dispute."

Contention 9 and the Ross Report both assert that the ER "fails to predict or evaluate the effects of increasing groundwater tritium concentrations."[157] Petitioners' assertions regarding the ER are clearly wrong. Pertinent portions of the ER include: Section 3.5.1.2.3 "Tritium"

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156 Ross Report at 5, 6 (acknowledging the EPA drinking water standard is 20,000 pCi/L and that the MCR relief well concentrations have never exceeded 8000 pCi/L).

157 Petition at 35; Ross Report at 5.

(discussing the production of tritium during ABWR operation)[158]; Section 3.5.2.4.1 "Release Points" (discussing the release of liquid wastes to the MCR)[159]; Section 3.5.2.5 "Dilution Factors" (discussing dilution of the liquid waste and referencing the more detailed discussion in FSAR Section 12.2.2.5.1 "Dilution Factors")[160]; Section 5.4.2.1 "Liquid Pathway Doses" (discussing application of the LADTAP II computer program to calculate doses to the maximally exposed individual)[161]; Section 5.4.3 "Impacts to Members of the Public" (discussing the doses due to releases from all pathways, including tritium in liquid and gaseous releases, and demonstrating that the projected doses will be well below the regulatory limits that apply per unit, as well as the limits that apply per site (*i.e.*, Units 1 and 2 plus Units 3 and 4)); and Section 5.4.4 "Impacts to Biota Other than Members of the Public" (discussing other environmental impacts). Contention 9 does not reference any of this information or provide any reason for considering it to be incomplete or deficient.

In this regard, Contention 9 is similar to a contention on reactor vessel embrittlement that was considered by the licensing board in the *Palisades* license renewal proceeding. There the licensing board noted that:

> It cannot be ascertained whether the drafters of Contention 1 actually even read the Application. In any event, no sections or specific contents of it are referenced to identify any specific inadequacy, and the asserted ''failure to address'' embrittlement is not explained with any specificity or tied in any way to the actual Application.[162]

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158 ER at 3.5-4.

159 *Id.* at 3.5-9.

160 *Id.*

161 *Id.* at 5.4-3.

162 *Nuclear Mgmt. Co., LLC* (Palisades Nuclear Plant), LBP-06-10, 63 NRC 314, 352-53 (2006) (citations omitted).

On this basis, the *Palisades* licensing board determined that the contention did not comply with 10 C.F.R. § 2.309(f)(1)(vi) and should be rejected.[163] On appeal, the Commission agreed with and affirmed the licensing board's assessment.[164] Here too, Contention 9 completely omits any mention of the portions of the COLA that discuss the impacts of tritium releases from the ABWR, and does not provide any reasons for concluding that the COLA is deficient.

Consequently, Contention 9 does not meet the requirement of 10 C.F.R. § 2.309(f)(1)(vi), and this provides a further basis for rejecting this contention.

10. Contention 10 – Design Basis Flood

Contention 10 alleges that the reactor building, ultimate heat sink ("UHS"), and reactor[165] service water ("RSW") pump houses are below the design basis flood level resulting from a breach of the MCR and thus are vulnerable to flooding.[166] This contention should be rejected because it lacks any expert opinion or other support, contrary to 10 C.F.R. § 2.309(f)(1)(v); and does not demonstrate a genuine dispute on a material issue, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

a. Background Related to the Design Basis Flood and Flood Protection

Contention 10 is based upon information in the flooding analysis in Revision 2 of the FSAR. However, STPNOC has revised the analysis of flooding from a breach of the MCR. The

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163 *Id.*

164 CLI-06-17, 63 NRC 727, 730 (2006).

165 At some places, the contention refers to the "residual" service water pump house and at other places to the reactor service water pump house. *See, e.g.*, Petition at 36. We assume that the Petitioners intend in all places to refer to the reactor service water pump house, since there is no "residual" service water pump house.

166 *Id.*

following background information is based upon a planned revision to the FSAR, as provided by STPNOC in a letter to the NRC dated February 23, 2009.[167]

Cooling water for STP Units 3 and 4 will be provided from the existing MCR located on the STP site. The structure for the MCR consists of an embankment that rises above the natural grade surface south of the plant.[168] The normal maximum operating water level of the MCR is at an elevation of 49.0 ft mean sea level ("MSL").[169]

The MCR embankment is approximately 2340 feet south of the centerline of the reactor buildings of STP Units 3 and 4.[170] The nominal plant grade for safety facilities is 34 ft MSL.[171] As shown on FSAR Figures 2.4S.4-14 and 15, the UHS is the closest safety-related structure to the MCR.

STPNOC does not consider a breach of the MCR embankment to be a credible event.[172] Nevertheless, STPNOC conservatively postulated a breach of the MCR embankment.[173] That analysis assumed an initial water level in the MCR of 50.9 ft MSL.[174] Furthermore, STPNOC evaluated a breach averaging 417 feet in width in the MCR.[175] Based upon those assumptions, STPNOC analyzed the resulting flood levels at the safety-related structures for Units 3 and 4.

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167 Letter (including attached FSAR revision) from S. Head, STPNOC, to NRC Document Control Desk, Supplemental Responses to Requests for Additional Information (Feb. 23, 2009), *available at* ADAMS Accession Nos. ML090710301 and ML090710302.

168 FSAR Section 2.4S.4.1.2.

169 *Id.*

170 *Id.*

171 *Id.* Section 2.4S.4.

172 *Id.* Section 2.4S.4.1.2. As noted above, the Safety Evaluation Report associated with the Operating Licenses for STP Units 1 and 2 also concluded that there is reasonable assurance that the MCR dike in the vicinity of the plant structures is capable of containing the reservoir under all anticipated operational conditions. NUREG-0781, App. J at 6.

173 FSAR Section 2.4S.4.1.2.

174 *Id.* Section 2.4S.4.2.2.2.1, *available at* ADAMS Accession No. ML090710302, Att. 1, at 10.

175 *Id.* Section 2.4S.4.2.2.2.2, *available at* ADAMS Accession No. ML090710302, Att. 1, at 11.

The resulting maximum flood level at the safety-related structures is 38.8 ft MSL.[176] STPNOC has conservatively established the design basis flood level for STP Units 3 and 4 at 40.0 ft MSL.[177] The safety-related structures for Units 3 and 4 are designed to be water-tight below 40.0 ft MSL and the UHS and RSW pump house are designed to be water tight below 50 ft MSL.[178]

b. Petitioners Do Not Dispute the Information in the FSAR on the Design Basis Flood and Flood Protection

The Petitioners do not dispute any of the information discussed above. Rather than disputing the information in the FSAR, the Petitioners simply 1) note that the water level in the MCR will be above the design basis flood level at STP Units 3 and 4 (which are located more than 2000 feet from the MCR); and 2) question whether an MCR design basis flood puts the units in an unreasonably vulnerable status due to flooding.[179] However, the Petitioners provide no expert opinion, facts, or other support for their statements or any reason to believe that the design basis flood level is incorrect or that safety-related structures are not adequately protected up to the level of the design basis flood.

As a result, Contention 10 lacks sufficient support and does not raise a genuine dispute of material fact. Therefore, Contention 10 does not satisfy the standards for admissibility in 10 C.F.R. § 2.309(f)(1)(v) and (vi) and should be rejected.

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176 *Id.* Section 2.4S.4.2.2.4.1, *available at* ADAMS Accession No. ML090710302, Att. 1, at 14.

177 *Id.* Sections 2.4S.4, *available at* ADAMS Accession No. ML090710302, Att. 1, at 4.

178 *Id.* Section 2.4S.2.2, *available at* ADAMS Accession No. ML090710302, Att. 1, at 3.

179 Petition at 37.

11. Contention 11 – Environmental Impacts of Global Warming and Water Use

This contention alleges that the COLA improperly "assumes there will be an adequate supply of fresh water for purposes of plant operations."[180] According to the Petitioners, this assumption is flawed because the ER does not "analyze impacts of global warming on rainfall and the hydrological cycle."[181] Petitioners assert that the ER is deficient because it fails to address drought-related impacts from global warming. As demonstrated below, this contention should be dismissed because Petitioners' allegations regarding the impacts of global warming lack adequate factual, documentary, and expert support, and fail to establish the existence of a genuine dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi).

Additionally, apparently as a basis for their contention, Petitioners allege that the ER should have considered: (1) radiological impacts from additional discharges to the MCR; (2) impacts from chemicals discharged as part of liquid effluents; (3) water use and water quality impacts; (4) impacts to aquatic biota; and (5) the impact of plant operations on global warming.[182] However, those allegations have no relevance to Petitioners' contention, which pertains to the impacts of global warming on water availability. Therefore, the Board can and should rule on this contention, without addressing those allegations other than to note that they are not relevant. In this regard, Petitioners are "responsible for formulating the contention,"[183] and therefore cannot be heard to complain if the Board does not address the substance of those allegations that are not relevant to the issue statement for Contention 11. Nevertheless, as discussed below, even if the Board considers the five additional bases that are unrelated to the

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180 *Id.*

181 *Id.*

182 *Id.* at 37-40.

183 *See* Statement of Policy on Conduct of Adjudicatory Proceedings, CLI-98-12, 48 NRC at 22.

Petitioners' issue statement, this contention should still be denied for failing to satisfy 10 C.F.R. § 2.309(f)(1)(v) and (vi).

a. Petitioners' Claim Regarding the Impacts of Global Warming Lacks Adequate Support and Fails to Establish a Genuine Material Dispute

Petitioners state, without reference to any supporting documents or expert opinion, that "impacts from global warming will include protracted drought that may seriously compromise water resources required for plant operations."[184] Petitioners offer no support for this assertion, but simply claim that "compromised water resources should be considered from a quantitative perspective and a temperature sensitive analysis."[185] Contrary to 10 C.F.R. § 2.309(f)(1)(v), Petitioners fail to provide *any* support for the basic, underlying premise of this contention (*i.e.*, global warming will impact drought frequency and the intensity of the flow of the Colorado River, which is the source of cooling water for STP Units 3 and 4). Such vague, unsupported claims of "protracted drought" and "compromised water resources" are insufficient bases for a proposed contention. Petitioners are required to provide *some* facts or expert opinion to support their claim, as well as references to specific sources and documents.[186] Here, Petitioners fail to offer any tangible information, expert opinion, or affidavits to support their global warming claims. Therefore, Contention 11 should be dismissed in its entirety, pursuant to 10 C.F.R. § 2.309(f)(1)(v).[187]

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184 Petition at 38.

185 *Id.*

186 *See* 10 C.F.R. § 2.309(f)(1)(v).

187 *See William States Lee*, LBP-08-17, slip op. at 15 (rejecting a contention claiming water temperatures would be impacted by global warming because the petitioner provided "no meaningful support" for that allegation); *Bellefonte*, LBP-08-16, slip op. at 62 (rejecting a contention which claimed that global warming would increase severe weather events, without providing information on the magnitude of the increase).

In addition, Petitioners' claims regarding global warming-induced droughts fail to contain sufficient information to show the existence of a genuine dispute on a material issue of fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Although Petitioners allege that "[g]lobal warming and its impacts on rainfall are better understood now and must be considered in the context of determining whether adequate water resources will be available for nuclear plant operations," Contention 11 fails to controvert the very portions of the ER that directly address water availability and precipitation trends.[188] In particular, ER Section 2.3.1.1.1 and Table 2.3.1-5 present monthly flow data of the Colorado River for the years 1948 to 2006; Section 2.3.1.1.1 discusses historic droughts; Section 2.7.1.3.3 discusses local precipitation; and Section 5.2.1 discusses plant water supply, including under drought conditions. The Petitioners fail to controvert any of the data presented in these sections of the ER and do not explain why such information is insufficient to capture any regional climate change-related trends.[189]

In the *Williams States Lee* COL proceeding, the licensing board rejected a similar contention. There, the petitioner alleged that the applicant should have considered increases in regional surface water temperatures and drought frequency caused by global warming. The board rejected the contention because the petitioner's "assumptions about future increases in water temperatures and drought [were] entirely unsupported" and because the petitioner did not address the portion of the COLA that compared current and historical surface water temperatures.[190] Similarly, in Contention 11, Petitioners failed to support their global warming claims and failed "to 'read the pertinent portions of the license application, . . . state the

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188 Petition at 37.

189 *See William States Lee*, LBP-08-17, slip op. at 15 (rejecting a contention claiming water temperatures would be impacted by global warming because the petitioner did "not address the portions of the Application that discuss climate variations").

190 *Id.*

applicant's position and the petitioner's opposing view,' and explain why it disagrees with the Applicant."[191] Therefore, Contention 11 should also be dismissed in its entirety.

Because the fundamental premise behind this contention is unsupported and does not raise a genuine issue of material fact with the COLA, the Board need not address Petitioners' additional arguments that are unrelated to the Contention 11 issue statement. As the board in *William States Lee* observed in a similar situation, "licensing boards admit contentions, not bases," and thus, the Board should not "try to rewrite" this contention, "transforming it into numerous additional contentions that [Petitioners have] not clearly set forth."[192] Nonetheless, as demonstrated in the following sections, even if the Board considered Petitioners' additional claims as separate contentions, Contention 11 remains inadmissible.

b. Petitioners' Claim Regarding Radiological Impacts to the MCR Lacks Adequate Support and Fails to Establish a Genuine Material Dispute

Petitioners present an amalgam of allegations related to STPNOC's purported failure to consider radiological impacts related to additional discharges to the MCR. Specifically, Petitioners assert that the ER should have considered: (1) the cumulative impacts of discharging additional radionuclides to the MCR; (2) the radiological impacts that would result if the sediment layer at the bottom of the MCR becomes exposed during a "protracted drought," this sediment becomes "dust," and then the sediment is transported by "wind"; (3) the radiological impacts that would result if the MCR embankment failed and radionuclides in the sediment layer at the bottom of the MCR were transported downstream; and (4) issues related to the long-term

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191 *Id.* at 16 (quoting Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170).

192 *See William States Lee*, LBP-08-17, slip op. at 17 (quoting *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-04-28, 60 NRC 548, 557 (2004)).

ownership and responsibility of the MCR because the accumulation of radionuclides in the MCR constitutes a "radiological hazard."[193]

Those allegations have essentially been "cut and pasted" from the allegations that the Petitioners have made with respect to Contention 8. As discussed above in the response to Contention 8, those claims are unsupported and fail to controvert pertinent information in the COLA, contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi).

c. Petitioners' Claim Regarding Impacts from Chemicals Discharged in Liquid Effluents Lacks Adequate Support and Fails to Establish a Genuine Material Dispute

Petitioners claim that STPNOC should have considered "pollution impacts downstream from water contaminated by chemical treatment such as biocides, algaecides, pH adjustors, corrosion inhibitor and silt dispersant chemicals injected at the reactor site as well as chlorine, salts and non-radioactive effluent." Furthermore, Petitioners assert that the "differential impact of treatment of 100 percent of the water effluent versus the lesser amount of treatment proposed by the Applicant should be considered."[194]

Petitioners provide no support for their assertion that some further "analysis" of liquid effluents containing chemicals or biocides is required.[195] Nor do Petitioners furnish factual information or expert opinion of their own challenging any of the ER's discussions of these subjects. Accordingly, this claim should be rejected pursuant to 10 C.F.R. § 2.309(f)(1)(v) for failing to provide supporting facts or expert opinions.

In addition, Petitioners fail to identify or contest relevant portions of the ER that discuss chemical discharges. For example, Sections 3.3.2, "Water Treatment," and 3.6.1, "Effluents

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193 Petition at 38-39.

194 *Id.* at 39.

195 As discussed below in response to Contention 12, the TPDES permit regulates chemicals in discharges both to the MCR and from the MCR to the Colorado River.

Containing Chemical or Biocides," describe chemical discharges from proposed STP Units 3 and 4, and provide detailed information regarding chemical and biocide effluents. Additionally, Sections 5.2.3.1, "Chemical Impacts," and 5.5.1.1, "Impacts of Discharges to Water," discuss the potential for chemical discharges to impact water quality and aquatic ecosystems. ER Section 9.4.2.4, "Water Treatment," discusses water treatment systems. Specifically, the ER concludes that these impacts are expected to be SMALL and thus, no additional mitigation is warranted.[196] Petitioners do not mention—much less dispute—any of these analyses or conclusions. Accordingly, this claim should be rejected for failing to satisfy 10 C.F.R. § 2.309(f)(1)(v) and (vi).

d. Petitioners' Claim Regarding Water Use and Water Quality Impacts Lacks Adequate Support and Fails to Establish a Genuine Material Dispute

Petitioners assert that STPNOC should have considered whether operation of the proposed new units would impact the "water quantity and quality" of "regional waterways."[197] Petitioners claim that the additional water use will result in "increase[d] salt content of the waterways of the region," "[c]oastal environmental impacts," and "biological impacts" that are not considered in the COLA.[198]

The most fundamental and fatal defect in these claims is that, contrary to 10 C.F.R. § 2.309(f)(1)(v), Petitioners fail to provide any support for their primary argument (*i.e.*, operation of STP Units 3 and 4 will have an adverse impact on water use and water quality). Petitioners provide no factual information or expert opinion that indicates that the water quality of the Colorado River and the Gulf of Mexico would be negatively affected by operation of the

196 *See* ER at 5.2-8 (stating that "[i]mpacts of chemicals in the proposed MCR blowdown on the Colorado River water quality would be SMALL") and 5.5-2.

197 Petition at 39.

198 *Id.*

proposed new reactors. Nor do Petitioners provide any supporting information that indicates that operation of the new units would adversely impact water use or availability. Instead, Petitioners simply conclude that the "COLA should also consider whether regional waterways will be impacted in terms of water quantity and quality by the use of vast quantities of water for Units 3 and 4."[199]

Although Petitioners note that "[c]oastal environmental impacts are known to result from alterations of freshwater flow into the Gulf of Mexico,"[200] they provide no factual or expert support indicating that operation of STP Units 3 and 4 would significantly alter freshwater flow into the Gulf of Mexico or cause significant environmental impacts. Petitioners are required to provide *some* facts or expert opinion to support their claim, as well as references to specific sources and documents.[201] A 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.'"[202] Here, Petitioners fail to offer any tangible information, expert opinion, or affidavits that support their claims regarding water quality and water use impacts. Therefore, this contention is not properly supported and should be dismissed, pursuant to 10 C.F.R. § 2.309(f)(1)(v).

In addition, Petitioners' claims regarding water quality and water use fail to contain sufficient information to show the existence of a genuine dispute on a material issue of fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Although Petitioners allege potential water use and quality impacts to various regional waterways, their contention fails to controvert the portions of

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199 *Id.*

200 *Id.*

201 *See* 10 C.F.R. § 2.309(f)(1)(v).

202 *Fansteel*, CLI-03-13, 58 NRC at 203 (quoting *GPU Nuclear*, CLI-00-6, 51 NRC at 208).

the COLA that directly address such issues. In particular, ER Sections 2.3.1, 2.3.2, and 2.3.3 provide detailed descriptions of the surface water bodies and groundwater aquifers; the types, locations, and quantities of consumptive and non-consumptive water uses; and of water quality in the vicinity of the STP site. Additionally, ER Sections 5.2.1, 5.2.2, and 5.2.3 analyze the potential for hydrologic alterations from plant operations and for impacts to water use and on water quality. The ER concludes that these impacts are SMALL and that mitigation is not warranted.[203] Petitioners do not dispute—or even mention—any of these analyses or conclusions in their water use and water quality claims. Accordingly, these elements of Contention 11 should be rejected for not satisfying 10 C.F.R. § 2.309(f)(1)(vi).

e. Petitioners' Claim Regarding Impacts to Aquatic Ecosystems Lacks Adequate Support and Fails to Establish a Genuine Material Dispute

Petitioners argue that the COLA should have considered impacts to coastal plant and animal populations caused by "alterations of freshwater flow into the Gulf of Mexico, affecting lagoons, estuaries and wetlands, altering salinity patterns, nutrients, dissolved oxygen levels."[204] According to the Petitioners, the COLA should have considered "biological impacts . . . including the possibility of eutrophication, productivity and sediment impacts and potential contamination."[205] Petitioners reference the Ross Report as support for this aspect of Contention 11.[206] As discussed below, this reference fails to provide Contention 11 with adequate factual support and fails to demonstrate the existence of a genuine material dispute that warrants an adjudicatory hearing.

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203 ER at 5.2-1, 5.2-4, 5.2-6, 5.2-8.

204 Petition at 39.

205 *Id.*

206 *Id.*

First, notwithstanding the Ross Report, Petitioners fail to provide adequate factual support or expert opinion. In fact, Petitioners provide no support—expert or otherwise—for their assertion that plant operations would alter "freshwater flow into the Gulf of Mexico," affect "lagoons, estuaries and wetlands," or alter "salinity patterns, nutrients, dissolved oxygen levels."[207] These claims are not addressed in the Ross Report or otherwise explained or supported in the contention. Similarly, Petitioners fail to provide any supporting information indicating that operations would impact the "productivity of coastal plant and animal populations" or would have any other "biological impacts."[208]

Petitioners' reference to the Ross Report occurs immediately after a sentence that refers to "eutrophication, productivity and sediment impacts, and potential contamination." However, none of those topics is discussed in the Ross Report. Therefore, while the contention cites to the Ross Report, that report has no apparent relevance to the proposition for which it is cited.[209]

Although Petitioners have sought to bolster their claims by referencing the Ross Report, neither Petitioners nor the Ross Report identify *any* specific plant or animal that could be adversely impacted by plant operations.[210] Indeed, the Ross Report contains no discussion of any particular species that might be adversely impacted and no indication of the mechanism by

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207 *Id.*

208 *Id.*

209 The Ross Report makes some unsupported claims of omissions from the ER regarding reliable delivery of "backup volume" of water during drought conditions and the "environmental affects [sic] during conditions when water withdrawal for the nuclear power plants is a significant fraction of the total river flow." Ross Report at 11. As explained in the ER, the need for any backup water would be very remote, even under "extreme drought conditions," and any backup water would be released by the Lower Colorado River Authority ("LCRA"). ER at 5.2-3. Additionally, surface water would only be withdrawn from the Colorado when conditions are acceptable for supply into the MCR, and withdrawal of surface water on low-flow days would have a SMALL impact. *Id.* at 5.2-4. The Ross Report does not dispute these conclusions and its allegation that information is missing when it is actually in the ER does not support an admissible contention. *See Millstone*, LBP-04-15, 60 NRC at 95-96.

210 *See Turkey Point*, LBP-01-6, 53 NRC at 156-57 (rejecting a contention alleging impacts to threatened and endangered species because the proposed contention failed to identify any particular species of concern).

which operation of STP Units 3 and 4 would affect such species.[211] Therefore, Petitioners fail to provide adequate factual support for their claims regarding impacts to aquatic ecosystems, contrary to 10 C.F.R. § 2.309(f)(1)(v).

Second, Petitioners fail to demonstrate the existence of a genuine dispute of material fact that warrants further inquiry by this Board. ER Section 2.4.2 provides a detailed description of aquatic ecosystems in the region with specific emphasis on species that could potentially be impacted by operation of STP Units 3 and 4. Sections 3.3 and 3.4 describe plant water needs and the operation of the cooling system. Additionally, Sections 5.3.1.2 and 5.3.2.2 describe the potential for the intake and discharge systems to impact aquatic ecosystems. The ER concludes that these effects are SMALL.[212] Petitioners do not dispute—or even mention—any of these analyses or conclusions. Accordingly, Petitioners fail to demonstrate the existence of a genuine dispute of material fact regarding impacts to aquatic ecosystems, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

f. Petitioners' Claim Regarding Impacts on Global Warming from the Cooling System Lacks Adequate Support and Fails to Establish a Genuine Material Dispute

Petitioners allege that STPNOC should have discussed the contribution that emissions of heat energy into the atmosphere and water would have on global warming.[213] According to the Petitioners, the proposed new "reactors . . . are global warming agents in terms of heat including water vapor from steam and heat radiating from cooling towers and ponds."[214]

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211 This lack of specificity regarding potential ecological impacts is in stark contrast to contentions that have been admitted in other proceedings. *See, e.g.*, *Vogtle*, LBP-07-3, 65 NRC at 258-61 (admitting contention alleging that impingement, entrainment, and chemical and thermal effluents from cooling system would impact various species, including shortnose sturgeon); *North Anna*, LBP-04-18, 60 NRC at 271 (admitting contention alleging thermal effluent from cooling system would adversely impact striped bass).

212 ER at 5.3-17 to 5.3-20.

213 Petition at 39-40.

214 *Id.* at 39.

Petitioners provide no support for their claim that the "most prevalent global warming impacts come from increased heat and humidity in the atmosphere."[215] But more importantly, Petitioners fail to provide any support for their claim that operation of the proposed STP Units 3 and 4 could have any significant impact on global warming. As stated previously, a 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.'"[216] Accordingly, their unsupported assertions should be rejected.

Furthermore, Petitioners' claim regarding global warming impacts does not contain sufficient information to show the existence of a genuine dispute on a material issue of fact. ER Section 3.4, "Cooling System," provides detailed information regarding the heat that is generated, dissipated to the atmosphere, and released in liquid discharges during operations. Section 5.3.3 discusses the potential for impacts associated with the heat dissipation system. Furthermore, in discussing the benefits of the proposed action, Section 10.4.1.3 points out that, "[u]nlike electricity generated from coal and natural gas, nuclear energy does not result in significant emissions of air pollutants associated with global warming and climate change."[217] Petitioners ignore all of this information and fail to explain why the proposed units' potential contribution to global warming would be different than what has already been disclosed in the ER. Accordingly, Petitioners have not met their burden under 10 C.F.R. § 2.309(f)(1)(vi) to show that a genuine dispute exists with STPNOC on a material issue of law or fact.

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215 *Id.*

216 *Fansteel*, CLI-03-13, 58 NRC at 203 (quoting *GPU Nuclear*, CLI-00-6, 51 NRC at 208).

217 ER at 10.4-2.

12. Contention 12 – Insufficient TPDES Permit Effluent Limits

Contention 12 asserts that the proposed Texas Pollution Discharge Elimination System ("TPDES") permit fails to establish necessary effluent limits for the range of toxic and harmful chemicals that have been documented to be present or are possibly present in the power plant effluent.[218] Contention 12 does not include any explanation of its basis. Instead, in support of this contention, Petitioners only provide a reference to the Ross Report.[219]

As discussed in Section III.B, this contention does not contain the information required by 10 C.F.R. § 2.309(f)(1)(ii), (iii), (iv), and (vi) and therefore should be denied without further consideration of the Ross Report. In any event, even if the Board were to consider the information in the Ross Report, it does not provide a sufficient basis for admission of this contention.

Petitioners have not demonstrated that the issue raised by Contention 12 is within the scope of this proceeding. The scope of this proceeding does not include any determination of necessary effluent limitations for inclusion in the TPDES permit. The NRC does not have any authority to determine the terms to be included in a discharge permit; such permits are issued under the Clean Water Act and state law, not the Atomic Energy Act.[220] In addition, the Clean Water Act specifically prohibits federal agencies from relying on their general authority under NEPA to impose effluent limits as conditions to licenses.[221] In fact, in upholding the rejection of a contention that the licensee did not have a valid discharge permit on the grounds that the issue

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218 Petition at 40.

219 *Id.*

220 33 U.S.C. § 1371(c)(2) (stating that nothing in NEPA shall "authorize any such agency to impose, as a condition precedent to the issuance of any license or permit, any effluent limitation other than any such limitation established pursuant to this chapter"); *see also Entergy Nuclear Vt. Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-16, 65 NRC 371, 386-89 (2007).

221 *See* 33 U.S.C. § 1371(c)(2); *Tenn. Valley Auth.* (Yellow Creek Nuclear Plant, Units 1 & 2), ALAB-515, 8 NRC 702, 712-13 (1978).

was outside the scope of NRC jurisdiction, the Commission stated that the NRC does not require a licensee to have a discharge permit.[222] The issue raised by Contention 12 is not within the scope of this proceeding, and Contention 12 accordingly should be rejected pursuant to 10 C.F.R. § 2.309(f)(1)(iii).[223]

13. Contention 13 – Reliance on Dilution to Achieve Discharge Standards

Contention 13 asserts that the ER discusses the importance of dilution of nuclear power plant wastewater to meet discharge standards, but neglects to evaluate the relationship between a slightly larger effective MCR volume and the additional waste loads from doubling the electrical generation capacity.[224] Contention 13 does not include any explanation of its basis. Instead, in support of this contention, Petitioners only provide a reference to the Ross Report.[225]

As discussed in Section III.B, this contention does not contain the information required by 10 C.F.R. § 2.309(f)(1)(ii), (iv), (v), and (vi) and therefore should be denied without further

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222 *Millstone*, CLI-04-36, 60 NRC at 639.

223 Contention 12 also does not demonstrate that the issue it raises is material to any finding the NRC must make in this proceeding. Neither the Petition nor the Ross Report makes any assertion about the materiality of the issues raised by Contention 12. Dr. Ross's first criticism, that the permit does not include limits on radionuclides, is particularly wide of the mark because a discharge permit for a nuclear power plant does not regulate the release of tritium or any other materials regulated under the Atomic Energy Act of 1954; such materials are specifically excluded from the definition of "pollutant" by the EPA regulations implementing the Clean Water Act. 40 C.F.R. § 122.2 (2008); *see also Train v. Colorado Pub. Interest Research Group, Inc.*, 426 U.S. 1 (1976). Limitations on the discharge of tritium are established by NRC regulation, and are also not subject to challenge in this proceeding. *See* 10 C.F.R. § 20.1302(b)(2). The second criticism, that the permit does not require monitoring for total dissolved solids ("TDS"), does not claim that the lack of a requirement to monitor TDS or conductivity is material, nor could it be material since STPNOC obviously does monitor conductivity. As the Ross Report notes, conductivity in the MCR is the criterion used to determine the need for discharge from the MCR. *See* ER at 2.3.3-1; Ross Report at 6. In addition, the TPDES permit will require STPNOC to report the results of measurements of TDS, conductivity, and various other parameters so that the TCEQ could determine the need for additional requirements. *See* TPDES Permit No. W00001908000, at 13 (July 21, 2005), *available at* ADAMS Accession No. ML052230202. The Ross Report criticizes the TPDES permit for not including limits on sulfur or sodium, but does not claim that any significant harm would result or such limits would typically be placed in a TPDES permit. Because Petitioners have not demonstrated that the issue raised by Contention 12 is material, this contention also must be rejected for failure to meet the requirements of 10 C.F.R. § 2.309(f)(1)(iv). Finally, neither Contention 12 nor the Ross Report discusses or contests the evaluation in ER Section 5.2.3.1, which demonstrates that the impact of chemical discharges will be SMALL. Therefore, the contention should be rejected in accordance with 10 C.F.R. § 2.309(f)(1)(vi).

224 Petition at 40.

225 *Id.*

consideration of the Ross Report. In any event, even if the Board were to consider the information in the Ross Report, it does not provide a sufficient basis for admission of this contention.

The Ross Report does not make any assertion about the materiality of the issue raised by Contention 13. In fact, the Ross Report states that it cannot assess the potential impacts,[226] essentially admitting that it does not make any representation about whether Contention 13 raises an issue that is material to any finding the NRC must make. Petitioners' failure to demonstrate that Contention 13 raises a material issue, as required by 10 C.F.R. § 2.309(f)(1)(iv), is another reason for rejecting this contention.

Most important, however, is Petitioners' failure to provide sufficient information to show that a genuine dispute exists with STPNOC on a material issue of law or fact in connection with Contention 13. The Ross Report states that the issue about dilution is based on a statement quoted from "page 10.1.2.3" [sic] of the ER which allegedly indicates that the facility relies upon a dilution factor of 10 to meet the discharge standards.[227] The Ross Report questions whether this amount of dilution will be achieved because the amount of water stored in the MCR would be increased by only 7.4%.[228] As explained below, this reasoning is premised on a basic misunderstanding of the ER and apparently a lack of review of the entire ER.

Section 10.1.2.3 of the ER is part of a chapter that summarizes the environmental impacts of construction and operation of STP Units 3 and 4 based on information provided in Sections

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226 Ross Report at 9 (stating "it is impossible to assess").

227 *Id*. The report's quotation from the ER actually comes from Section 10.1.2.3, which is at page 10.1-5. The Ross Report is correct in suggesting that there is a typographical error in the ER (the word "not" will be removed in the next revision of the COLA), but is wrong in stating that a dilution factor of 10 is required (no specific dilution factor is mentioned in that quotation).

228 Ross Report at 9.

4.6 and 5.10.[229] The sentence from ER Section 10.1.2.3 cited by the Ross Report is based on the discussion of the impacts of the discharge systems in Section 5.3.2, which also concludes that impacts of dissolved chemical discharges to aquatic communities will be SMALL.[230] Section 5.3.2 explains that the TPDES permit limits are met through dilution of the discharge from the MCR by mixing with the Colorado River. As explained in Section 5.3.2, the outfall from the MCR discharges to the Colorado River through a diffuser that is designed to enhance dilution at the point of discharge.[231] The ER explains that:

> The FES for operation of STP 1 & 2 assessed impacts of dissolved inorganic chemical substances (measurable as dissolved solids) from the MCR on the water quality of the Colorado River and concluded that the overall effects of reservoir blowdown would not be significant due to dilution by the Colorado River flow (Reference 5.3-2).
>
> This would hold true for STP 3 & 4 as well, because the TPDES requirement that the blowdown flow not exceed 12.5% of the river flow implies a minimum dilution factor of 8 which would continue to be true for operation of four units. Any discharge of dissolved solids will mix quickly with the larger freshwater flow of the Colorado River. Therefore, impacts of dissolved chemical discharges to aquatic communities will be SMALL and will not warrant mitigation.[232]

Petitioners do not cite or otherwise discuss this portion of the ER, and therefore fail to comply with 10 C.F.R. § 2.309(f)(1)(vi).

The limits on discharge from the MCR into the river are expected to be subject to the same limits that were imposed for two-unit operation. The amount of dilution that could be achieved for two-unit operation will also be achieved for four-unit operation because the same

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229 *See* ER at 10.1-1.

230 *Id.* at 5.3-19.

231 *Id.* at 5.3-17.

232 *Id.* at 5.3-19.

discharge system will be used, including the same permit limits. Four-unit operation is likely to require more frequent blowdown from the MCR,[233] but when blowdown occurs it will be subject to the same restrictions concerning minimum river flow and maximum ratio of blowdown flow to river flow.[234]

In summary, the Ross Report appears to confuse dilution by the MCR with dilution by the Colorado River. The Ross Report does not discuss the relevant portions of the ER, and it does not identify any basis for questioning the adequacy of the TPDES limits on blowdown from the MCR to the Colorado River (which are the real basis for the ER's conclusion that blowdown will be diluted and its impacts will be SMALL). Consequently, Contention 13 does not show that there is a genuine dispute on a material issue of law or fact. Because Petitioners have failed to provide sufficient information to show that a genuine dispute exists with STPNOC on a material issue of law or fact, Contention 13 should be rejected pursuant to 10 C.F.R. § 2.309(f)(1)(vi).

14. Contention 14 – Unregulated Wastewater Discharge

Contention 14 asserts that: (1) a regulatory loophole has allowed a primary discharge of wastewater from the existing facility to be unregulated; (2) STP Units 3 and 4 would be operated under the same regulatory framework; and (3) the harm caused by this regulatory failure will be magnified by the addition of STP Units 3 and 4.[235] As discussed below, this contention fails to satisfy a number of criteria in 10 C.F.R. § 2.309(f)(1), and therefore should be rejected.

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233 There was only one occasion during two-unit operation when blowdown from the MCR was performed, and that was 12 years ago. *Id.*

234 These limits are described in the ER. *Id.* at 5.3-18.

235 Petition at 40.

a. The Contention Is an Impermissible Challenge to the Regulatory Process and Lacks Specificity and a Basis

It is not clear what issue Contention 14 seeks to litigate. The assertion that there is a "regulatory loophole" appears to question either the adequacy of laws or the adequacy of regulations adopted by an agency such as the EPA, the TCEQ, or the NRC. Such an assertion would not raise an issue within the scope of this proceeding. As has been previously held, a contention that collaterally attacks applicable statutory requirements or the basic structure of the NRC regulatory process must be rejected as outside the scope of the proceeding.[236] Similarly, a contention that simply states a petitioner's views about what regulatory policy should be does not present a litigable issue.[237] Thus, to the extent that the Petitioners' arguments regarding "a regulatory loophole" are intended to challenge the NRC's or the State of Texas's regulatory systems, such arguments do not satisfy 10 C.F.R. § 2.309(f)(1)(iii) and should be rejected.[238]

The contention asserts that "the harm caused by this regulatory failure" would be magnified by the addition of STP Units 3 and 4."[239] This assertion is extremely vague - - the contention does not specify or identify any alleged harm. As discussed above, to be admissible a contention must explain, with specificity, particular safety or legal reasons requiring rejection of the contested application.[240] Accordingly, Petitioners' vague concern regarding an unidentified "harm" should be rejected because it does not meet the requirements of 10 C.F.R. § 2.309(f)(1)(i).

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236 *Shearon Harris*, LBP-07-11, 65 NRC at 57-58 (citing *Peach Bottom*, ALAB-216, 8 AEC at 20).

237 *See Peach Bottom*, ALAB-216, 8 AEC at 20-21 and 21 n.33.

238 It should also be noted that there is no regulatory loophole. An applicant for a TPDES permit must provide sufficient information about existing or planned impoundments so that TCEQ can determine necessary requirements. *See* Form TCEQ-10411/10055-Instructions - Completing the Industrial Wastewater Permit Application at 25-27, http://www.tceq.state.tx.us/assets/public/permitting/waterquality/forms/10411_10055ins.pdf.

239 Petition at 40.

240 *Millstone*, CLI-01-24, 54 NRC at 359-60.

Contention 14 does not include any explanation of its basis. Instead, in support of this contention, Petitioners only provide a reference to the Ross Report.[241] As discussed in Section III.B, the contention itself does not contain the information required by 10 C.F.R. § 2.309(f)(1)(ii), (iv), (v), and (vi) and therefore should be denied without further consideration of the Ross Report. In any event, even if the Board were to consider the information in the Ross Report, it does not provide a sufficient basis for admission of this contention.

b. The Ross Report Is Not Sufficient to Satisfy Section 2.309(f)(1)

The Ross Report states that the water that seeps through the bottom of the MCR is not regulated by the TPDES permit.[242] The concern appears to be that Texas law does not require a discharge permit for MCR seepage. That concern is plainly not within the scope of this proceeding. NRC has no authority to require the State of Texas to regulate such seepage. The NRC does not have any authority to determine the terms to be included in a discharge permit; such permits are issued under the Clean Water Act and state law, not the Atomic Energy Act.[243] Since the issue is outside the scope of this proceeding, it should be rejected for failure to meet the requirements of 10 C.F.R. § 2.309(f)(1)(iii).

The Ross Report argues that the failure to monitor and regulate leakage through the MCR bottom constitutes a failure to protect groundwater and surface water from the increased contaminant loads from plant operation, and that the consequences "will be direr."[244] However, the Ross Report does not specify or identify any consequences. In particular, the Report does not identify any specific increases in any particular contaminant levels. Furthermore, the Ross

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241 Petition at 40.

242 Ross Report at 9-10.

243 33 U.S.C. § 1371(c)(2) (stating that nothing in NEPA shall "authorize any such agency to impose, as a condition precedent to the issuance of any license or permit, any effluent limitation other than any such limitation established pursuant to this chapter"); *see also Vermont Yankee*, CLI-07-16, 65 NRC at 386-89.

244 Ross Report at 10.

Report does not allege, let alone provide a basis for an allegation, that operation of STP Units 3 and 4 will result in any increase in any contaminant levels in either the groundwater or surface water.[245] Therefore, the Ross Report is not sufficient to satisfy 10 C.F.R. § 2.309(f)(1)(i) or (ii).

In addition, even if it is assumed *arguendo* that contaminant levels would increase, the Ross Report does not make any assertion that the increase would be material. The Ross Report does not identify any specific harm allegedly caused by the existing leakage of water through the bottom of the MCR from operation of STP Units 1 and 2 and does not characterize the extent of any alleged increased harm due to the operation of STP Units 3 and 4. As a result, Petitioners have not demonstrated that Contention 14 could change the outcome of this proceeding, and have not met their burden under 10 C.F.R. § 2.309(f)(1)(iv). This is yet another reason for rejecting Contention 14.

Finally, the Ross Report does not include any references to specific portions of the COLA in dispute or assert that the COLA fails to contain information on a relevant matter as required by law. In this regard, ER Section 5.2.3 discusses water quality impacts from operation of STP Units 3 and 4, and demonstrates that the impact would be SMALL. The Ross Report does not contest or mention the information in that section. Consequently, the Ross Report is not sufficient to establish a genuine dispute with STPNOC on a material issue of law or fact in connection with Contention 14.[246] As a result, Contention 14 should be rejected for failure to satisfy 10 C.F.R. § 2.309(f)(1)(vi).

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[245] The existing TPDES permit regulates the outfalls that discharge to the MCR which assures that necessary treatment and monitoring for nonradioactive contaminants occurs before discharge to the MCR. *See* TPDES Permit No. W00001908000, at 2b–2e (July 21, 2005), *available at* ADAMS Accession No. ML052230202.

[246] The Ross Report at 10 mentions the low levels of tritium that have been identified in a few onsite wells, and also asserts that there is a failure to monitor leakage through the MCR bottom, but does not reference ER Section 6.2.6 "Tritium Monitoring" (ER at 6.2-4, -5) or provide any reason for disputing the ER or contending that it fails to provide required information.

15. Contention 15 – Unevaluated Reduction in Surface Water Flow

Contention 15 asserts:

> The Environmental Report fails to evaluate the effect of Colorado River withdrawals of up to 48% of the river flow on the river and estuary resources. The Environmental Report fails to demonstrate the availability of necessary surface water from the Colorado River during drought conditions. The Environmental Report also fails to evaluate the effect of increased groundwater withdrawals on flow in adjacent streams and rivers including the Colorado River.[247]

As discussed below, this contention fails to satisfy a number of criteria in 10 C.F.R. § 2.309(f)(1), and therefore should be rejected.

Contention 15 does not include any explanation of its basis. Instead, in support of this contention, Petitioners only provide a reference to the Ross Report.[248] As discussed in Section III.B, the contention itself does not contain the information required by 10 C.F.R. § 2.309(f)(1)(ii), (iv), (v), and (vi) and therefore should be denied without further consideration of the Ross Report. In any event, even if the Board were to consider the information in the Ross Report, it does not provide a sufficient basis for admission of this contention.

As discussed in more detail below, the Ross Report does not state any reason for believing that there will be a significant effect on the river and estuary resources environment due to the withdrawal of water from the Colorado River. Similarly, the Ross Report does not state any basis for its assertion that the increased groundwater withdrawals due to construction or operation of STP Units 3 and 4 will have a significant effect on flow in adjacent streams and rivers.

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247 Petition at 41.

248 *Id.*

a. The Ross Report Does Not Provide a Sufficient Basis for Contention 15

The Ross Report does not allege any facts sufficient to meet the requirements of 10 C.F.R. § 2.309(f)(1)(ii). The Ross Report lists withdrawal rates for MCR makeup and river flows for various dates between January 1, 2001 and September 30, 2006, and states that operation of STP Units 3 and 4 will increase the frequency of occasions in which MCR makeup is a significant fraction of the total river flow.[249] Nothing in the Ross Report states any reason for believing that such an increase would significantly affect the environment.

The Ross Report also states that STPNOC has a backup water right during drought conditions and that the ER does not discuss whether the backup water volume can be delivered when needed. However, the Ross Report does not identify any environmental implications if such backup water could not be delivered.

The Ross Report also asserts that "the proposed nuclear power plant expansion will reduce surface water flows . . . by lowering the groundwater table through pumping" and that the ER does not discuss this adequately.[250] It does not, however, assert that any such presumed reduction would have a significant environmental effect.[251] Furthermore, the Ross Report has no factual basis, since plant groundwater withdrawals are from the deep aquifer,[252] whereas discharge to the Colorado River is from the shallow aquifer.[253]

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249 Ross Report at 11-12.

250 *Id.* at 13.

251 The ER states that STP Units 3 and 4 will consume on average approximately 23,170 gpm from surface water and 1,250 gpm from groundwater. ER at 3.3-1. It also indicates that seepage from the MCR is approximately 3530 gpm, *id.* at 2.3.1-12, but to be conservative the ER assumes that all Colorado River water pumped to the MCR and all groundwater pumped from the wells is consumed. *Id.* at 5.2-2. Neither the Petition nor the Ross Report provides any rationale for considering any indirect effect of the groundwater withdrawal on surface water as sufficiently significant to warrant discussion.

252 *Id.* Section 2.3.1.2.4.3.

253 *Id.* Section 2.3.1.2.3.1.

In summary, the Ross Report does not identify a basis for concluding that the matters it raises would have any significant environmental impact. Consequently, the Ross Report does not provide a sufficient basis for requiring the ER to inquire into these matters. Accordingly, Contention 15 does not meet the requirements of 10 C.F.R. § 2.309(f)(1)(ii) and should be rejected.

b. The Ross Report Does Not Demonstrate that the Issues It Raises Are Material

The Ross Report also is not sufficient to meet the requirements of 10 C.F.R. § 2.309(f)(1)(iv) with respect to Contention 15. As mentioned above, none of the statements in the Ross Report asserts, let alone tries to demonstrate, that Contention 15 raises an issue that is material to any finding the NRC must make to issue COLs for STP Units 3 and 4. The Ross Report states that operation of STP Units 3 and 4 will increase the frequency with which MCR makeup will constitute a significant fraction of the total river flow,[254] but does not claim that this increase in frequency would significantly affect the environment. The ER describes the limitations on the withdrawal of water from the Colorado River for MCR makeup in effect for the operation of STP units.[255] These limitations are based on the absolute flow in the river and the ratio of river flow to makeup water flow; there are no limits on the frequency of withdrawals. The ER states that with the addition of STP Units 3 and 4, MCR makeup will continue to meet the limits authorized for operation of STP Units 1 and 2.[256] The Ross Report does not claim that those limits are inadequate to protect the environment. Consequently, the Ross Report is not sufficient to demonstrate that this issue is material to any finding the NRC must make to approve issuance of the COLs for STP Units 3 and 4.

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254 Ross Report at 11-12.

255 ER at 2.3.2-3.

256 *See id.* at 5.2-4.

The Ross Report states that the ER does not discuss whether the backup water volume (which is provided by STPNOC's contract with the Lower Colorado River Association ("LCRA")) can be delivered during droughts.[257] However, the Ross Report does not identify any impediment to delivery of that water or any environmental implications if the backup water could not be delivered.[258] Nor does the Ross Report include any claim that the conditions on withdrawal of river water for makeup to the MCR would be changed in the event that the backup water could not be delivered, or that a significant impact to the environment would result. Consequently, the Ross Report is not sufficient to demonstrate that this issue is material to any finding the NRC must make to approve issuance of the COLs for STP Units 3 and 4.

The Ross Report asserts that lowering the groundwater table through increased pumping will reduce surface water flows, but does not claim that any such reduction would be significant or would have a significant environmental effect.[259] As discussed above, the groundwater use for operation of STP Units 3 and 4 (1,250 gpm) is small relative to the amount of surface water that would be used for MCR makeup (23,170 gpm).[260] The Ross Report does not cite any evidence that this relatively small groundwater withdrawal would result in a significant reduction in surface water flow or would have a significant environmental effect. Consequently, the Ross Report does not demonstrate that this issue is material to any finding the NRC must make to approve issuance of the COLs for STP Units 3 and 4.

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257 Ross Report at 11.

258 The LCRA's Water Management Plan ("WMP"), which includes a Drought Contingency Plan, is available on the Internet. *See* www.lcra.org/library/media/public/docs/water_RevisedWMP.pdf. Page 3-5 of the WMP evaluated operation of all four STP units and concluded that it would not require any water from storage during most of the critical drought period. The Ross Report does not discuss the LCRA's WMP, and does not provide any basis for questioning the effectiveness of the LCRA's plan to assure that adequate water supplies are provided for operation of STP Units 3 and 4.

259 Ross Report at 13.

260 The ER also does not credit the contribution to surface water due to the seepage of 3530 gpm from the MCR (*see* ER at 5.2-2), or the reduction in MCR makeup water demand due to the discharge to the MCR of the well-water after its use in the plant (*see id.* at 3.3-1 and Table 3.3-1).

As a result, Contention 15 should be rejected because it does not meet the requirements of 10 C.F.R. § 2.309(f)(1)(iv).

c. The Ross Report Does Not Address the Relevant Sections of the ER or Raise a Genuine Material Dispute

Finally, the Ross Report does not demonstrate that there is a genuine dispute on a material issue of law or fact. The ER discusses consumption of, or impacts to, groundwater and surface water in Section 2.3.2 "Water Use" (discussing surface water and groundwater uses that could affect or be affected by construction or operation); Section 3.3 "Plant Water Use" (discussing plant water consumption and plant water treatment); Section 4.2.2 "Water Use Impacts" (discussing the impacts of water use during construction of STP Units 3 and 4); Section 5.2.2 "Water Use Impacts" (discussing the impacts of water use during operation of STP Units 3 and 4, including impacts on both surface water and groundwater); Section 6.3 "Hydrological Monitoring" (discussing hydrologic monitoring that is currently occurring, and that is planned during construction and operation of STP Units 3 and 4); and Section 10.1 "Unavoidable Environmental Adverse Impacts" (summarizing the impacts to surface and groundwater resources due to construction and operation of STP Units 3 and 4). In particular, ER Section 5.2.2.1 discusses water withdrawals during periods when there is low flow in the Colorado River, and concludes that the impacts would be SMALL. None of these sections, or any other part of the COLA, is disputed or even referenced in the portion of the Ross Report that addresses Contention 15.

The Ross Report claims that the ER fails to evaluate the effect of Colorado River withdrawals, to demonstrate the availability of backup surface water, or evaluate the effect of increased groundwater withdrawals on surface water flow. However, such a claim, by itself, is not sufficient to demonstrate that there is a genuine dispute of a material issue of fact or law. To

meet the requirements of 10 C.F.R. § 2.309(f)(1)(vi), Petitioners must explain why they believe that the ER is required to include more information on such subjects. As the Commission has stated, a petitioner must "read the pertinent portions of the license application . . . state the applicant's position and the petitioner's opposing view," and explain why it disagrees with the applicant.[261] If a petitioner believes the license application fails to adequately address a relevant issue, then the petitioner is to "explain why the application is deficient."[262] The Ross Report does not provide any supporting reasons for believing that the ER should discuss the matters raised in the Report. For these reasons, Petitioners have failed to provide sufficient information to show that a genuine dispute exists with STPNOC on a material issue of law or fact, and Contention 15 should be rejected for failure to satisfy 10 C.F.R. § 2.309(f)(1)(vi).

16. Contention 16 – Unevaluated Reduction in Groundwater Supply for Adjacent Landowners

Contention 16 states:

> The Environmental Report fails to provide adequate information regarding the effect of the expansion on the availability of groundwater from the regional Gulf Coast Aquifer. A determination of key information necessary for an analysis of impact is deferred to a later detailed engineering phase. Information provided in the Environmental Report underestimates the predicted effect of the proposed expansion on groundwater availability to wells on adjacent property.[263]

Contention 16 does not include any explanation of its basis. Instead, in support of this contention, Petitioners only provide a reference to the Ross Report.[264] As discussed in Section III.B, the contention itself does not contain the information required by 10 C.F.R.

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261 Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *see also Millstone*, CLI-01-24, 54 NRC at 358.

262 Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *see also Palo Verde*, CLI-91-12, 34 NRC at 156.

263 Petition at 41.

264 *Id.*

§ 2.309(f)(1)(ii), (iv), (v), and (vi) and therefore should be denied without further consideration of the Ross Report. In any event, even if the Board were to consider the information in the Ross Report, it does not provide a sufficient basis for admission of this contention.

The Ross Report discusses the results of calculations of the drawdown of groundwater due to the operation of STP Units 3 and 4, which are based on the maximum withdrawal under the current permit from the Coastal Plains Groundwater Conservation District ("CPGCD"). The Ross Report then provides alternative calculations of the drawdown from operation of STP Units 1, 2, 3, and 4 based on the estimate of groundwater needs provided in the ER.[265] The Ross Report states that the drawdown at a hypothetical well located 2500 feet from the STP wells would be 72 feet.[266] However, as discussed in more detail below, the Ross Report does not discuss any effects of a drawdown of 72 feet at a location 2500 feet from the STP wells on the availability of groundwater from the regional Gulf Coast Aquifer. Consequently, the Ross Report does not provide any basis for concluding that the construction and operation of STP Units 3 and 4 would significantly affect the availability of groundwater from the regional Gulf Coast Aquifer. Similarly, the Ross Report does not discuss any wells on property adjacent to the STP site, and does not provide a basis for Petitioners' assertion that "the Environmental Report underestimates the predicted effect of the proposed expansion on groundwater availability to wells on adjacent property."[267] As a result, the Ross Report does not demonstrate that this issue is material to the adequacy of the ER, and therefore is not sufficient to satisfy the requirements in 10 C.F.R. § 2.309(f)(1)(iv).

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265 Ross Report at 14-15.

266 *Id.* at 15.

267 Petition at 41.

The Ross Report quotes a sentence from the ER which indicates that STPNOC intends to do a detailed analysis of groundwater availability as part of detailed engineering.[268] However, the Ross Report has taken the quotation out-of-context. The paragraph from which the quotation was taken states:

> STPNOC is currently permitted to use up to 3000 acre-ft of groundwater. As the table indicates, annual groundwater use by STP 1 & 2 is between 1200 and 1300 acre-feet. Therefore, over 1700 acre-ft (1050 gpm) of groundwater could be available for use by STP 3 & 4. Water demand could be met by increasing the yield of the existing wells or installing new wells. STPNOC is currently evaluating the possibility of permitting and installing additional groundwater wells at the STP site. . . . Also, STPNOC would submit the necessary well permit applications to the Coastal Plains Groundwater Conservation District (CPGCD) and TCEQ as required for approval. A detailed evaluation of groundwater availability and estimates of aquifer drawdown, water conservation measures, and identification of alternative sources, if practicable, will be addressed as part of the detailed engineering for STP 3 & 4.[269]

Similarly, ER Section 5.2.2.2 (which is not discussed in the Ross Report) contains the following discussion:

> During normal operations of STP 3 & 4, STPNOC would use groundwater in excess of that used by STP 1 & 2 up to the current permitted limit of 3000 acre-feet/year (an average of 1860 gpm). STPNOC would use the MCR to supply additional water above this value as required for continued operations. STPNOC is currently evaluating the possibility of permitting and installing additional groundwater wells at the STP site. Once the evaluation has been completed, the NRC would be notified if additional wells are proposed. Should additional wells be proposed, STPNOC would submit the necessary well permit applications to the Coastal Plains Groundwater Conservation District (CPGCD) and TCEQ as required for approval.
>
> To meet the proposed maximum or peak groundwater demand (normalized value of 4108 gpm) for STP 3 & 4, STPNOC would

[268] Ross Report at 14.

[269] ER at 2.3.1-22.

> supply the water needed for STP 3 & 4 UHS makeup in excess of the normal operations groundwater value (normalized value of 1242 gpm) by using water stored in the MCR to supply the additional water.

The following table summarizes the information on groundwater provided in the above ER quotations:

Current permit limit for groundwater withdrawal	1860 gpm
Groundwater usage by STP 1 and 2	798 gpm
Amount of current permit available for STP 3 and 4	1062 gpm
Groundwater needs for normal operation of STP 3 and 4	1242 gpm
Difference	180 gpm
Source of water to supply the difference	MCR, water conservation, alternative water sources, expanding existing wells, or installing new wells

Thus, in context, the issue raised in the quotation cited by the Ross Report is not whether additional groundwater is available, but instead whether additional wells will be needed.[270]

ER Section 5.2.2.2 evaluates the impacts on groundwater from withdrawals at the levels currently allowed by permit at a hypothetical well located 2500 feet from an STP well. Based upon the results of that evaluation, ER Section 5.2.2.2 concludes that the impacts on groundwater level would be SMALL. Purportedly using the same assumptions in the ER and assuming

[270] To the extent that the Petitioners are questioning whether the CPGCD will or should issue the permits, such an issue is not within the scope of this proceeding. It is the responsibility of the CPGCD, not the NRC, to determine whether to authorize STPNOC to withdraw groundwater at a rate greater than allowed under the current permit. As a result, such an issue should be rejected for failure to meet the requirements of 10 C.F.R. § 2.309(f)(1)(iii).

groundwater withdrawals of 2040 gpm (the combined usage of all four STP units) rather than the permit limit of 1860 gpm, Table 4 of the Ross Report calculates that the groundwater levels at this hypothetical well would be lower by 6.4 feet (71.7 feet minus 65.3 feet, which the text of the Ross Report refers to as "about 10 feet").[271] The Ross Report does not make any assertion about the materiality of an additional 6.4 feet drawdown in this hypothetical well. In particular, the Ross Report does not identify any environmental impact, such as an impact on some potential groundwater use in the vicinity of the STP site that allegedly could be affected by the construction and operation of STP Units 3 and 4. This failure is particularly striking, since there are no current water supply wells within three miles of the STP site (versus the 2500 feet assumed for the hypothetical well).[272] As a result, the Ross Report is not sufficient to demonstrate that Contention 16 could change the outcome of this proceeding, or to meet the Petitioners' burden under 10 C.F.R. § 2.309(f)(1)(iv). This is yet another reason for rejecting Contention 16.

Finally, the Ross Report does not include any references to specific portions of the COLA in dispute. The Ross Report points out that the cases presented in ER Table 5.2-2 do not consider the total drawdown due to four-unit operation. However, the Ross Report does not cite the applicable sections of the ER, such as ER Section 5.2.2.2 and Section 10.5S.2 "Cumulative Impacts of Operations." ER Section 10.5S.2 states that because no other significant current or planned users of groundwater in the vicinity of the STP site have been identified, cumulative impacts to groundwater will be SMALL and not have a regional effect.[273] The Ross Report does not reference Section 5.2.2.2 or Section 10.5S.2 or dispute the conclusions in those sections.

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271 Ross Report at 15.

272 ER at 2.3.2-6.

273 *Id.* at 10.5S-3.

Consequently, the Ross Report is not sufficient to establish a genuine dispute with STPNOC on a material issue of law or fact in connection with Contention 16. For this reason, Contention 16 should be rejected for not meeting the requirements of 10 C.F.R. § 2.309(f)(1)(vi).

17. Contention 17 – Use of LADTAP II

Contention 17 asserts that "[t]he Applicant's calculations of radiation doses to the general public as a result of consuming radioactively contaminated fish and invertebrates are incorrect."[274] In particular, Petitioners allege that the estimated doses presented in ER Table 5.4-8 are "unreliable" because they were calculated using the LADTAP II model.[275] They claim that LADTAP II is "obsolete" and "grossly underestimates the actual maximum individual does [sic] from liquid effluents," which Petitioners aver "would be significantly higher."[276] As redress, Petitioners request that the estimated doses in the ER "be either disregarded in this adjudication or withdrawn by the Applicant and amended using LADTAP XL as the analytical tool to determine individual doses from liquid effluents."[277]

In support of Contention 17, Petitioners parrot the declaration of their proffered expert, Dr. Arjun Makhijani.[278] Dr. Makhijani states that an unidentified "comparison study" of the results of the LADTAP II model with an "updated" version, LADTAP XL for the Savannah River Site ("SRS"), shows that LADTAP II underestimates doses from commercial fish and saltwater invertebrates by almost eight times and over 700 times, respectively.[279] According to Dr. Makhijani, this study shows that "the systematic underestimation of doses is inherent in the

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274 Petition at 41.

275 *Id.* at 42.

276 *Id.* at 41-42.

277 *Id.* at 42.

278 *Id.* (citing LADTAP II Model Declaration of Dr. Arjun Makhijani ("Makhijani LADTAP Declaration")).

279 Makhijani LADTAP Declaration.

[LADTAP II] model."[280] Dr. Makhijani further criticizes the LADTAP II model for using dose conversion factors that apply to adults instead of children.[281]

Contention 17 should be rejected because it does not meet the admissibility requirements of 10 C.F.R. § 2.309(f)(1). The contention lacks adequate support and fails to establish a genuine *material* dispute, contrary to 10 C.F.R. § 2.309(f)(1)(iv), (v), and (vi).

a. Contention 17 Lacks Adequate Factual, Technical, or Expert Support

Section 5.4.1.1 of the ER presents detailed information concerning the specific liquid pathways evaluated by STPNOC and the associated liquid operating pathway parameters used in the dose calculations.[282] As the ER explains, the LADTAP II computer program was used to calculate the maximally exposed individual and population doses from the liquid effluent pathway.[283] The LADTAP II program implements the radiological exposure models described in Regulatory Guide 1.109, Revision 1,[284] for radioactivity releases in liquid effluent. Furthermore, LADTAP II has been explicitly approved in Regulatory Guide 1.206 for use in COL applications for calculating doses from liquid effluents.[285] Although compliance with the staff's guidance documents is not dispositive, the Commission has stated that "it is entitled to special weight."[286]

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280 *Id.*

281 *Id.*

282 *See* ER at 5.4-1 to 5.4-2; *see also id.* Table 5.4-1. As stated therein, maximum dose rate estimates to the public due to liquid effluent releases were determined for the following pathways: eating fish or invertebrates; using the shoreline for activities, swimming, and boating; and ingestion of contaminated drinking water.

283 *Id.* at 5.4-1.

284 Regulatory Guide 1.109, Rev. 1, Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, App. I (1977).

285 Regulatory Guide 1.206, Combined License Applications for Nuclear Power Plants (LWR Edition), at C.I.11-3 (June 2007).

286 *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-22, 54 NRC 255, 264 (2001).

As discussed below, the Petitioners have not provided sufficient information to cast doubt on the use of LADTAP II for STP Units 3 and 4.

As the ER explains, the LADTAP II computer program was developed and approved by the NRC for the specific purpose at issue here (*i.e.*, to estimate radiation doses to individuals and population groups from radionuclide releases as liquid effluents from light-water nuclear reactors during routine operation).[287] Petitioners' criticism of LADTAP II rests solely on the *unexplained* results of an *unidentified* study comparing use of LADTAP II with LADTAP XL at the SRS. To the extent STPNOC can discern, Petitioners and their declarant allude to a November 1991 study prepared by Westinghouse Savannah River Company.[288] As explained in that study, LADTAP XL is an electronic spreadsheet that was developed to estimate the maximum individual and population dose from chronic liquid releases occurring over a 40 year period at the SRS.[289]

The Petitioners make no attempt to explain the relevance of the 1991 SRS Study, which discusses use of the LADTAP XL spreadsheet at SRS, to STPNOC's use of LADTAP II to calculate the estimated maximum individual doses from liquid effluents for STP Units 3 and 4. Notably, while the 1991 SRS Study states that it is "an improved electronic spreadsheet version of LADTAP II," many of the "improvements" are the implementation of *SRS site-specific parameters*.[290] As the 1991 SRS Study makes clear, the LADTAP XL spreadsheet is specific to

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287 ER at 5.4-2.

288 D. M. Hamby, Westinghouse Savannah River Company, WSRC-RP-91-975, "LADTAP XL: An Improved Electronic Spreadsheet Version of LADTAP II" (Nov. 18, 1991) ("1991 SRS Study"), *available at* http://www.osti.gov/energycitations/servlets/purl/6704105-cS9Awv/6704105.pdf.

289 *Id.* at 4.

290 *Id.* at 4, 13-16.

the SRS, and Petitioners provide no support indicating that this spreadsheet is applicable to the STP site.[291]

In short, Petitioners have not provided any alleged facts, documents, or technical analysis to support their claims that STPNOC has "grossly" underestimated maximum doses to the public from liquid effluents. They rely exclusively on the conclusory statements contained in the one-page declaration. A declarant's nominal imprimatur, however, does not cure a contention's failure to provide factual or other support for the claims therein.[292] A declaration, like any other alleged factual basis for a contention, must be grounded in fact and reasoned explanation, and explain the significance of any factual information upon which it relies.[293] Dr. Makhijani's cursory declaration, with its cryptic reference to a "comparison study," fails completely in this regard, and thus does not support admission of Contention 17, especially since the study that appears to be the source of the declaration is limited, on its face, to SRS and has no apparent applicability outside of SRS.

b. Contention 17 Fails to Establish a Genuine Material Dispute

Contention 17 is flawed in another respect. The contention does not explain how STPNOC's alleged underestimation of maximum liquid effluent doses to the public due to consumption of commercial fish or invertebrates renders the ER inadequate in some *material* respect. In fact, while Petitioners assert that actual doses to the maximum exposed individual "would be significantly higher," they fail to indicate approximately how much higher, or whether any applicable federal dose limits would be exceeded.[294] As another licensing board has stated

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[291] The LADTAP XL spreadsheet, moreover, has *not* been approved or endorsed by the NRC for use outside of SRS.

[292] *USEC*, CLI-06-10, 63 NRC at 472.

[293] *Id.*

[294] Petition at 42.

in similar circumstances, petitioners "fail[] to make the minimal demonstration, as required by contention admissibility rules, that ER analysis fails to meet a statutory or regulatory requirement."[295] That conclusion is equally applicable here.

In this regard, the estimated maximum individual and population doses for liquid effluents from the STP site are very low and well below applicable regulatory limits and background doses.[296] For example, the whole body dose from liquid effluents is several orders of magnitude less than the 10 C.F.R. Part 50, Appendix I objective (3 mrem/year).[297] Petitioners have provided no basis for believing that, even using the LADTAP XL, these limits would be exceeded.

In this regard, the 1991 SRS Study did consider the impact of using LADTAP XL on the overall doses to the public around SRS and provides the following conclusion:

> Comparisons of LADTAP II and LADTAP XL output show that these enhancements [in LADTAP XL] result in an *insignificant* increase in predictions of total dose to the maximum individual and a 10% increase in total dose to the Savannah River user population.[298]

Given this conclusion in the 1991 SRS Study (which apparently forms the basis for this contention), Petitioners have provided no reason to believe that application of the SRS-specific values in LADTAP XL to STP Units 3 and 4 would have a material effect on the results of the dose calculation for liquid effluents at STP Units 3 and 4.

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295 *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3), LBP-08-13, 67 NRC __, slip op. at 183 (July 31, 2008), *recon. denied*, Docket No. 50-247 (Dec. 18, 2008) (unpublished).

296 *See* ER Tables 5.4-7 to 5.4-9. The maximally exposed individual dose calculated was compared to 10 C.F.R. Part 50, Appendix I criteria and is presented in Table 5.4-7. The estimated maximum individual doses are compared to the 40 C.F.R. Part 190 criteria in Table 5.4-8. The estimated population dose due to liquid effluent releases is compared to background doses in Table 5.4-9.

297 *Id.* Table 5.4-7.

298 1991 SRS Study at 4 (emphasis added).

Petitioners' view that STPNOC should redo its dose analyses using the LADTAP XL program is by itself insufficient to support admission of Contention 17. Petitioners provide no information showing that the results of such an analysis (even assuming LADTAP XL should be applied to STP Units 3 and 4) would yield a materially different result.[299] As another licensing board explained when confronted with a similar contention:

> [T]he Intervenors have made no showing either that the models used by [the applicant] are defective or incorrect for the purpose used or that those models were used incorrectly by [the applicant]. Nor have the Intervenors demonstrated that the models they are recommending are superior in any way to those employed by [the applicant]. The Intervenors merely point out that, by using their models in the manner they are recommending, a different result would be achieved. That is an insufficient basis to formulate a valid contention.[300]

Furthermore, ER Section 5.4.3 states that the impacts of liquid radiological effluents will be SMALL, and Contention 17 does not establish a material dispute regarding that conclusion. As discussed in ER Section 3.5.2.1.1, liquid effluents will comply with the Commission's regulations in 10 C.F.R. Part 20 and Appendix I to Part 50. Petitioners have not contested that conclusion. "For the purposes of assessing radiological impacts, the Commission has concluded that those impacts that do not exceed permissible levels in the Commission's regulations are considered small."[301] Thus, because there is no dispute that the liquid radioactive effluents will comply with NRC regulations in 10 C.F.R. Part 20 and Appendix I to Part 50, the environmental

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[299] Dr. Makhijani's alleged concern regarding dose conversion factors fails to support Contention 17 for the same reason. Dr. Makhijani does not assert that the use of dose conversion factors for children (as opposed to adults) would produce a materially different result (*i.e.*, an estimated dose that exceeds NRC limits). Furthermore, Dr. Makhijani's concern is unfounded. As indicated in ER Section 5.4.2.1, STPNOC did consider the variability in doses among adults, teenagers, and children.

[300] *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), LBP-03-17, 58 NRC 221, 240 (2003), *aff'd on other grounds*, CLI-03-17, 58 NRC 419.

[301] 10 C.F.R. Part 51, Subpart A, App. B, Table B-1, n.3; *see also* ER Section 5.0.

impacts of such effluents will be SMALL by definition. Therefore, Contention 17 does not raise a genuine material dispute.

In summary, Petitioners have failed to meet their burden of showing that there is a genuine dispute on an issue of material fact. Petitioners do not demonstrate how use of the LADTAP XL program, assuming it even applies to STPNOC, would materially change the results of STPNOC's dose calculations. Furthermore, Petitioners have provided no basis for contending that the impacts of liquid effluents will be anything but SMALL. Therefore, Contention 17 should be rejected for failure to satisfy 10 C.F.R. § 2.309(f)(1)(iv) and (vi).

18. Contention 18 – Land for Uranium Fuel Cycle

This contention challenges the "underlying reasons" for 21 acres to be permanently committed for the uranium fuel cycle for each ABWR unit and demands that the ER address the radiological consequences by specifying how the land would be "secured and maintained in perpetuity."[302] As with Petitioners' other contentions regarding the uranium fuel cycle, this contention should be rejected because it: (1) impermissibly challenges Table S-3, contrary to 10 C.F.R. § 2.335(a); (2) fails to demonstrate that commitment of 21 acres is a material issue, contrary to 10 C.F.R. § 2.309(f)(1)(iv); (3) lacks adequate support, contrary to 10 C.F.R. § 2.309(f)(1)(v); and (4) fails to demonstrate a genuine material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

The "underlying reasons" for committing 21 acres for each ABWR are specified in Table S-3 in 10 C.F.R. § 51.51, and a challenge to this regulation is not permitted.[303] As described in Section 5.7 of the ER, Table S-3 specifies committed land use for a reference 1000-MWe light water reactor with an 80% capacity factor. Table S-3 specifies the conclusion

[302] Petition at 43.

[303] 10 C.F.R. § 2.335(a).

that 13 acres of land would be permanently committed to the reference project, and the 21 acres for an ABWR specified in Table 5.7-1 was calculated to reflect adjustments to the Table S-3 amount in order to support a 1350-MWe ABWR (35% larger unit) operating at a 95% capacity factor (18.75% higher capacity factor). Petitioners do not offer any challenge to the adjustments. Thus, the 21 acres is specified by regulation, and Petitioners are not permitted to dispute this calculation.

As a substantive matter, Petitioners' bald assertions of concern over what they concede is "a modest amount of land," and Petitioners' desire to nevertheless assess the "consequences of having even this relatively small portion of land permanently dedicated to plant operations," do not create a material issue in dispute, contrary to 10 C.F.R. § 2.309(f)(1)(iv).[304] Section 5.7.1 of the ER squarely addresses the environmental impact and concludes that the impacts on land use "will be SMALL and will not warrant mitigation" when compared to alternatives, such as a coal fired plant with the same electrical output using strip-mined coal, which would require disturbance of 320 acres per year just for fuel alone. Thus, even if this contention is viewed as an attack on the ER, Petitioners fail to provide any factual support indicating any specific error in the ER, contrary to 10 C.F.R. § 2.309(f)(1)(v). A petitioner bears the burden to present the factual information or expert opinions necessary to support its contention adequately, and failure to do so warrants rejection of the contention.[305]

Petitioners do not contest the conclusion in ER Section 5.7.1, but rather generally express concern for "radiological consequences" and offer only that the ER must "specify the means by which these 21 acres would be secured and maintained in perpetuity."[306] While not stating that

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304 Petition at 43.

305 *See* 10 C.F.R. § 2.309(f)(1)(v); *Yankee*, CLI-96-7, 43 NRC at 262.

306 Petition at 43.

this contention is one of omission, Petitioners appear to be contending that the ER fails to address these issues. This, however, ignores the provisions of ER Section 5.5.3, which discusses requirements and guidelines for managing low level waste in connection with temporary storage activities, as well as the fact that "low-level waste disposal facilities are sited and operated consistent with 10 CFR 61 and other appropriate regulations, ensuring SMALL environmental impact." The ER, therefore, has addressed the means for securing and maintaining storage and disposal facilities, and there is no basis for dispute on this issue. As a result, this contention should also be rejected for failure to satisfy 10 C.F.R. § 2.309(f)(1)(vi).

19. Contention 19 – Onsite Waste Disposal

This contention suggests that the Applicant plans to dedicate onsite land to permanent radioactive disposal facilities and asserts an omission because no location for potential on-site dry cask storage has yet been identified.[307] This contention should be rejected because it: (1) impermissibly challenges Table S-3, contrary to 10 C.F.R. § 2.335(a); (2) lacks adequate support, contrary to 10 C.F.R. § 2.309(f)(1)(v); and (3) fails to demonstrate a genuine material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

As an initial matter, Petitioners have misread the summary information in ER Table 10.1.2 and erroneously concluded that there is a plan for a permanent onsite radioactive waste disposal facility. ER Sections 5.5 and 5.7 are clear that the commitment of onsite land would be for temporary storage facilities, and there are no plans for any permanent onsite disposal facilities.[308] Even ER Table 10.1-2 specifies that the "[d]isposal area" for high level waste would only be operated "until such time a NRC licensed high-level waste disposal facility

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307 *Id.* at 44.

308 *See, e.g.*, ER Section 5.5.3 ("Onsite temporary storage facilities for LLW will be designed to minimize personnel exposures from waste waiting shipment."); *Id.* Section 5.7.6 ("For high-level and transuranic wastes, NRC notes that these wastes are to be disposed at a repository, such as the candidate repository at Yucca Mountain, Nevada.").

is constructed," and that thereafter "the storage area could be restored to other uses." Moreover, whether involving onsite land or offsite land, the total annual land requirements of about 181 acres for an ABWR is derived from Table S-3 in 10 C.F.R. § 51.51, and a challenge to this regulation is not permitted.[309] As described in Section 5.7.1 of the ER, this 181 acres includes a "temporary" land commitment of about 160 acres, which could be released for unrestricted use following decommissioning, as well as a permanent commitment of 21 acres for the uranium fuel cycle, as discussed in further detail above in response to Contention 18. With respect to low level waste, Section 5.5.3 of the ER concludes that "any impacts from the temporary on-site storage and offsite disposal of LLW generated by STP 3 & 4 will be SMALL and will not warrant mitigation beyond what has been described." With respect to high level waste, Section 5.7.6 of the ER acknowledges "some uncertainty associated with the high-level waste and spent fuel disposal component of the fuel cycle," but nevertheless concludes that the impacts "will be SMALL and will not warrant mitigation."

The amount of land to be assessed is derived from Table S-3, and Petitioners are not permitted to challenge these values.[310] Moreover, Petitioners neither offer any reason to dispute these values, nor provide any factual basis or expert opinion to dispute the conclusions drawn in the relevant sections of the ER regarding the impacts of the uranium fuel cycle. Thus, contrary to 10 C.F.R. § 2.309(f)(1)(v), Petitioners fail to provide adequate factual support indicating any specific error in the ER.

Finally, the omission of information in the ER regarding the precise on-site location of a potential dry cask storage facility does not create any error in the ER by omission. The ER properly addresses the environmental impacts in accordance with the NRC's rules. Furthermore,

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309 10 C.F.R. § 2.335(a).

310 *Id.*

the ER does not need to provide any more information related to potential dry cask storage, and STPNOC does not need to seek a Part 72 license for an ISFSI because STPNOC is not seeking permission for an ISFSI as part of the COLA. Siting and licensing of any on-site facility would be the subject of a future licensing action, which may or may not be necessary depending upon the availability of off-site storage or disposal facilities. In any event, the impacts have been properly assessed whether they involve onsite land or offsite land, and as such, Petitioners fail to articulate a genuine material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

20. Contention 20 – Greenhouse Gas Impacts of the Uranium Fuel Cycle

This contention asserts that the uranium fuel cycle is a contributor to greenhouse gases and that the impacts of greenhouse gases, including carbon dioxide ("CO_2"), need to be fully considered.[311] The Petitioners also assert that CO_2 emissions during production of reactor fuel, plant construction, routine operations, and decommissioning must be considered. As with Petitioners' other contentions regarding Table S-3 and the uranium fuel cycle, this contention too must be rejected because it: (1) impermissibly challenges Table S-3, contrary to 10 C.F.R. § 2.335(a); (2) fails to demonstrate that consideration of greenhouse gas impacts from the uranium fuel cycle is a material issue, contrary to 10 C.F.R. § 2.309(f)(1)(iv); (3) lacks adequate support, contrary to 10 C.F.R. § 2.309(f)(1)(v); and (4) fails to demonstrate a genuine material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

First, to the extent Petitioners are challenging the adequacy of the consideration of the impacts of greenhouse gases from the uranium fuel cycle, this contention presents an impermissible challenge to Table S-3 in 10 C.F.R. § 51.51. Table S-3 summarizes and codifies the NRC's assessment and determinations for evaluating the environmental effects of the

311 Petition at 44-45.

uranium fuel cycle, and establishes values for various gaseous emissions, including several greenhouse gases. Although Table S-3 does not specify a value for CO_2 emissions, Table S-3, Note 1 states, "[i]n some cases where no entry appears it is clear from the background documents that the matter was addressed and that, in effect, the Table should be read as if a specific zero entry had been made." Table S-3 background documents specifically discuss, and in some cases even quantify, CO_2 emissions.[312] Nonetheless, the Commission did not include CO_2 emissions in Table S-3, and thus, intended a "zero entry" for CO_2 emissions. Although Petitioners may disagree with the contents of Table S-3, this COL proceeding is not the proper forum to consider the merits of amending Table S-3.[313] Therefore, any contention challenging the greenhouse gas values given in Table S-3, or asserting that uranium fuel cycle CO_2 emissions must be considered, constitutes a challenge to Table S-3, and must be rejected in accordance with 10 C.F.R. § 2.335(a).

Second, Petitioners fail to demonstrate that the consideration of greenhouse gas emissions from the uranium fuel cycle is a material issue in this proceeding. As the licensing board in the *Shearon Harris* COL proceeding explained, "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

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312 *See* U.S. Atomic Energy Commission, WASH-1248, "Environmental Survey of the Uranium Fuel Cycle," at A-11 (Apr. 1974) (indicating that uranium mining involves the use of heavy earth moving equipment that emits CO_2), B-10 (stating that uranium milling operations involve the release of small quantities of airborne chemical contaminants, including CO_2); NUREG-0116, Supp. 1 to WASH-1248, Environmental Survey of the Reprocessing and Waste Management Portions of the LWR Fuel Cycle, at 4-83 to 4-84 (Oct. 1976) (estimating CO_2 emissions from high-level waste repository operations).

313 If Petitioners seek to change Table S-3, then their remedy is to file a petition for rulemaking under 10 C.F.R. § 2.802.

cycle is immaterial to the decision the Agency must make, and therefore such a contention fails to create a genuine issue of *material* fact."[314] Here, Petitioners have made no such showing.[315]

In this regard, the Petitioners state that the ER "fails to carefully compare the greenhouse gas effects expected from each of the alternative technologies and their relative costs."[316] This statement ignores the discussion of alternatives in the ER. ER Section 9.2.2 evaluates many different alternatives and concludes that only a few are "feasible alternatives" that could provide baseload power. These feasible alternatives include coal-fired generation and natural gas-fired generation.[317] The ER evaluates the environmental impacts of these two alternatives and concludes, based in part on air emissions, that neither alternative would reduce environmental impacts.[318] The Petitioners also have not demonstrated that the carbon footprint of these two alternatives is "extremely low."[319] Moreover, a comparison of the environmental impacts, including the footprint of the fuel cycle, with other alternatives is unnecessary because these

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314 *Shearon Harris*, LBP-08-21, slip op. at 29.

315 Petitioners suggest that the U.S. Supreme Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007), somehow necessitates some different consideration of CO_2 emissions than is contained in the ER. Petitioners fail to demonstrate how this decision is material to their contention. The issue in *Massachusetts v. EPA* was whether the EPA was required to regulate CO_2 under § 202(a)(1) of the Clean Air Act, 42 U.S.C. § 7521(a)(1). Because that case dealt exclusively with whether EPA's substantive regulation of CO_2 emissions was discretionary, it contained no consideration whatsoever of Table S-3 or NEPA.

316 Petition at 45.

317 ER § 9.2.3. Additionally, ER Section 9.2.2.6.1 and Tables 9.2-3 and 9.2-4 evaluate the use of a combination of alternatives to produce baseload power, such as wind power in combination with gas-fired plants. That analysis shows that the air quality impacts of such combinations would be equal to or greater than the impacts from a nuclear plant. Petitioners have not contested that conclusion.

318 *Id.* § 9.2.4 (concluding that "neither a coal-fired nor a gas-fired plant would provide an appreciable reduction in overall environmental impacts relative to a nuclear plant. Furthermore, each of these types of plants would entail a significantly greater relative environmental impact on air quality than would the proposed nuclear project").

319 *See Shearon Harris*, LBP-08-21, slip op. at 29.

alternatives are not viable.[320] Therefore, this contention should be rejected for not satisfying 10 C.F.R. § 2.309(f)(1)(iv).[321]

Third, even if this contention is viewed as an attack on the ER, Petitioners fail to provide any factual support indicating any specific error in the portions of the ER listed below, contrary to 10 C.F.R. § 2.309(f)(1)(v). A petitioner bears the burden to present the factual information or expert opinions necessary to support its contention adequately, and failure to do so warrants rejection of the contention.[322]

Finally, while not stating that this contention is one of omission, Petitioners appear to contend that the ER fails to address these issues. In fact, the ER addresses greenhouse gases and CO_2 emissions. For example, Section 5.7.4 discusses chemical effluents of the uranium fuel cycle, including the greenhouse gases denoted in Table S-3. Similarly, Section 5.7.8 addresses uranium fuel cycle transportation impacts. ER Table 10.4-2 states a benefit of new reactor development is "[m]aintaining domestic nuclear technology capability as hedge against possible need to control global warming." Additionally, ER Section 10.4.1.3 addresses "Emissions Reduction." In fact, Section 10.4.1.3 specifically states:

> Nuclear generation contributes considerable air quality benefits to the nation. Unlike electricity generated from coal and natural gas, nuclear energy does not result in significant emissions of air pollutants associated with global warming and climate change (e.g., nitrogen oxides, sulfur dioxide, carbon dioxide) or methyl mercury. Fossil fuel-fired power plants are responsible for 64% of

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320 *Id.* Additionally, there is no requirement to compare any costs of the alternatives, because none of them was determined to be environmentally preferable. *See Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-458, 7 NRC 155, 162 (1978) ("But if there are no preferable environmental alternatives, such cost-benefit balancing does not take place.").

321 Although unrelated to their contention regarding the uranium fuel cycle, Petitioners also provide a single sentence stating that CO_2 emissions are foreseeable during construction, operation, and decommissioning. Petition at 34. Since that sentence does not pertain to their contention (which relates to the uranium fuel cycle), the Board need not address it. Nevertheless, even if the Board were to consider that sentence, for the reasons discussed below, it would not provide an adequate basis for a contention.

322 *See* 10 C.F.R. § 2.309(f)(1)(v); *Yankee*, CLI-96-7, 43 NRC at 262.

> the nation's sulfur dioxide emissions, 26% of nitrogen oxide emissions, 33% of mercury emissions, and 36% of man-made carbon dioxide emissions. The majority of the industry's emissions are from coal-fired plants.[323]

Accordingly, to the extent the contention is based on a view that the ER fails to address these issues, it should be dismissed for failing to satisfy 10 C.F.R. § 2.309(f)(1)(vi).

Three similarly ill-founded contentions related to the "carbon footprint" have been considered and rejected by the licensing boards in the *Bellefonte*, *William States Lee*, and *Shearon Harris* COL proceedings, because (similar to the ER for STP Units 3 and 4) the ERs for those plants included a summary of the overall benefits of nuclear power with respect to emission of greenhouse gases.[324] For the reasons discussed in those decisions, Contention 20 in this proceeding should also be rejected.

In summary, Petitioners' contention that the ER does not, but should, discuss greenhouse gases, is factually and legally baseless. Therefore, the Board should reject this contention.

21. Contention 21 – Impacts of Accidents on Other Operating Units

This contention alleges that the evaluation of the environmental impacts of accidents in Chapter 7 of the ER does not assess the impacts of an accident at one of the STP units on the operation of other units at the STP site.[325] This contention should be rejected because it is based upon an unsupported premise and does not raise an issue that is material to the adequacy of the ER.

Contention 21 is premised on the proposition that an accident at one of the STP units could affect operation of another STP unit. Petitioners have provided absolutely no support for

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323 ER at 10.4-2 (citations omitted).

324 *See Shearon Harris*, LBP-08-21, slip op. at 27; *William States Lee*, LBP-08-17, slip op. at 12; *Bellefonte*, LBP-08-16, slip op. at 64.

325 Petition at 46.

such a proposition. In particular, the Petitioners have not cited any references or provided any expert opinions to support their contention that an accident at one unit could affect another unit. As a result, the contention does not satisfy the requirements of 10 C.F.R. § 2.309(f)(1)(v). As a licensing board recently ruled in another COL proceeding, when a petitioner alleges that the ER is missing information, the petitioner must provide facts or expert opinions to support its contention that the allegedly missing information should be included in the application.[326] In particular, under NEPA's rule of reason, if a petitioner contends that an external event could affect operation of a unit, it must provide some support for believing that the probability of occurrence of such an effect is credible.[327] Since Petitioners have not provided such support for their contention, it should be rejected.[328]

In this regard, General Design Criterion ("GDC") 4 requires that structures, systems, and components important to safety be appropriately protected "from events and conditions outside the nuclear power unit."[329] As provided in the ABWR DCD Tier 2, Section 3.1.2.1.4, the ABWR satisfies GDC 4. FSAR Section 3.1 incorporates this section in the DCD without any departures. Given the requirements in GDC 4 and the provisions in the DCD and FSAR showing compliance with GDC 4, Contention 21 does not raise an issue that is material to the adequacy of the evaluation of environmental impacts of accidents provided in ER Chapter 7.

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326 *Calvert Cliffs*, LBP-09-4, slip op. at 47-49.

327 *Id.*

328 The licensing board in the *Calvert Cliffs* proceeding stated that, under NEPA's rule of reason, a reasonable probability threshold for considering events is 10^{-6} per year. *Id.* at 48. As provided in FSAR Section 2.2S.3.1, STP evaluated external events and accidents with a frequency of occurrence of 10^{-7} per year or greater and demonstrated that such accidents would not affect the safe operation of Units 3 and 4. Therefore, to the extent that the Petitioners are postulating less frequent events, such events do not need to be evaluated under NEPA's rule of reason under the criteria discussed by the *Calvert Cliffs* licensing board.

329 10 C.F.R. Part 50, App. A.

Petitioners contend that "there is no discussion of how the other units would be protected in the event of a major fire or explosion at one of the other units."[330] However, this allegation does not accurately describe the COLA. For example, FSAR Section 2.2S.3.1.1.4 evaluates the effects of explosive hazards at STP Units 1 and 2 and concludes that those hazards do not pose a threat to Units 3 and 4 given the distance (more than 1500 feet) between the hazards and Units 3 and 4. Similarly, FSAR Sections 2.2S.3.1.2.4 and 2.2S.3.1.4 evaluate the impact of flammable clouds originating at Units 1 and 2 and onsite fires external to Units 3 and 4 and show that such fires would not endanger the safe operation of those units. Additionally, FSAR Section 2.2S3.1.2.4 evaluates the impacts of chemical hazards at Units 1 and 2 and demonstrates that such hazards would not impact Units 3 and 4. The Petitioners do not contest the discussion in any of those sections of the FSAR.

Petitioners contend that there is no discussion of the impacts of a severe radiological accident at one unit on the remaining units.[331] However, this allegation also does not accurately describe the COLA. With respect to radiological accidents, Sections 15.6.5.5.1.2 and 15.6.5.5 of Tier 2 of the ABWR DCD show that the whole body doses to operators within the main control room from an accident at that unit would be less than the 5 rem limit in GDC 19 as a result of a loss of coolant accident. These sections are incorporated by reference without any departures in FSAR Section 15.6. Furthermore, FSAR Section 2.2S.3.1.7 evaluates the radiological impacts of an accident at STP Units 1 and 2 and concludes that STP Units 3 and 4 have been designed to withstand such events. The Petitioners do not contest the discussion in any of those sections of the FSAR.

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330 Petition at 46.

331 *Id.*

In summary, the Petitioners have not alleged, and have provided no basis for alleging, that any of the STP units would be unable to withstand an accident in another unit and continue to operate. As a result, this contention does not raise an issue that is material to the adequacy of the evaluation of the environmental impacts of accidents in ER Chapter 7. Stated otherwise, Petitioners have not shown that any of the results or conclusions in ER Chapter 7 would be affected if it were to include the information identified in Contention 21. Accordingly, this contention should be rejected for failure to satisfy 10 C.F.R. § 2.309(f)(1)(iv), (v), and (vi).

22. Contention 22 – Decommissioning

Contention 22 asserts that "[t]he COLA should consider all radiological, environmental and public health impacts related to decommissioning of STP Units 3 and 4."[332] Petitioners contend that the ER "does not provide definitive plans for decommissioning" and the "assumptions that underpin STP's decommissioning plans are unreasonable."[333]

Contention 22 should be rejected because it is inconsistent with the Commission's regulatory structure governing decommissioning. Additionally, Contention 22 lacks adequate factual or expert support and fails to establish a genuine dispute with the Applicant on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi). In short, Petitioners provide no credible legal basis for their assertions that the ER must include an assessment of the environmental impacts of final decommissioning plans, and provide no factual basis for their claim that the ER contains an insufficient assessment of decommissioning impacts. Moreover, in making these bald assertions, Petitioners simply ignore relevant information presented in the ER.

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[332] *Id.* at 47.

[333] *Id.*

a. Contention 22 Is Inconsistent with the Commission's Regulatory Framework Related to Decommissioning

Contrary to the Petitioners' apparent belief, an applicant for a COL need not describe its decommissioning plans. Instead, as provided by 10 C.F.R. §§ 50.82(a)(4) and 52.110(d), decommissioning plans for a power reactor must be provided in a post-shutdown decommissioning activities report ("PSDAR") within two years of permanent cessation of operation. Additionally, those regulations require that the PSDAR provide "the reasons for concluding that the environmental impacts associated with site-specific decommissioning activities will be bounded by appropriate previously issued environmental impact statements."[334] Complementary provisions are contained in NRC environmental regulations in 10 C.F.R. §§ 51.53(d) and 51.95.

In recognition that a PSDAR does not need to be developed until the time of decommissioning, the NRC has issued a Generic Environmental Impact Statement ("GEIS") for decommissioning of nuclear power plants.[335] As stated in the GEIS:

> This Supplement can be used by the public to understand the decommissioning process, the activities performed during decommissioning, and the potential environmental impacts resulting from these activities. It identifies activities that can be bounded by a generic evaluation. Licensees can rely on the information in this Supplement as a basis for meeting the requirements in 10 CFR 50.82(a)(6)(ii). This requirement states that the licensee must not perform any decommissioning activity that causes any significant environmental impact not previously reviewed. The NRC staff will also rely on this Supplement as a basis for determining if anticipated decommissioning impacts require an additional review.[336]

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334 10 C.F.R. § 52.110(d)(1).

335 NUREG-0586, Supp. 1, Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities—Regarding the Decommissioning of Nuclear Power Plants (Nov. 2002) ("GEIS").

336 *Id.* at xiv. At the time the GEIS was issued in 2002, 10 C.F.R. § 52.110 did not exist, and COLs were subject to the parallel provisions in 10 C.F.R. § 50.82.

In summary, at the COL application stage, an applicant need not provide its decommissioning plans or describe in detail the site-specific impacts of decommissioning. At the time of decommissioning, the COL holder must provide a PSDAR, together with a supplement to its ER pursuant to 10 C.F.R. § 51.53(d), describing its decommissioning plans and showing how the environmental impacts of implementing those plans are bounded by the previous environmental impact statements. To the extent that the Petitioners are contending that STPNOC must describe its decommissioning plans (including a detailed discussion of the associated site-specific environmental impacts) now, its contention is inconsistent with the Commission's regulatory framework and should be rejected pursuant to 10 C.F.R. § 2.335.

b. Contention 22 Fails to Establish a Genuine Dispute with the Applicant on a Material Issue of Law or Fact

Contention 22 should also be rejected because it fails to meet the requirements of 10 C.F.R. § 2.309(f)(1)(vi), which requires a petitioner to provide "sufficient information" to show that a genuine dispute exists with the applicant on a material issue of law or fact. Section 2.309(f)(1)(vi) "requires that there be a concrete and genuine dispute appropriate for litigation."[337] Petitioners fail to controvert relevant information contained in the ER and supporting documentation referenced therein, underscoring the lack of a genuine material dispute.[338]

Contrary to Petitioners' claim, the ER does, in fact, provide information concerning the impacts of decommissioning the proposed new STP units. Specifically, ER Section 5.9

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337 *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 358 (2006).

338 The Petition claims that STPNOC's decommissioning plans are unreasonable because there is no indication spent fuel will leave the site. Petition at 47. As discussed above with respect to Contentions 3, 5, and 6, this argument challenges the Waste Confidence Rule in 10 C.F.R. § 51.23 and therefore is contrary to 10 C.F.R. § 2.335. The Petition makes a somewhat similar claim related to low-level waste. Petition at 47. However, that claim is not admissible per 10 C.F.R. § 2.309(f)(1)(vi) for failure to cite or contest the applicable discussion in ER Section 3.5.4.

summarizes and incorporates conclusions from the GEIS on the decommissioning of NRC-licensed nuclear power reactors.[339] As ER Section 5.9.5 states, "STPNOC has concluded that the environmental impacts identified in the GEIS are representative of impacts that can be reasonably expected from decommissioning the GE ABWR." Section 6.1 of the GEIS determined, for those resource or impact areas not requiring site-specific analysis, that the impacts associated with decommissioning nuclear power plants in accordance with NRC-approved methods are SMALL. In view of the above, the ER states that "detailed analyses of decommissioning alternatives are not prepared until cessation of operation."[340] Petitioners have presented no information or expert opinion to show that site-specific considerations at STP Units 3 and 4 preclude application of the GEIS's generic, bounding environmental impact determination to the new units.

Section 4.3.8 of the GEIS, in particular, discusses in detail the NRC's evaluation of the radiological impacts of nuclear power plant decommissioning activities, including radiological doses to workers and members of the public. Section 4.3.8.4 concludes that "radiological impacts of decommissioning will remain within regulatory limits," and that the radiological impacts of decommissioning activities are thus SMALL.[341] Section 4.3.17 of the GEIS, in turn, addresses the radiological impacts related to transporting decommissioning equipment and materials (radiological and nonradiological) offsite, and concludes that potential impacts are SMALL.[342] Finally, Section 4.3.18 of the GEIS contains an evaluation of the potential impacts of decommissioning on the irreversible and irretrievable commitments of resources—including

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339 ER § 5.9 (citing the GEIS).

340 *Id.* at 5.9-2.

341 GEIS at 4-38.

342 *Id.* at 4-76 to 4-81.

the volume of land required for radioactive waste disposal—and concludes that those impacts also are SMALL.[343] In view of these GEIS determinations—which Petitioners fail to controvert—there is no basis for Petitioners' suggestion that offsite disposition of decommissioning materials is not feasible or poses unacceptable risks to public health or the environment.[344]

Finally, Petitioners' claim that decommissioning technology is "inadequate" fails to establish a litigable dispute. The 2002 GEIS takes into account different reactor designs (including boiling water reactors) and advances in decommissioning technology. As the GEIS explains:

> The intent of this Supplement is to consider in *a comprehensive manner all aspects related to the radiological decommissioning of nuclear reactor facilities* by incorporating updated information, regulations, and analyses. Since the 1988 GEIS was written, the NRC and the industry have gained substantially more nuclear power facility decommissioning experience. Based on the number of reactors shut down and the date that they permanently ceased operations, o*ver 200 facility-years' worth of decommissioning experience* have accumulated since the NRC published the 1988 GEIS. Currently, there are 19 commercial power reactor facilities in the decommissioning process. This includes nine that permanently ceased operations after the NRC published the 1988 GEIS. Since the 1988 GEIS, there are three facilities that have completed decommissioning and terminated their licenses. There are also new technologies and approaches applicable to decommissioning that the 1988 GEIS does not address.[345]

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343 *Id.* at 4-81 to 4-83.

344 Petitioners' suggestion that "contingencies" require "consideration of radiological impacts related to the indefinite delay in decommissioning" is similarly insufficient to establish a genuine material dispute. Petition at 48. First, under 10 C.F.R. § 50.82(a)(3), decommissioning of a nuclear power reactor must be completed within 60 years of permanent cessation of operations. Completion of decommissioning beyond 60 years would require approval by the Commission and would be authorized only when necessary to protect public health and safety. Any factors warranting such an extension of time would be considered at the time of decommissioning (not now, in the context of the COLA or ER). Second, the GEIS evaluates the impacts associated with the full spectrum of NRC-approved decommissioning methods, which include DECON, SAFSTOR, and ENTOMB.

345 GEIS at xi-xii (emphasis added).

As such, Petitioners' assertions that decommissioning technology is inadequate and that the environmental and public health implications of decommissioning are not well understood lack any basis in fact. Indeed, the actual, extensive decommissioning experience that underlies the NRC's 2002 GEIS belies Petitioners' claims.[346]

In summary, Petitioners' unfounded assertion that the ER inappropriately postpones evaluation of decommissioning-related impacts fails to raise a genuine dispute on a material issue of law or fact.[347]

c. Contention 22 Lacks Adequate Factual or Technical Support

In addition to the fundamental defects in Contention 22 discussed above, the contention also fails to satisfy the requirements in 10 C.F.R. § 2.309(f)(1)(v). Section 2.309(f)(1)(v) requires a petitioner to "provide documents or other factual information or expert opinion that set forth the necessary technical analysis to show why the proffered bases support its contention."[348] Importantly, a petitioner is required to include "references to the specific sources and documents on which the requestor/petitioner intends to rely to support its position on the issue."[349] As the

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346 *See* NRC Fact Sheet, Decommissioning Nuclear Power Plants, at 10 (listing decommissioned facilities), *available at* http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/decommissioning.pdf. In addition, Petitioners' claim that decommissioning may not be "feasible," and that the impacts of decommissioning activities "are not well understood," is belied by the Commission's own regulations. Petition at 48. Specifically, 10 C.F.R. Part 51, Subpart A, Appendix B, Table B-1, provides an assessment of the environmental impacts of decommissioning of nuclear power plants, including the impacts related to radiation doses, waste management, air quality, water quality, ecological resources, and socioeconomic impacts. In each of these areas, Part 51 states that the impacts of decommissioning are SMALL. Although this regulation pertains to license renewal, it reflects the Commission's generic determination that the environmental impacts of decommissioning nuclear power plants are SMALL.

347 Petition at 47-48.

348 *Private Fuel Storage*, LBP-98-7, 47 NRC at 180; *see also Ga. Tech*, LBP-95-6, 41 NRC at 305 (stating that a petitioner must "provide the analyses and expert opinion showing why its bases support its contention").

349 10 C.F.R. § 2.309(f)(1)(v).

Commission has explained, "[d]ocuments, expert opinion, or at least a fact-based argument are necessary."[350]

Here, Petitioners provide none of this in support of their bald assertions. Contention 22 is devoid of any technical analysis, whether it be expert opinion or appropriately-referenced technical documentation. Petitioners' "bare assertions and speculation" do not discharge their burden under 10 C.F.R. § 2.309(f)(1)(v).[351] Accordingly, this contention should be dismissed for failure to satisfy 10 C.F.R. § 2.309(f)(1)(v).

23. Contention 23 – Alternative Energy Sources

Contention 23 alleges that the ER "is inadequate because it fails to make reasonable assumptions about alternatives to the proposed action of constructing and operating STP Units 3 and 4."[352] The contention asserts, in principal part, that:

- The ER improperly excludes "conservation/energy efficiency" measures, particularly since one of the applicants (CPS Energy) would allegedly not be functioning as a merchant generator.[353]
- Recent advances in technology such as compressed air, improved battery storage capacity, and molten salt storage for solar thermal power systems cast doubt on the ER's conclusion that wind and solar power cannot provide baseload capacity.[354]

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350 *Oconee*, CLI-99-1, 49 NRC at 342.

351 *Fansteel*, CLI-03-13, 58 NRC at 203 (internal quotation marks and citation omitted).

352 Petition at 48.

353 *Id.* at 49-50.

354 *Id.* at 49, 52-53.

- The ER does not provide a side-by-side comparison of mortality and morbidity and the effects of catastrophic accidents at nuclear facilities and at renewable energy facilities (*e.g.*, wind power facilities).[355]
- The ER should evaluate geothermal and biomass as alternatives.[356]
- The ER should provide a quantified cost comparison among nuclear power and alternatives, which would show that nuclear power is more expensive.[357]

As discussed below, these allegations are legally and factually baseless.

a. Wind and Solar Power and Energy Conservation/Efficiency Would Not Serve the Purpose of STP Units 3 and 4, Which Is to Produce Baseload Power

The purpose of the proposed action is the construction and operation of a 2,700-MWe nuclear power plant that is to be used as an independent merchant baseload facility.[358] As such, STPNOC is not required, as a matter of law, to evaluate in depth any energy alternative or energy-efficient or conservation measure that cannot produce baseload power.

Controlling Commission and judicial precedent makes this fact clear. In the *Clinton* early site permit proceeding, the Commission held that the applicant (a merchant generator) was "not obliged to examine general efficiency or conservation proposals that would do nothing to satisfy [the] particular project's goals [of producing baseload power]."[359] The Commission emphasized that "the NEPA 'rule of reason' does not demand an analysis of what the Board called the

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355 *Id.* at 50.

356 *Id.* at 51.

357 *Id.* at 53-57.

358 ER at 9.2-1 and -4.

359 *Exelon Generation Co.* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 808 (2005), *aff'd sub nom.*, *Envtl. Law & Policy Ctr. v. NRC*, 470 F.3d 676 (7th Cir. 2006).

'general goal of energy efficiency.'"[360] The Commission also rejected wind and solar power on the same grounds as energy efficiency, ruling that:

> Because a solely wind- or solar-powered facility could not satisfy the project's purpose [of providing baseload power], there was no need to compare the impact of such facilities to the impact of the proposed nuclear plant.[361]

In affirming the NRC's *Clinton* decision, the U.S. Court of Appeals for the Seventh Circuit expressly agreed that it was reasonable for the NRC to conclude that NEPA did not require consideration of energy efficiency alternatives.[362] Thus, as a matter of law, the ER is not required to evaluate wind and solar power, energy conservation and energy efficiency, or other alternatives that cannot accomplish the stated purpose of STP Units 3 and 4—namely, to produce baseload power.

The rulings in *Clinton* have recently been reaffirmed and applied in the *Summer* COL proceeding with respect to a contention similar to Contention 23 in this proceeding. The licensing board in that proceeding ruled that energy efficiency or conservation "is not a substitute for the addition of base-load power, which is the accepted project purpose."[363] In the *Summer* COL proceeding, the board further stated:

> In the instant proceeding, the Applicant has selected base-load generation as its project purpose, and has examined several alternative ways of achieving that goal. NRC precedent dictates that we defer to that stated goal and, in these circumstances, find that challenges to an alternatives examination that assert a requirement to examine methods of achieving another goal are

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360 *Clinton*, CLI-05-29, 62 NRC at 807.

361 *Id.* at 810.

362 *Envtl. Law & Policy Ctr.*, 470 F.3d at 684. Moreover, "[t]he NRC is not in the business of crafting broad energy policy involving other agencies and non-licensee entities." *Hydro Res. Inc.* (PO Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 55 (2001).

363 *S.C. Elec. & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 and 3), LBP-09-02, 69 NRC __, slip op. at 23 (Feb. 18, 2009).

> outside the scope of this proceeding and not material to the decision the NRC must make.[364]

Accordingly, Petitioners' claims that STPNOC must provide a more detailed analysis of wind and solar power and energy conservation as part of its NEPA-mandated alternatives analysis are inconsistent with NEPA's rule of reason and are not material to the NRC's required findings, contrary to 10 C.F.R. § 2.309(f)(1)(iv).

The Petitioners attempt to avoid this reasoning, by arguing that CPS Energy is a "municipal supplier" and therefore would not "function as a merchant power plant owner and would be required to factor in DSM [Design Side Management] as an alternative to adding new nuclear capacity."[365] The Petitioners' reasoning is faulty on several points. First, although the decisions in *Clinton* mentioned that the owner of Clinton plant, Exelon, would be a merchant generator, such a description was in the context of explaining the goal or purpose of the project. The conclusions in *Clinton* were not dependent upon the fact that the Clinton plant would be a merchant generator. Instead, the decisions in *Clinton* were predicated upon the fact that wind and solar power and energy conservation/efficiency *could not serve the applicant's stated goal of the project*, which was to generate baseload power. As the Commission ruled:

> To require consideration of conservation as well would ignore entirely the purpose of Exelon's proposed facility — producing more power. . . . Exelon and the NRC Staff were not obliged to examine general efficiency or conservation proposals that would do nothing to satisfy this particular project's goals.[366]

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364 *Id.* at 22 n.84.

365 Petition at 50.

366 *Clinton*, CLI-05-29, 62 NRC at 807-08.

Second, the decisions in *Clinton* have subsequently been applied to projects that were not merchant generators, such as *Summer*.[367] Third, even if the rational in *Clinton* were assumed to be limited to merchant generators, it would be of no avail to the Petitioners because CPS Energy will use the power from STP Units 3 and 4 either to supply the customers in its service area or to sell "excess capacity to wholesale buyers anywhere within the ERCOT system."[368] Therefore, as stated in the ER, "the need for power evaluation for STP 3 & 4 is based on the need for power in the entire ERCOT region," and the need for power in the CPS Energy service area is not material.[369]

b. Petitioners' Claims Regarding Use of Compressed Air and Batteries to Supplement Wind and Solar Power Lack Adequate Support and Fail to Establish a Genuine Material Dispute

Petitioners provide no support for the claim that the ER should evaluate wind and solar power, in conjunction with energy storage in the form of compressed air, batteries, and molten salt, as a means of producing baseload power.[370]

First, the ER evaluates compressed air and batteries in combination with wind and solar power. ER Section 9.2.2.6.1 states:

> For example, the storage of even one day's output at 2700 MW is well beyond any demonstration projects using batteries, compressed air, hydrogen, or other storage mechanism and the cost of such systems, even if available, would be prohibitive.

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367 *See, e.g.*, *Summer*, LBP-09-02, slip op. at 23 n.86. As described in the Summer ER, Rev. 1, at 8.0-1, *available at* ADAMS Accession No. ML090510258, the Summer project is a traditionally state regulated project with state-designated service areas.

368 ER at 8.1-1.

369 *Id.* at 8.1-2.

370 Petition at 49, 52-53. The Petition also claims that the ER should evaluate wind power combined with "ice-energy storage at the consumer end" for producing "dispatchable energy for peak and intermediate electricity loads." *Id.* at 51. Since such a combination is not capable of producing baseload power, it is not a reasonable alternative under the *Clinton* decisions.

Contention 23 does not cite this discussion or contest it.

Furthermore, Contention 23 does not provide any citation specifically to support its statements regarding compressed air, batteries, and molten salt. Instead, at the end of the discussion of possible alternatives, Contention 23 simply refers to a report prepared by Dr. Makhijani and to a web page of the National Renewable Energy Laboratory ("NREL") as general support for Contention 23.[371] However, as discussed below, Dr. Makhijani's report and the NREL webpage do not provide adequate support for the Petitioners' discussion of compressed air, batteries, and molten salt.

Dr. Makhijani's report does not mention use of compressed air or batteries for storing energy. Dr. Makhijani's report does mention solar thermal projects with use of molten salt storage. However, it does not dispute the conclusions in the ER that solar thermal systems are not feasible alternatives for generating baseload power. In particular, ER Section 9.2.2.3.2 evaluates solar thermal power systems, including use of thermal storage tanks to store the energy in the heat transfer fluid. That section concludes that the cost of producing electricity from such systems would be several times the cost from nuclear power. Dr. Makhijani's report does not contain any information that is inconsistent with that conclusion in the ER. In fact, Contention 23 actually provides information that supports the conclusion in the ER. Specifically, the Petition identifies a market price of solar that is approximately double that of nuclear power ($294.98 per MWh for solar versus $150.83 per MWH for nuclear power).[372] Therefore, there is no genuine dispute that the cost of electricity from solar power is several times higher than from

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371 *Id.* at 52.

372 *Id.* at 56.

nuclear power and therefore is not a feasible alternative to STP Units 3 and 4.[373]

The NREL webpage referenced by the Petitioners consists of a single page. That page discusses the possibility that wind power in combination with compressed air energy storage ("CAES") might be able to produce baseload power. However, that webpage also contains the following conclusion:

> Development of the "baseload" wind concept will require a greater understanding of the local geologic compatibility of air storage, and additional work will be required to examine the feasibility of advanced wind/CAES concepts described here.[374]

Thus, even the very citation provided in the Petition indicates that, at the current time, wind power in combination with CAES is not feasible as a means of generating baseload power.

As another licensing board has stated, "the Board is not to accept uncritically the assertion that a document or other factual information or an expert opinion supplies the basis for a contention."[375] Any supporting material provided by a petitioner, including those portions thereof not relied upon, is subject to Board scrutiny, "both for what it does and does not show."[376] When those principles are applied to the Petitioners' references, it is apparent that the references do not support the statements in Contention 23 related to energy storage systems.

For the foregoing reasons, Petitioners fail to provide adequate support for the proposition that wind and solar power in conjunction with energy storage systems are reasonable alternatives for generating baseload power. Furthermore, the references provided by the Petitioners do not

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373 Other data cited by the Petitioners and Dr. Makhijani pertain to capital costs, not costs of electricity. *See, e.g.*, Petition at 54, 57; Dr. Makhijani's report *Energy Efficiency Potential: San Antonio's Bright Future*, at 29 (Oct. 2008).

374 www.nrel.gov/docs/fy07osti/40674.pdf.

375 *Private Fuel Storage*, LBP-98-7, 47 NRC at 181.

376 *Yankee*, LBP-96-2, 43 NRC at 90.

contest the evaluation in the ER. Therefore, the allegations in Contention 23 regarding energy storage systems do not satisfy the requirements in 10 C.F.R. § 2.309(f)(1)(v) and (vi).

c. Petitioners' Claim that the ER Omits a Side-by-Side Comparison of the Impacts of Nuclear Power and Renewable Fuels Is Legally and Factually Baseless and Fails to Establish a Genuine Material Dispute

Petitioners' allegation that the ER omits an appropriate comparative evaluation of the environmental impacts of the proposed action (*i.e.*, nuclear baseload generation) and renewable energy alternatives is patently incorrect.[377] The ER explicitly discusses the relative environmental impacts of an array of alternative energy sources for comparably-sized (*i.e.*, 2700 MWe) facilities. With regard to renewables in particular, those impacts are discussed in detail in ER Sections 9.2.2.2 (Wind), 9.2.2.3 (Solar Thermal Power and Photovoltaic Cells), 9.2.2.3.3 (Hydropower), 9.2.2.3.4 (Geothermal), 9.2.2.3.5 (Biomass), and 9.2.2.6.1 (Combinations of Alternatives). In each case, the ER found that the alternative energy source has environmental impacts, and some of the alternatives (such as wind and solar power) have large impacts on land.[378]

Petitioners also claim that the ER should contain a side-by-side comparison of nuclear fuels and renewable fuels related to mortality and morbidity, and the effects of catastrophic accidents.[379] Petitioners cite no statutory or regulatory requirement for such an analysis and, indeed, none exists. 10 C.F.R. § 51.45, which prescribes the content of an ER, states that the discussion of alternatives should be "sufficiently complete to aid the Commission in developing and exploring, pursuant to Section 101(2)(E) of NEPA, 'appropriate alternatives to

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377 Petition at 50.

378 The Petition claims that the ER is misleading in stating that wind power has large land use requirements, given that the footprint of wind facilities is only 5% of the wind farm area. *Id.* at 51-52. This argument does not raise a genuine dispute with the ER, which also refers to the 5% figure. ER at 9.2-5.

379 Petition at 50.

recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.'"[380] That regulation further provides that, to the extent practicable, the environmental impacts of the proposal and the alternatives should be presented in comparative form.[381] In fact, ER Tables 9.2-3 and 9.2-4 contain such a side-by-side comparative analysis for alternatives that were determined to be reasonable. There is no legal or factual basis for providing such an analysis for wind and solar power or other alternatives that were determined not to be reasonable alternatives to STP Units 3 and 4.

In any event, Petitioners provide no factual support to substantiate their claim that "comparisons would indicate that renewable fuels do not cause increased mortality and morbidity while nuclear fuel clearly does."[382] Petitioners' argument thus does not establish the existence of a genuine material dispute. Notably, the Board considered and rejected a similarly ill-founded claim in the *Bellefonte* COL proceeding.[383]

Petitioners' call for a comparative analysis of the effects of "catastrophic accidents" similarly is ill-founded and fails to raise a genuine material dispute. ER Chapter 7 assesses the environmental impacts of postulated accidents involving radioactive materials at STP Units 3 and 4, including postulated design basis accidents (ER Section 7.1) and severe accidents (ER Section 7.2). ER Section 7.1.4 shows that the impacts of design basis accidents are within regulatory limits.[384] Section 7.2.4 shows that the risk of postulated severe accidents at STP Units 3 and 4 is less than has been calculated for plants subject to license renewal. In turn, the

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380 10 C.F.R. § 51.45(b)(3).

381 *Id.*

382 Petition at 50.

383 *Bellefonte*, LBP-08-16, slip op. at 73 (rejecting petitioners' claim that "the ER is deficient because it fails to compare the cancer incidence and mortality effects of operating the proposed plant with the health effects of alternative energy-producing technologies, such as wind or solar power, or the alternative of energy conservation").

384 ER at 7.1-3.

Commission has generically determined that the risk of severe accidents for purposes of license renewal is SMALL.[385] Petitioners ignore the analyses in ER Chapter 7, and fail to explain how a side-by-side comparison of "catastrophic accidents" involving nuclear and alternative energy facilities (assuming NEPA required one) would materially alter any conclusion reached in the ER, especially given that the impacts of accidents at STP Units 3 and 4 are SMALL.

In summary, Petitioners' arguments that the ER must include a side-by-side comparative analysis of nuclear power and renewables are legally and factually baseless.

d. Petitioners' Claims Regarding Geothermal and Biomass Mischaracterize the ER

Contention 23 raises allegations with respect to the use of biomass and geothermal as an alternative to nuclear power. As discussed below, those allegations mischaracterize the ER.

With respect to biomass, Contention 23 argues that the ER should evaluate the use of biomass as an alternative means of generating electricity, implying that such an evaluation does not currently exist in the ER.[386] However, ER Section 9.2.2.3.5 includes an evaluation of the use of biomass as a fuel. The Petitioners do not contest any statements in that section. Therefore, this argument should be rejected for failure to satisfy 10 C.F.R. § 2.309(f)(1)(vi).

With respect to geothermal, Contention 23 refers to the conclusion in the ER that geothermal is not a feasible alternative for generating baseload power in the region, due to the absence of shallow high-temperature geothermal sources and the insufficient maturity of the technology for generating electricity from deep oil and gas wells. Petitioners then claim that

385 10 C.F.R. Part 51, App. B, Table B-1.

386 Petition at 51.

STPNOC should "re-examine their conclusion" since the "Texas Bureau of Geology" estimates that as much as 20,000 MW of geothermal power exists in the state. [387]

The Petitioners provides a citation to a web page as support for their statement. However, there are several problems with the citation provided by the Petitioners:

- The web page cited in the Petition at 51 n.5 does not exist. Similarly, as far as we can determine, the "Texas Bureau of Geology" does not exist.
- We assume that the Petitioners intended to refer to the Texas Bureau of Economic Geology. However, our search of their web page did not identify any statements corresponding to the statements in the Petition.
- We have located another web page, which appears to correspond to the description provided in the Petition.[388] However, that web page is not sponsored by the Texas Bureau of Economic Geology but instead by a group called "Good Company Associates." Furthermore, the web page consists of nothing more than a one-page statement, which includes a statement that the "Texas Bureau of Geology" estimates that there is as much as 20,000 MW of geothermal power in Texas, without providing a citation or reference to a primary source.
- The one-page web page by the "Good Company Associates" does not discuss the technological maturity of geothermal power from deep oil and gas wells. However, it does state: "Presently there is no geothermal power in the State of Texas." This statement is fully consistent with the evaluation of geothermal in the ER.

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387 *Id.* at 50-51.

388 We believe that the correct citation is http://lonestar.sierraclub.org/press/newsreleases/20090318GeothermaTx.pdf.

In summary, the citation in the Petition is not scrutable. To the extent that we were able to find anything corresponding to the citation, it does not contradict anything in the ER (and in fact tends to support the statements in the ER). Therefore, the Petitioners' statements regarding geothermal are not properly supported, contrary to 10 C.F.R. § 2.309(f)(1)(v) and do not establish a genuine dispute on a material fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Accordingly, Contention 23 should be rejected to the extent that it raises issues related to biomass and geothermal.

e. Petitioners' Claims Regarding the Costs of Nuclear Power and Alternatives Are Legally and Factually Baseless

The Petition contains a number of allegations related to the costs of STP Units 3 and 4 and alternatives. As discussed below, those allegations are legally and factually baseless.

First, the Petitioners claim that "the Environmental Report does not set forth [STP Units 3 and 4's] estimated costs."[389] That claim is factually incorrect. ER Sections 10.4.2.1 and 10.4.2.2 and Table 10.4-2 provide quantified estimates of the costs of construction and operation of STP Units 3 and 4.

Second, the Petitioners claim that "there is no quantified cost comparison of nuclear with energy alternatives."[390] However, this allegation is belied by the very next paragraph in the Petition, which discusses the comparison of the costs of nuclear and alternatives in ER Section 9.2. Furthermore, ER Section 9.2 includes numerous provisions that quantify the costs of various alternatives[391] and, as discussed above, ER Section 10.4.2 quantifies the costs of STP Units 3 and 4. To the extent that the Petitioners may be claiming that the ER should have

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389 Petition at 53.

390 *Id.*

391 *See, e.g.*, ER at 9.2-6 to 9.2-12, 9.2-14, 9.2-16, and 9.2-18.

provided a side-by-side comparison of quantified costs, the Petitioners point to no legal requirement for such a comparison, and such a claim is without legal basis.

Third, the Petition requests a comparison of the capital costs of STP Units 3 and 4 with the capital costs of alternatives.[392] However, a comparison of capital costs is not material to an evaluation of alternatives. For example, a power source, such as nuclear power, may have relatively high capital costs but relatively low levelized costs of electricity due to low fuel costs and high capacity factors. In comparing the economic costs of alternatives, the levelized cost of electricity is the appropriate parameter for comparison. Therefore, Petitioners' request for a comparison of capital costs is not material to the comparison of alternatives.

Fourth, Petitioners' allegations regarding the economic costs of nuclear power and alternatives are, as a matter of law, not material. As demonstrated in ER Section 9.2, there are no alternatives to nuclear power that are both feasible for generating baseload power and that are environmentally preferable. In the absence of a feasible and environmentally preferable alternative, there is no requirement under NEPA for a comparison of the economic costs of the proposed project and alternatives. As stated by the Appeal Board decision in *Midland*:

> The passage of the National Environmental Policy Act increased our concern with the economics of nuclear power plants, but only in a limited way. That Act 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*.[393]

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[392] *See, e.g.*, Petition at 54-57, in which the Petitioners focus on capital costs. *See also id.* at 57 ("The petitioners contend that the applicants must fully analyze and publicly disclose the total capital costs of STP Units 3 and 4 and conduct a quantified cost comparison with alternative energy sources.").

[393] *Midland*, ALAB-458, 7 NRC at 162 (emphasis added) (citation omitted).

This principle has been applied in numerous other proceedings.[394]

Finally, the licensing board in the *Shearon Harris* COL proceeding recently rejected a proposed contention that is very similar to the Petitioners' allegations in this proceeding. The board in *Shearon Harris* ruled:

> 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. 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 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. 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.[395]

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394 *See, e.g.*, *Rochester Gas & Elec. Corp.* (Sterling Power Project, Nuclear Unit No. 1), ALAB-502, 8 NRC 383, 395 n.25 (1978); *Shearon Harris*, LBP-08-21, slip op. at 25-27 ("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."); *Exelon Generation Co., LLC* (Early Site Permit for the Clinton ESP Site), LBP-05-19, 62 NRC 134, 179 (2005), *aff'd*, CLI-05-29, 64 NRC 460 (2005), *aff'd sub nom.*, *Envtl. Law & Policy Ctr. v. NRC*, 470 F.3d 676 (7th Cir. 2006); *Palo Verde*, LBP-82-117A, 16 NRC at 1993 ("With the passage of NEPA, cost-benefit balancing is now required, but only if the proposed nuclear plant has environmental disadvantages in comparison to possible alternatives."); *Dairyland Power Coop.* (La Crosse Boiling Water Reactor), LBP-82-58, 16 NRC 512, 527 (1982) ("[U]nless a nuclear plant has environmental disadvantages in comparison to reasonable alternatives, differences in financial cost do not enter into the NEPA process and, hence, into NRC's cost-benefit balance."); *Palo Verde*, LBP-82-117A, 16 NRC at 1993; *Pub. Serv. Co. of Okla.* (Black Fox Station, Units 1 and 2), LBP-78-26, 8 NRC 102, 161-62 (1978) (holding that the economic costs of a coal plant are not relevant given that the environmental impacts of a nuclear plant are less than that of a coal plant).

395 *Shearon Harris*, LBP-08-21, slip op. at 25-26 (footnotes omitted).

Thus, the Petitioners' allegations related to costs raise an issue that is not legally material to this proceeding. Therefore, those allegations should be rejected in accordance with 10 C.F.R. § 2.309(f)(1)(iv) and (vi).

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In summary, Petitioners' arguments should be rejected because they are not material to the NRC's findings under NEPA and Part 51, are legally and factually groundless, and fail to controvert the ER so as to raise a genuine material dispute, all contrary to 10 C.F.R. § 2.309(f)(1)(iv), (v), and (vi).

24. Contention 24 – Cost of Uranium

Contention 24 argues that "[t]he COLA is inadequate and unreliable because it fails to discuss the access to and costs of uranium used for power plant fuel."[396] In support of Contention 24, the Petition states that "there are virtually no domestic sources of uranium available in the United States, at present"; "the COLA fails to acknowledge the run-up in price that has occurred for uranium over the past 15 years"; and "the long-term trend costs and supplies are much more problematic than suggested in the STP Environmental Report."[397] Based on these assertions, the Petition concludes that "[a]ccordingly, the COLA should consider whether the cost and supply assumptions that underpin the decision to use nuclear fuel are reasonable."[398] As discussed below, Contention 24 does not raise a material issue and does not present a genuine dispute on a material issue, contrary to 10 C.F.R. § 2.309(f)(1)(iv) and (vi).

Contention 24 does not raise an issue that is material to this proceeding. Contention 24 purports to challenge ER Section 10.2.2 "Irretrievable Commitments of Material Resources."

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396 Petition at 57.

397 *Id.* at 58.

398 *Id.*

That section cites a study by the World Nuclear Association that indicates the known recoverable reserves of uranium are over four million metric tons, and concludes that the approximately 17,000 metric tons of enriched uranium required for each ABWR over an assumed 60-year life of the plant will have a SMALL impact on the long-term availability of uranium worldwide. Contention 24 does not challenge the conclusion that the uranium use by STP Units 3 and 4 will constitute a small percent of the overall world resources of uranium. Instead, Contention 24 seeks to raise a question about the cost of uranium and whether the uranium would be supplied by a foreign or domestic source.[399] Those questions are not material to the subject of ER Section 10.2.2, which pertains to the "Irretrievable Commitment of Resources." Furthermore, issues related to the cost of uranium or the source of uranium are not material to an analysis of the environmental impacts of a nuclear plant, and Petitioners have not provided any justification for requiring such an analysis pursuant to NEPA.

Petitioners have the burden to demonstrate that the issue raised by Contention 24 is material to this proceeding, and they have not met this burden. As a result, Contention 24 should be rejected for failure to meet the requirements of 10 C.F.R. § 2.309(f)(1)(iv).

Additionally, the only specific reference to a portion of the COLA in connection with Contention 24 is Petitioners' reference to ER Section 10.2.2, which discusses the amount of uranium that will be used by STP Units 3 and 4 relative to the world-wide abundance of uranium.[400] The Petitioners do not actually dispute that a sufficient supply of uranium will be available, or that the amount of uranium to be used by STP Units 3 and 4 is an insignificant

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399 *Id.* Contention 24 implies that foreign sources of uranium may not be available. However, the Petitioners have not provided any reason to believe that foreign uranium will not be available, other than pure speculation. A 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.'" *Fansteel*, CLI-03-13, 58 NRC at 203.

400 Petition at 58.

fraction of the known recoverable reserves. Furthermore, even if accepted, none of the allegations by Petitioners would change the conclusion that there would be only a SMALL impact associated with dedication of 17,000 metric tons of uranium for each unit. Furthermore, ER Table 10.4-2 reports a levelized cost of nuclear fuel of 0.435 cents per kW hour, and Contention 24 does not mention or contest that cost estimate. Consequently, Petitioners have not shown that a genuine dispute exists with STPNOC on a material issue of law or fact in connection with Contention 24. Petitioners' failure to meet their burden under 10 C.F.R. § 2.309(f)(1)(vi) is another reason why Contention 24 should be rejected.

Finally, Contention 24 is similar to contentions that have recently been raised in at least four other COL proceedings.[401] In each case, the licensing board rejected the contention on the ground that the information provided by the contention did not establish a material dispute with the information in the ER. The Board should similarly dispose of Contention 24 in this proceeding.

In summary, Contention 24 does not raise a material issue and does not dispute the information in the ER. Accordingly, Contention 24 should be dismissed for failure to satisfy 10 C.F.R. § 2.309(f)(1)(iv) and (vi).

25. Contention 25 – Decommissioning Funding Assurance

Contention 25 asserts that "[t]he Decommissioning Funding Assurance described in the application is inadequate to assure sufficient funds will be available to fully decontaminate and

[401] *North Anna*, LBP-08-15, slip op. at 47-52; *Bellefonte*, LBP-08-16, slip op. at 31-32; *William States Lee*, LBP-08-17, slip op. at 24-27; *Shearon Harris*, LBP-08-21, slip op. at 20-23.

decommission South Texas Project Units 3 and 4."[402] Petitioners further assert that the Applicants "must use the prepayment method of assuring decommissioning funding."[403]

Contention 25 should be rejected because it fails to establish a genuine dispute with the Applicants on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi), and Petitioners' further arguments regarding a purported requirement to use the "prepayment method" are impermissible attacks on NRC's regulations, prohibited by 10 C.F.R. § 2.335(a).

a. Background Related to NRC Decommissioning Assurance Requirements and Applicable Texas Law

NRC regulations in 10 C.F.R. § 50.75 require that an applicant for a COL provide a decommissioning report that contains a certification that decommissioning funding assurance is sufficient to cover the specified amount of decommissioning costs. Decommissioning funding assurance must be provided using one or more of the six methods provided in Section 50.75(e)(1): (i) prepayment; (ii) external sinking fund; (iii) a surety method, insurance, or other guarantee method; (iv) for governmental licensees, a statement that decommissioning funds will be obtained when necessary; (v) contractual obligations by the licensee's customers; or (vi) any other mechanism that provides equivalent assurance. Section 50.75(e)(1)(ii) further states that an external sinking fund may be used as the *exclusive* method only: (A) by a licensee that recovers, directly or *indirectly*, decommissioning costs through rates established by cost of service or "similar ratemaking regulation"; or (B) a licensee whose source of revenues for the sinking fund is a "non-bypassable charge."

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402 Petition at 59.

403 *Id.*

As discussed in COLA Part 1, Section 1.2, the subsidiaries of NRG who will be co-owners of STP Units 3 and 4[404] (the "NRG Licensees") are not regulated electric utilities but instead are in the competitive power generation business. As a result, the NRG Licensees do not have rates that are set by regulation. Therefore, as discussed in COLA Part 1, Section 1.4, the NRG Licensees do not technically qualify to use the sinking fund method as their exclusive method for decommissioning funding assurance. However, as also discussed in that section of the COLA, the NRG Licensees are *not* proposing to use the external sinking fund as their exclusive method. Instead, in accordance with Section 50.75(e)(1)(vi), the NRG Licensees are proposing to use an external sinking fund in conjunction with a Texas law that provides that ratepayers would be obligated to fund the decommissioning cost if the NRG Licensees fail to do so. The State of Texas program for providing decommissioning assurance includes state regulatory oversight and a decommissioning assurance mechanism backed by ratepayers. In the language of Section 50.75(e)(1)(ii), the NRG Licensees could "indirectly" recover their decommissioning costs by ratemaking regulation. Thus, the COLA proposes to use the NRG Licensees' payments into an external sinking fund, backstopped by the obligation for ratepayers to fund any shortfall as provided by Texas law, as a method for satisfying the requirements in Section 50.75.

This Texas program allows merchant generators such as the NRG Licensees to elect to become subject to the jurisdiction of the Public Utility Commission of Texas ("PUCT") for purposes of decommissioning assurance, pursuant to regulations adopted by the PUCT and Texas law.[405] By "opting in" to this Texas program, the NRG Licensees will be required to take

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404 The other co-owner, CPS Energy, is the San Antonio municipal utility that establishes its own rates. COLA Part 1, Section 1.4. Therefore, CPS Energy is directly able to use the sinking fund method for its portion of the decommissioning fund, as provided in 10 C.F.R. § 50.75(e)(1)(ii)(A).

405 P.U.C. Subst. R. 25.304; Tex. Util. Code Ann. § 39.206.

funds from their operating revenues and deposit them into a nuclear decommissioning trust to accumulate with earnings over time. The requirements include a required annual amount of contributions established by the PUCT and an additional state-required assurance to satisfy creditworthiness.[406] In exchange for doing so, the Texas statute provides that ratepayers will fund the decommissioning obligation in the event of a shortfall. Specifically, the Texas law provides that "[i]n the event the financial assurances provided by Subsection (k) are insufficient to meet the annual funding requirements of the decommissioning trust, the retail electric customers shall be responsible for funding any shortfall in the cost of decommissioning the nuclear generating unit."[407]

b. Contention 25 Fails to Establish a Genuine Dispute with the Applicants on a Material Issue of Law or Fact

Contention 25 should be rejected because it fails to meet the requirements of 10 C.F.R. § 2.309(f)(1)(vi), which requires a petitioner to provide "sufficient information" to show that a genuine dispute exists with the Applicants on a material issue of law or fact. Petitioners have attempted to manufacture a legal dispute by mischaracterizing the provisions of the Texas statute and statements in the COLA. However, when Texas law and the statements in the COLA are properly analyzed, it is clear that there is no material dispute of fact or law.

The terms of 10 C.F.R. § 50.75(e)(1)(ii) embody the principle that NRC will defer to state economic regulators where decommissioning funding is assured by the fact that any shortfall in decommissioning funds will be provided by ratepayers pursuant to state law.[408] The

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406 P.U.C. Subst. R. 25.304(i)-(l).

407 Tex. Util. Code Ann. § 39.206(m); P.U.C. Subst. R. 25.304(m)(1).

408 *See, e.g.*, NUREG-1577, Rev. 1, Standard Review Plan on Power Reactor Licensee Financial Qualifications and Decommissioning Funding Assurance, at 18 (Feb. 1999) ("In the 1988 decommissioning rule, the NRC deferred to the ratemaking authority of the PUCs and FERC to set annual rates for decommissioning.") The NRC Staff explained in this guidance, which was issued after the adoption of 10 C.F.R. § 50.75(e)(1)(ii)(B), that:

Texas statute provides precisely this type of assurance, which enables the NRG Licensees to use a variant of the external sinking fund method even though, under the Texas law, the plan and desire is that ratepayers would never be called upon to actually fund decommissioning.

Petitioners' argument rests on the false premise that the Texas statute requires that the NRG Licensees first provide reasonable assurance of decommissioning funding in accordance with the federal regulations "*before* it can rely on the ratepayer to fund decommissioning" under the provisions of the Texas statute.[409] The only bases provided for this proposition are various quotations from the Texas statute, which require that: (1) "the terms of the trust must be consistent with trust terms and conditions" required by NRC[410]; (2) the period established by the PUCT for the company to collect cannot be longer than the "operating license period" established by NRC[411]; and (3) the trust fund investments must comply with both PUCT guidelines and be "consistent with" NRC guidelines.[412] These provisions merely reinforce the notion that the Texas statute is meant to operate in harmony with the federal requirements that govern the same subject matter. Petitioners do not and cannot cite any language in the Texas statute suggesting the requirement, implied by Petitioners, that the company must first satisfy federal financial assurance requirements, before turning to the state procedures. In fact, the

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> The NRC expects that, for licensees that continue to have direct or indirect rate regulatory oversight, it will continue to be able to defer to rate regulators to determine the appropriate amortization schedule for decommissioning funds, provided that there is reasonable assurance that, at the time of permanent cessation of operations, decommissioning funds plus estimated earnings will be available in the amount estimated to be necessary to complete decommissioning.

Id.

409 Petition at 61.

410 *Id.* at 60; Tex. Util. Code Ann. § 39.206(f); *see* 10 C.F.R. § 50.75(h)(1) (applicable NRC regulations).

411 Petition at 60; Tex. Util. Code Ann. § 39.206(g).

412 Petition at 61; Tex. Util. Code Ann. § 39.206(j); *see* 10 C.F.R. § 50.75(h)(1) (applicable NRC regulations).

opposite is true. The Texas procedures are intended to be a means by which a company *can* satisfy the federal requirements, precisely as advanced by the NRG Licensees here.

Petitioners ignore language in the Texas statute which specifically recognizes that a company which otherwise can satisfy NRC's decommissioning funding assurance mechanisms need not subject itself to the provisions of the statute and jurisdiction by the PUCT. In fact, Section 39.206(c) provides that "[n]othing in this section shall be construed to require a power generation company to use a [PUCT] approved method to provide funds for decommissioning, if the power generation company can otherwise satisfy the decommissioning financial assurance requirements of the [NRC]."[413] Thus, far from explicitly or implicitly requiring that a company first comply with federal requirements before the option of ratepayer funding can become available under the terms of the Texas statute, the Texas statute explicitly acknowledges that it might not be invoked at all if the company chooses to otherwise meet NRC requirements without "opting in" to the Texas program.[414]

The Texas statute is an alternative method for satisfying NRC's requirements, and there is no sound basis for Petitioners' suggestion that "the NRG Licensees must qualify to use the sinking fund method in their own right first."[415] Under Petitioners' interpretation of the statute, the NRG Licensees could only take advantage of the statute if they do not need the statute to satisfy NRC requirements. As interpreted by Petitioners, the Texas statute would be rendered meaningless, which defies both logic and common sense.

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413 Tex. Util. Code. Ann. § 39.206(c).

414 The PUCT rules reinforce that the company "is not required to use the methods set out in this section and may discontinue the use of the methods set out in this section, if it chooses to satisfy the financial assurance requirements of the [NRC] by using other methods acceptable to the [NRC]." P.U.C. Subst. R. 25.304(a)(1).

415 Petition at 61.

Finally, Petitioners do not salvage their contention by pointing out an "admission" by the NRG Licensees that they do not meet the terms of 10 C.F.R. § 50.75(e)(1)(ii)(A) and (B) to use an external sinking fund as the "exclusive" method for decommissioning funding assurance.[416] The cited regulations contemplate that ratepayers provide the funding to be deposited in the external sinking fund, whereas the Texas procedures contemplate that the funding ordinarily comes from the company's operating revenue and that ratepayers would only be called upon to provide funding if needed. Even assuming, *arguendo*, that this slight variance disqualifies the NRG Licensees from using the external sinking fund method in Section 50.71(e)(1)(ii), the provisions of Section 50.75(e)(1)(vi) allow for flexibility to approve another assurance mechanism or combination of mechanisms where the assurance provided is equivalent to mechanisms detailed in other parts of the rule.

As the Commission held in the *FitzPatrick-Indian Point* license transfer proceeding, Section 50.75(e)(1)(vi) "plainly establishes an 'equivalence' test."[417] Thus, in that decision the Commission rejected a challenge to the applicants' proposal to use a Section 50.75(e)(1)(vi) funding arrangement because the intervenor argued only that there were differences between the proposed arrangement and the methods codified in NRC regulations. The Commission found that sustaining such a contention would render Section 50.75(e)(1)(vi) "superfluous" and "would also unduly constrain the flexibility that subsection (vi) accords to applicants in structuring their decommissioning funding methods."[418] Similarly, COLA Part 1, Section 1.4, explicitly invokes the provisions in Section 50.75(e)(1)(vi) and, rather than contending that the NRG Licensees' proposal does not satisfy that provision, Petitioners focus on whether the NRG Licensees satisfy

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416 *Id.* at 59.

417 *Power Auth. of State of N.Y.* (James A. FitzPatrick Nuclear Power Plant; Indian Point, Unit 3), CLI-01-14, 53 NRC 488, 546 (2001).

418 *Id.* at 550.

the precise terms of another funding method. Accordingly, by focusing only on whether the NRG Licensees satisfy Section 50.75(e)(1)(ii), Petitioners have not provided a sufficient basis for their contention that the NRG Licensees' decommissioning funding assurance mechanism fails to satisfy Section 50.75.

c. Contention 25 Is an Impermissible Attack on NRC Regulations to the Extent It Challenges the Options Available for Providing Decommissioning Funding Assurance

Petitioners contend that the NRG Licensees "must use the prepayment method of assuring decommissioning funding."[419] Petitioners' assertions that the NRG Licensees "must" use the prepayment method are inconsistent with the regulations, which provide for a variety of methods that can be used and changed from time to time to provide decommissioning funding assurance.[420] Addressing a similar contention, the Board in the *Calvert Cliffs* COL proceeding recently ruled:

> Clearly it is beyond the authority of this Board to specify how Applicant must fulfill the decommissioning funding requirement. The Board can only decide whether or not the current funding proposal fulfills NRC requirements. Hence, the second statement of this contention, which states that the Applicant must use the prepayment option, *will not be admitted*.[421]

In summary, even if it is assumed, *arguendo*, that the NRG Licensees cannot use an external sinking fund pursuant to Section 50.75(e)(1)(ii), they would not necessarily be required to use the prepayment method. Instead, they could use any of the other available methods specified in Section 50.75(e)(1), including Section 50.75(e)(1)(vi). To the extent that Petitioners are arguing that prepayment is the exclusive method available to the NRG Licensees, their

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419 Petition at 59.

420 10 C.F.R. § 50.75(e).

421 *Calvert Cliffs*, LBP-09-4, slip op. at 36 (emphasis added).

arguments constitute an impermissible attack on Section 50.75(e)(1)(vi) and therefore should be rejected in accordance with 10 C.F.R. § 2.335(a).

26. Contention 26 – Need for Power

Contention 26 alleges that STPNOC "has not established that there is a need for the power that would be generated by STP Units 3 and 4."[422] The Petitioner states that "[a]s a municipal utility applicant, CPS Energy is obligated to demonstrate this need and has fallen short in the COLA and actually provided contradictory evidence to the public that electric use and demand have decreased."[423] Petitioners claim that declining energy use, the economic downturn, and retiring gas plants support this contention.[424]

As demonstrated below, this contention should be dismissed because (1) it does not raise a genuine material dispute with the ER, contrary to 10 C.F.R. § 2.309(f)(1)(vi); (2) it is not consistent with applicable legal standards governing analyses of need for power; (3) issues raised in the contention are not material to a need for power analysis, contrary to 10 C.F.R. § 2.309(f)(1)(iv); and (4) the contention is not properly supported with expert opinion or references, contrary to 10 C.F.R. § 2.309(f)(1)(v).

a. Contention 26 Does Not Raise a Genuine Dispute

The Petitioners' fundamental argument in this contention is that "CPS Energy is obligated to demonstrate this need [for power] and has fallen short in the COLA."[425] This contention is flawed because it does not reference or challenge the need for power evaluation in

422 Petition at 62.

423 *Id.*

424 *Id.* at 62-64.

425 *Id.* at 62.

ER Chapter 8 and it focuses on CPS Energy's service area rather than on the region of interest ("ROI") identified in the ER.[426]

ER Chapter 8 provides a detailed need for power evaluation that encompasses CPS Energy.[427] ER Section 8.1 describes the power system, ER Section 8.2 addresses power demand, ER Section 8.3 addresses power supply, and ER Section 8.4 assesses the need for power. Instead of challenging any of the information, evaluations, or conclusions in the ER's need for power evaluation, this contention separately discusses whether there is a need for power in the CPS Energy service area.[428] The Petitioners do not mention *any* information in ER Chapter 8. In fact, aside from the general statement that CPS Energy has not demonstrated need for power in the COLA, the contention only mentions the application once to claim that the economic downturn has not been considered in the COLA.[429] Additionally, while the Petitioners rely upon a report prepared by Dr. Makhijani, "Energy Efficiency Potential: San Antonio's Bright Future" ("Makhijani San Antonio Report"), that report does not mention the ER or the COLA in any manner.

Section 2.309(f)(1)(vi) requires that a contention "provide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact." That regulation requires that a petitioner "include references to specific portions of the application (including the applicant's environmental report and safety report) that the petitioner disputes and

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426 *See id.* at 62-64.

427 ER at 8.1-1.

428 Petition at 62-64.

429 *Id.* The Petitioners' claim that the COLA omits discussion of the economic downturn does not support admission of this contention, because the ER already considers this type of information. For example, ER Section 8.2 discusses market economic forces and power demand projections, which remain unchallenged by the Petitioners. If a petitioner submits a contention of omission, but the allegedly missing information is indeed in the license application, then the contention does not raise a genuine issue. *See Millstone*, LBP-04-15, 60 NRC at 95-96.

the supporting reasons for each dispute." The Petitioners do not provide *any* reference to the ER or COLA, much less discuss the need for power evaluation in ER Chapter 8. Therefore, the contention does not demonstrate a genuine dispute on a material issue of law or fact and should be dismissed pursuant to 10 C.F.R. § 2.309(f)(1)(vi).

In addition to its failure to challenge or discuss the information in the ER, this contention also raises an issue that is not material to the adequacy of ER Chapter 8. As explained in ER Section 8.0, STPNOC chose the Electric Reliability Council of Texas ("ERCOT") region as the ROI for the need for power evaluation for STP Units 3 and 4. This decision, which is not challenged by the Petitioners, was made because one owner, NRG Energy, is a merchant generator without a specific service area, and the other owner, CPS Energy, has a service area within ERCOT and sells excess capacity in the ERCOT wholesale market.[430] The contention, on the other hand, focuses entirely on the CPS Energy service area, not on the ERCOT region.[431] Even the Makhijani San Antonio Report focuses entirely on the CPS Energy service area and not on the ERCOT region.[432] The Petitioners have failed to recognize that any generating capacity that exceeds the demand in the CPS Energy service area would be sold in the ERCOT wholesale market. Therefore, Petitioners' allegations regarding a purported lack of need for power in the CPS Energy service area are simply immaterial to the need for power analysis for STP Units 3 and 4, which is based upon an evaluation of the ERCOT service area. As a result, Petitioners' allegations do not satisfy 10 C.F.R. § 2.309(f)(1)(iv).

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430 *See* ER at 8.0-1; *see also id.* at 8.1-1 ("CPS Energy . . . provides retail power to its service area around San Antonio, which is within the ERCOT region, and sells excess capacity to wholesale buyers anywhere within the ERCOT system.").

431 Petition at 62-64.

432 *See* Makhijani San Antonio Report.

b. Contention 26 Is Inconsistent with Applicable Legal Standards

This contention does not provide or reference any demand forecasts that are inconsistent with STPNOC's analysis in ER Chapter 8. Instead, this contention simply raises the possibility that future events might occur that could affect the results of STPNOC's analysis, such as declining energy use, economic downturn, and Recovery Act funding.[433] However, in so arguing, this contention essentially ignores a long-established line of NRC decisions regarding need for power analyses.

In the leading case, *Niagara Mohawk Power Corp.* (Nine Mile Point Nuclear Station, Unit 2), ALAB-264, 1 NRC 347, 365-67 (1975), the Appeal Board held that "inherent in any forecast of future electric power demands is a substantial margin of uncertainty," and therefore the applicant's projection of future need should be accepted if it is "reasonable."

This standard has been endorsed by the Commission. In *Carolina Power and Light Co.*, the Commission stated:

> The Nine Mile Point rule recognizes that every prediction has associated uncertainty and that long-range forecasts of this type are especially uncertain in that they are affected by trends in usage, increasing rates, demographic changes, industrial growth or decline, the general state of the economy, etc. These factors exist even beyond the uncertainty that inheres to demand forecasts: assumptions on continued use from historical data, range of years considered, the area considered, extrapolations from usage in residential, commercial, and industrial sectors, etc.[434]

Similarly, the Appeal Board in *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-355, 4 NRC 397, 410 (1976) ruled that an applicant's load forecasts

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433 Petition at 62-63.

434 *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4), CLI-79-5, 9 NRC 607, 609-10 (1979).

> are [not] automatically suspect because they are inclined to be "conservative," that is to say they tend to project future loads closer to the high than to the low end of the demand spectrum. To be sure, if demand does turn out to be less than predicted it can be argued (as intervenor does) that the cost of the unneeded generating capacity may turn up in the customers' electric bills. . . . But should the opposite occur and demand outstrip capacity, the consequences are far more serious.

In contrast to this well-settled line of cases, this contention essentially argues that there is uncertainty in STPNOC's forecasts because future conditions might be different than current conditions.[435] However, as the above cases have held, such uncertainty is inherent in demand forecasts, and is not a sufficient legal basis for rejecting the forecasts. Since this contention does not provide any basis for believing that STPNOC's forecasts are unreasonable, the contention should be rejected.

c. Contention 26 Does Not Raise a Material Issue

Contrary to 10 C.F.R. § 2.309(f)(1)(iv), the contention does not demonstrate that the issues raised are material to the need for power evaluation for STP Units 3 and 4. In general, the contention consists of nothing more than various statements alleging that STPNOC should have considered a particular issue in its need for power analysis, without any demonstration that such a consideration would materially affect the results of STPNOC's analysis.

In this regard, the Petitioners claim that "the economic downturn could affect demand."[436] The Petitioners do not explain how these issues affect the need for power evaluation in the COLA. Short term fluctuations are not material to a long term need for power analysis. As stated by the Appeal Board in *Duke Power Co.*:

> What intervenor attempted in essence is to rest a long term forecast of applicant's peak load demands on changes which took place in

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435 *See* Petition at 62-63 (claiming a failure to consider declining electric use and the economic downturn).

436 *Id.* at 62.

> the last two years. But, "given the fluctuating nature of the growth of electric power demand, forecasts based on short time periods may be overly influenced by transitory effects and thus not accurately reflect basic long-term trends."[437]

Furthermore, as other licensing boards have held, economic recessions are a cyclical factor, and when and how serious they may be is impossible to know.[438] Therefore, need for power analyses must be based upon historical patterns of growth. Furthermore, recent licensing boards have rejected contentions based on the current economic downturn, because the contentions did not challenge the discussion of economic conditions and demand forecasting in the ER.[439] Here the Petitioners have not challenged the ER in any manner.

Additionally, the Petitioners identify statements from CPS Energy regarding reduced electric use and state that "[w]ith significant declining electric use, increased capacity for CPS Energy is not justified."[440] The Petitioners rely upon a slide from a presentation by a CPS Energy executive regarding reduced energy demand.[441] But the Petitioners have failed to show how this information is material. As the Commission has observed, "[t]he dispute at issue is 'material' if its resolution would 'make a difference in the outcome of the licensing proceeding.'"[442] The Petitioners have not explained how this argument contradicts or would change the information in the ER or outcome of this proceeding.[443]

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437 *Catawba*, ALAB-355, 4 NRC at 410 (citations omitted).

438 *See, e.g.*, *Duke Power Co.* (William B. McGuire Nuclear Station, Units 1 and 2), LBP-79-13, 9 NRC 489, 499 (1979), *aff'd*, ALAB-669, 15 NRC 453 (1982).

439 *See Summer*, LBP-09-02, slip op. at 21-22; *Bellefonte*, LBP-08-16, slip op. at 46-48.

440 Petition at 62.

441 *Id.* at 62-63.

442 *Oconee*, CLI-99-11, 49 NRC at 333-34 (citing Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,172).

443 Additionally, as noted above, the need for power evaluation in the COLA selected ERCOT as the ROI for STP Units 3 and 4, not the CPS Energy service area; therefore, Petitioners' arguments are not material.

d. Contention 26 Is Not Adequately Supported

Contrary to 10 C.F.R. § 2.309(f)(1)(v), this contention is not adequately supported with references or expert opinion. For example, the Petitioners state that "[c]onsideration of the impacts of stimulus funding that will boost energy efficiency and renewable energy industries is needed."[444] The only information that the Petitioners provide in support of this statement is a list of Recovery Act funding for energy efficiency and renewable energy.[445] However, the Petitioners do not explain how much of this money will go to Texas or to the CPS Energy service area, what impact this money will have on the need for power, or any change necessary to the evaluation of need for power in ER Chapter 8. Thus, this argument consists entirely of speculation. As the Commission has previously stated, a contention is inadmissible if it offers "'no tangible information, no experts, no substantive affidavits,' but instead only 'bare assertions and speculation.'"[446] Since this contention runs afoul of the Commission's admonition, it should be rejected.

Similarly, the Petitioners identify one request by CPS Energy to shut down an aging power plant, the 314-MW Tuttle power plant in Bexar County, and mention that combined-cycle gas-fired plants have displaced more than 40 steam boilers since 2002.[447] The Petitioners quote that they were shut down because they were "uneconomical."[448] The retirement of those plants actually increases the need for power and therefore cuts against the Petitioners.

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444 Petition at 63.

445 *Id.*

446 *Fansteel*, CLI-03-13, 58 NRC at 203 (quoting *GPU Nuclear*, CLI-00-6, 51 NRC at 208).

447 Petition at 63-64.

448 *Id.* at 63.

Additionally, the Petitioners provide no basis for their speculation that gas-fired plants are being retired in order to justify the need for new nuclear plants.[449] However, even if the Petitioners were correct on the facts, the Petitioners' argument would be flawed as a matter of law. Under NEPA, the need for a new nuclear power plant can be demonstrated if it is used to replace an existing fossil plant if the existing plant is less desirable (*e.g.*, less efficient or more polluting). As the Appeal Board has stated, the need for power from a nuclear plant may be justified based upon its "substitution" for fossil fueled plants.[450]

The Petitioners rely on only one expert for this contention, referencing the Makhijani San Antonio Report.[451] As discussed above, this report does not support admission of this contention because it does not discuss the need for power analysis in the ER and focuses on the CPS Energy service area rather than on the ROI identified in the ER. Importantly, Dr. Makhijani does not challenge the power demand in ERCOT or the CPS Energy service area. Instead, he claims that other means (*e.g.*, energy efficiency and renewable energy) should be used to meet this demand instead of new nuclear generation.[452] Accordingly, such claims in the Makhijani San Antonio Report are not material to Contention 26 on need for power and therefore do not provide adequate support for this contention.

In summary, Contention 26 is inadmissible because, contrary to 10 C.F.R. § 2.309(f)(1), it does not raise a genuine dispute, it is not consistent with applicable legal standards governing

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449 The Petitioners provide no support for their allegation that these gas plants were improperly retired, but instead speculate that "gas plants are being shut down in order to pave the way and present an appearance of need for the additional reactors that NRC now seeks to build." *Id.* at 64. The Petitioners have provided absolutely no support for this claim, and it cannot support an admissible contention. *See Fansteel*, CLI-03-13, 58 NRC at 203.

450 *Niagara Mohawk Power Corp.* (Nine Mile Point Nuclear Station, Unit 2), ALAB-264, 1 NRC 347, 353-54 (1975).

451 Petition at 62.

452 Makhijani San Antonio Report at 5-46.

analyses of need for power, it is not material, and it is not properly supported. Therefore, this contention should be dismissed.

27. Contention 27 – Remediation for Construction Impacts

Contention 27 states generally that the "construction-related unavoidable impacts" have unacceptable adverse impacts and remediation measures should be put in place to address these impacts.[453] In support of Contention 27, the Petition cites various statements in ER Section 10.1.1, including: "the adverse effects of construction dewatering on the aquifer and local wells"; "potential disturbance of local surface water bodies due to turbidity and sedimentation caused by construction activities"; "the construction activities along the Colorado River are anticipated to increase the sediment load, construction related spills (e.g., hydraulic fluid, diesel) could impact surface waters, and a wetland will be removed"; "[i]ncreased air emissions and fugitive dust . . . from traffic and construction equipment"; and "radiation doses to workers."[454] Petitioners state that the Applicant fails to commit to reasonable mitigation measures for the impacts.[455]

As discussed below, Contention 27 ignores the extensive discussion in the ER of measures for mitigating construction impacts.[456] Additionally, the Petitioners provide no expert

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453 Petition at 64.

454 *Id.* at 64-65.

455 *Id.* at 64.

456 Contention 27 focuses on ER Section 10.1.1 "Construction-Related Unavoidable Adverse Environmental Impacts," which summarizes the adverse impacts of construction that are described in detail in ER Chapter 4. Actions to mitigate the potential adverse impacts are summarized in ER Section 10.1.1, including Table 10.1-1, and in Table 4.6-1. In addition, ER Section 3.9S.1.1 "Construction Environmental Controls Plan" describes environmental management controls to assist in meeting the overall environmental management objectives for the project. The NRC standard review plan relevant to ER Section 10.1 directs the NRC reviewer to prepare a summary of predicted adverse environmental impacts that cannot be avoided and for which no practical means of mitigation are available. NUREG-1555, Standard Review Plan for Environmental Reviews for Nuclear Power Plants, at 10.1-1 (Oct. 1999). Consistent with this objective, ER Section 10.1.1 recognizes that measures to prevent or mitigate adverse environmental impacts may not be completely effective. The discussion below shows that Contention 27 appears to misinterpret this recognition as an indication that such measures will not be implemented.

opinion or other support for Contention 27. As a result, this contention should be rejected for failure to satisfy 10 C.F.R. § 2.309(f)(1)(v) and (vi).

a. Construction Dewatering and Disturbance of Local Surface Water Bodies

Contention 27 does not identify any basis for its assertion that construction dewatering will threaten the drinking water supplies of local ranchers, farmers, and other citizens, or that STPNOC is not taking mitigative steps for dewatering.[457] Furthermore, Contention 27 does not address relevant sections of the ER that evaluate dewatering. In particular, the ER discusses actions to protect the environment during construction in Section 3.9S.2 "Environmental Procedures."[458] The impact of construction dewatering is discussed in Section 4.2.1.2 "Groundwater Dewatering" and the potential impacts on surface waters are discussed in Section 4.2.1.1 "Surface Water." Contention 27 does not reference these sections or dispute any statements in them.

In particular, ER Section 4.6 "Measures and Controls to Limit Adverse Impacts During Construction" discusses mitigation measures to prevent or minimize the potential adverse impacts of construction, and states that no impact on local drinking water is expected. Table 4.6-1 provides the following summary:

> Local drinking water wells found in the vicinity of the construction area will be unaffected because they are located in the deeper aquifer which is isolated by surficial clays. Dewatering would occur within the shallow aquifer in a limited area for a short period of time. Upon completion of construction, groundwater in the shallow aquifer will return to natural elevations.[459]

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457 Petition at 64.

458 Excavation dewatering is discussed in the ER. ER at 3.9S-11.

459 *Id.* at 4.6-4.

Protection of local surface water is addressed in various sections, including ER Section 3.9S.2.3 "Erosion and Sedimentation Control"; Section 3.9S.2.4 "Construction Storm Water Management"; Section 3.9S.2.5 "Protection of Sensitive Resources"; Section 3.9S.2.7 "Hazardous Materials Management"; Section 3.9S.2.10 "Spill Prevention and Response"; Section 3.9S.3.10 "Intake/Discharge Coffer Dams and Piling Installation"; and Section 4.2 "Water-Related Impacts." The ER explains that there are State of Texas requirements for protection of surface water:

> The State of Texas Construction Storm Water Program requires industrial facilities that discharge to waters of the United States and plan construction that would disturb more than 5 acres of land to:
>
> - Obtain coverage under the Texas Pollutant Discharge Elimination System (TPDES).
>
> - Implement best management practices including structural (i.e., erosion-control devices and retention ponds) and operational measures to prevent the movement of pollutants (including sediments) offsite via storm water runoff.
>
> - Develop a Storm Water Pollution Prevention Plan (SWPPP) through the TCEQ.[460]
>
> * * *
>
> Any contaminants (e.g., diesel fuel, hydraulic fluid, antifreeze, or lubricants) spilled during construction activities and not controlled by spill control measures could also affect surface water quality. Any minor spills of potential contaminants, including diesel fuel, hydraulic fluid, or lubricants during construction of the project, would be remediated quickly in accordance with the STP Construction SWPPP.[461]

Similar information is summarized in ER Table 4.6-1.

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[460] *Id.* at 4.2-4.

[461] *Id.* at 4.2-12.

Contention 27 does not reference ER Sections 3.9S, 4.2, or 4.6. The only statement in Contention 27 that appears to dispute the ER is the assertion that "[t]he applicant fails to make any commitment to the use of sediment control silt fences."[462] However, this allegation mischaracterizes the ER. The ER states that "STPNOC would use silt fences and other erosion control devices, as needed,"[463] and also includes silt fences in the best management practices that are adopted in compliance with the Texas requirements discussed above.[464] Petitioners do not cite any facts or expert opinion to support their assertion that dewatering will threaten the local drinking water supply, or that any further commitment to use silt fences should be required. As a result, this aspect of Contention 27 is unsupported and does not show that there is a genuine dispute on a material issue related to construction dewatering impacts or the use of silt fences.

b. Impacts to the Colorado River

Contention 27 questions the characterization of impacts to the Colorado River as small and asserts that no remediation is planned for construction activities along the Colorado River.[465]

ER Section 4.3.2.2 discusses the impacts of construction on the aquatic ecology of the Colorado River and demonstrates that the impacts would be SMALL.[466] As that section discusses, the construction area for STP Units 3 and 4 is more than two miles from the Colorado River, and no significant sedimentation or runoff into the river is expected. Although there will be some dredging for the barge slip, the impacts would occur over a relatively brief period and would not produce any long-term impacts. Contention 27 does not contest or mention that

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462 Petition at 64.

463 ER at 4.1-5, 4.2-4.

464 *See, e.g.*, *id.* at 4.2-12.

465 Petition at 65.

466 The Petition states that "small" is not an adequate term. *Id.* However, that term is defined and used in NRC regulations in 10 C.F.R. Part 51, Appendix B, n.3.

discussion in ER Section 4.3.2.2. Therefore, Petitioners' allegations do not satisfy 10 C.F.R. § 2.309(f)(1)(vi).

Contrary to the Petitioners' characterization of the ER, the ER identifies mitigation measures that will be implemented. For example, the ER includes the following mitigation measures:

> Conduct construction activities using Best Management Practices (BMP) in accordance with regulatory and permit requirements. Implement environmental controls required in the Stormwater Pollution Protection Plan (SWPPP) such as weekly compliance inspections, documentation of runoff controls, etc.[467]

Additionally, ER Section 4.2.1.1 "Surface Water," discusses the potential impacts to the Colorado River and measures to prevent or mitigate such impacts, such as use of retention ponds.[468] Contention 27 does not cite or dispute any information in these sections of the ER. Additionally, Petitioners do not cite any facts or expert opinion in support of this contention. Therefore, this aspect of Contention 27 is unsupported and does not show that there is a genuine dispute on a material issue related to the impacts of construction on the Colorado River and measures to mitigate those impacts.

c. Air Emissions and Fugitive Dust

Contention 27 asserts that the COLA does not commit to use of best management practices to control air emissions and fugitive dust.[469] However, this allegation does not accurately characterize the ER. The ER states:

> 3.9S.2.2 Air Quality (Fugitive and Vehicular Emissions)
>
> Air quality protection procedures will describe the techniques that would be used to minimize the generation of fugitive dust from

[467] ER Tables 10.1-1 and 4.6-1.

[468] *Id.* at 4.2-5.

[469] Petition at 65.

> construction activities and reduce the release of emissions from construction equipment and vehicles. Fugitive dust control measures such as watering of roads, covering truck loads and material stockpiles, reducing materials handling activities, and limiting vehicle speed are typically required.
>
> Visual inspection of emission control equipment is also a common requirement.[470]

Thus, contrary to Contention 27, the ER commits to mitigation measures, including use of water to suppress dust. Other similar statements are included in ER Section 4.4.1 "Physical Impacts" and 4.6 "Measures and Controls to Limit Adverse Impacts During Construction."

Contention 27 does not reference ER Sections 3.9S.2.2, 4.4.1, or 4.6. Petitioners also do not cite any facts or expert opinion in support of this contention. Therefore, this aspect of Contention 27 is unsupported and does not show that there is a genuine dispute on a material issue related to the mitigation of air emissions and fugitive dust.

d. Radiation Protection for Construction Workers

Finally, Contention 27 asserts that potential radiation doses to construction workers would justify "protective gear," "radiation badges," etc.[471] However, Contention 27 does not provide any basis for that assertion.

The ER includes a detailed analysis of the potential radiation doses to construction workers in Section 4.5 "Radiation Exposure to Construction Workers." That analysis shows that the potential doses will be below the limits for members of the public in unrestricted areas.[472] Additionally, NRC regulations in 10 C.F.R. Part 20 do not require protective measures for

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470 ER at 3.9S-4.

471 Petition at 65.

472 "The calculated doses meet the public dose criteria of 10 CFR 20.1301 and 40 CFR 190.10." ER at 4.5-7.

individuals in unrestricted areas. A contention that additional measures should be provided is an impermissible challenge to the NRC regulations, contrary to 10 C.F.R. § 2.335.[473]

Contention 27 does not reference ER Section 4.5 or dispute any statement in it. Petitioners also do not cite any facts or expert opinion in support of this contention. Therefore, this aspect of Contention 27 is unsupported and does not show that there is a genuine dispute on a material issue related to radiation protection for construction workers.

* * *

In summary, Contention 27 incorrectly alleges that the ER does not address mitigative measures for construction impacts. As another licensing board has stated, if a petitioner submits a contention of omission, but the allegedly missing information is indeed in the license application, then the contention does not raise a genuine issue.[474] Accordingly, Contention 27 should be rejected.

28. Contention 28 – Whooping Cranes

Contention 28 alleges that "[t]he Environmental Report fails to adequately assess potential impacts to endangered whooping cranes."[475] As discussed below, the Petitioners have not provided any basis or support for their allegation that STP Units 3 and 4 could harm any whooping cranes, and do not establish a genuine dispute on a material fact.

As Contention 28 acknowledges, the wintering habitat for the cranes is 35 miles southwest of the STP site. Nevertheless, the Petitioners allege that the ER should provide a more detailed analysis of whooping cranes because their migration "brings them even closer to the

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473 *See Millstone*, CLI-01-24, 54 NRC at 363.

474 *See Millstone*, LBP-04-15, 60 NRC at 95-96.

475 Petition at 66.

nuclear reactor site at times," and allege that the ER should evaluate the radiological impacts of operation and accidents at STP Units 3 and 4.[476]

Contention 28 does not state a basis or provide any support for requiring the ER to contain any additional information concerning the whooping crane. As recognized in the contention, the ER states that the wintering habitat of the whooping crane is 35 miles from the STP site.[477] The ER also indicates that there is no critical habitat within or adjacent to the STP site,[478] and the whooping crane has not been observed within the STP site.[479] Contention 28 does not dispute any statements in the ER, and does not provide any basis for asserting that construction and operation of STP Units 3 and 4 could have an adverse effect on whooping cranes, contrary to 10 C.F.R. § 2.309(f)(1)(ii) and (vi).

While the Petition asserts that the migration of whooping cranes brings them closer to the STP site than 35 miles, it does not specify how close. Furthermore, the Petition does not identify any harm to whooping cranes that would be caused by the construction or operation of STP Units 3 and 4. Furthermore, the Petitioners do not reference or dispute any information in ER Section 5.4.4, which discusses radiological impacts to biota and demonstrates that the impacts are SMALL. Since Contention 28 does not demonstrate that there would be any effect on whooping cranes, it does not meet 10 C.F.R. § 2.309(f)(1)(iv).

In summary, the Petition does not dispute any of the information in the ER about whooping cranes, and does not identify any basis for asserting that the ER is required to provide any additional information about whooping cranes. Petitioners do not identify any facts or

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476 *Id.*

477 ER at 2.4-4.

478 *Id.*

479 *Id.*

expert opinions that support Contention 28. Contention 28 should be rejected because Petitioners have not demonstrated that there is a genuine dispute on a material issue of law or fact raised by this contention, contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi).

IV. PETITIONERS HAVE NOT REQUESTED USE OF THE HEARING PROCEDURES IN SUBPART G

The regulations in 10 C.F.R. Part 2 establish several hearing tracks. Of particular relevance to COL proceedings, Subpart L establishes informal hearing procedures and Subpart G establishes formal hearing procedures. The selection of the appropriate hearing track depends upon the nature of the contentions. Specifically, 10 C.F.R. § 2.309(g) states that "[a] request for hearing and/or petition for leave to intervene may, except in a proceeding under 10 CFR 52.103, also address the selection of hearing procedures, taking into account the provisions of § 2.310." In turn, Section 2.310(d) presumes use of Subpart L unless the proceeding involves "resolution of issues of material fact relating to the occurrence of a past activity, where the credibility of an eyewitness may reasonably be expected to be at issue, and/or issues of motive or intent of the party or eyewitness material to the resolution of the contested matter."

When it issued these regulations, the Commission stated that given the provision in Section 2.310(d), "Subpart L procedures would be used, as a general matter, for hearings on power reactor construction permit and operating license applications under Parts 50 and 52."[480] Petitioners have chosen not to address the selection of any hearing procedures in their Petition. Therefore, by default, this proceeding should be conducted under Subparts C and L.

Moreover, Petitioners largely raised issues of law that are outside the scope of this proceeding and, to the extent that they raise factual issues that pertain to STP Units 3 and 4, none of the proposed contentions, if admitted, would require eyewitness or other fact-specific

[480] Changes to Adjudicatory Process, 69 Fed. Reg. at 2206.

testimony pertaining to a past activity, motive, or intent. Therefore, under Section 2.310(d), there is no basis for applying the formal hearing procedures in 10 C.F.R. Part 2, Subpart G. Instead, the hearing procedures in 10 C.F.R. Part 2, Subparts C and L should be applied to this proceeding.

V. CONCLUSION

For the foregoing reasons, Petitioners have submitted no admissible contentions. Accordingly, STPNOC respectfully requests that the Petition be denied.

Respectfully submitted,

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Dated in Washington, D.C.
this 18th day of May 2009

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	Docket Nos. 52-012-COL 52-013-COL
STP NUCLEAR OPERATING COMPANY	)	
(South Texas Project Units 3 and 4)	)	May 18, 2009

CERTIFICATE OF SERVICE

I hereby certify that on May 18, 2009 a copy of "STP Nuclear Operating Company's Answer Opposing Petition for Intervention and Request for Hearing" was served by the Electronic Information Exchange on the following recipients:

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