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**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

DOCKETED
USNRC

Before the Atomic Safety and Licensing Board

June 27, 2006 (7:40am)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

In the Matter of)	
)	
Entergy Nuclear Generation Company and)	Docket No. 50-293-LR
Entergy Nuclear Operations, Inc.)	ASLBP No. 06-848-02-LR
)	
(Pilgrim Nuclear Power Station))	

**ENERGY’S ANSWER TO THE REQUEST FOR HEARING
AND PETITION TO INTERVENE BY PILGRIM WATCH
AND NOTICE OF ADOPTION OF CONTENTION**

I. INTRODUCTION

Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc. (“Entergy”) hereby answer and oppose the “Petition for Hearing and Petition to Intervene By Pilgrim Watch,” dated May 25, 2006 (the “Petition” or “Pet.”), regarding Entergy’s application to renew the operating license for Pilgrim Nuclear Power Station (“PNPS”). Entergy also answers the “Notice of Adoption of Contention by Pilgrim Watch,” dated June 5, 2006. The Petition should be denied because Pilgrim Watch has not proffered any admissible contentions. The Notice of Adoption of Contention should be rejected because Pilgrim Watch has not sought the Board’s leave to add a contention and has not demonstrated compliance with the late-filing criteria.

II. PROCEDURAL BACKGROUND

Entergy submitted its application, dated January 25, 2006, requesting renewal of Operating License DPR-35 for the Pilgrim Nuclear Power Station (the “Application”). On March 27, 2006, the Nuclear Regulatory Commission (“NRC” or “Commission”) published a Notice of Acceptance for Docketing of the Application and Notice of Opportunity for Hearing

("Notice") regarding Entergy's application. 71 Fed. Reg. 15,222 (March 27, 2006). The Notice permitted any person whose interest may be affected to file a request for hearing and petition for leave to intervene within 60 days of the notice. Id.

The Notice directs that any petition shall set forth with particularity the interest of the petitioner and how that interest may be affected, and must also set forth the specific contentions sought to be litigated. Id. at 15,222-23. The Notice states:

Each contention must consist of a specific statement of the issue of law or fact to be raised or controverted. In addition, the requestor/petitioner shall provide a brief explanation of the bases of each contention and a concise statement of the alleged facts or the expert opinion that supports the contention on which the requestor/petitioner intends to rely in proving the contention at the hearing. The requestor/petitioner must also provide references to those specific sources and documents of which the requestor/petitioner is aware and on which the requestor/petitioner intends to rely to establish those facts or expert opinion. The requestor/petitioner must provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact. Contentions shall be limited to matters within the scope of the action under consideration. The contention must be one that, if proven, would entitle the requestor/petitioner to relief. A requestor/petitioner who fails to satisfy these requirements with respect to at least one contention will not be permitted to participate as a party.

Id. at 15,223 (footnote omitted).

III. STANDING

Entergy does not object to Pilgrim Watch's standing to seek to participate in this proceeding.

IV. STANDARDS FOR ADMISSIBILITY OF CONTENTIONS

A. Contentions Must Be Within the Scope of the Proceeding and May Not Challenge NRC's Rules

As a fundamental requirement, a contention is only admissible if it addresses matters within the scope of the proceeding and does not seek to attack the NRC's regulations governing the proceeding. This fundamental limitation is particularly important in a license renewal

proceeding, because the Commission has conducted extensive rulemaking to define and limit the technical and environmental showing that an applicant must make. As discussed later in this answer, several of Pilgrim Watch's contentions fall outside the scope of this proceeding.

10 C.F.R. Part 54 governs the health and safety matters that must be considered in a license renewal proceeding. The Commission has specifically limited this safety review to the matters specified in 10 C.F.R. §§ 54.21 and 54.29(a),¹ which focus on the management of aging of certain systems, structures and components, and the review of time-limited aging evaluations. See Florida Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 N.R.C. 3, 7-8 (2004); Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2), CLI-02-26, 56 N.R.C. 358, 363 (2002). Thus, the potential effect of aging is the issue that essentially defines the scope of license renewal proceedings. Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 and 3), CLI-04-36, 60 N.R.C. 631, 637 (2004).

The rules in 10 C.F.R. Part 54 are intended to make license renewal a stable and predictable process. 60 Fed. Reg. at 22,461, 22,463, 22,484. As the Commission has explained, "We sought to develop a process that would be both efficient, avoiding duplicative assessments where possible, and effective, allowing the NRC Staff to focus its resources on the most significant safety concerns at issue during the renewal term." Turkey Point, CLI-01-17, 54 N.R.C. at 7 (2001). "License renewal reviews are not intended to 'duplicate the Commission's ongoing reviews of operating reactors.'" Id. (citation omitted). To this end, the Commission has confined 10 C.F.R. Part 54 to those issues uniquely determined to be relevant to the public health

¹ The Commission has stated that the scope of review under its rules determines the scope of admissible issues in a renewal hearing. 60 Fed. Reg. 22,461, 22,482 n.2 (May 8, 1995). "Adjudicatory hearings in individual license renewal proceedings will share the same scope of issues as our NRC Staff review, for our hearing process (like our Staff's review) necessarily examines only the questions our safety rules make pertinent." Turkey Point, CLI-01-17, 54 N.R.C. at 10.

and safety during the period of extended operation, leaving all other issues to be addressed by the existing regulatory processes. 60 Fed. Reg. at 22,463. This scope is based on the principle, established in the rulemaking proceedings, that with the exception of the detrimental effects of aging and a few other issues related to safety only during the period of extended operation, the existing regulatory processes are adequate to ensure that the licensing bases of currently-operating plants provide and maintain an adequate level of safety. 60 Fed. Reg. at 22,464, 22,481-82. Consequently, license renewal does not focus on operational issues, because these issues “are effectively addressed and maintained by ongoing agency oversight, review, and enforcement.” Millstone, CLI-04-36, 60 N.R.C. at 638 (footnote omitted).

The NRC rules governing environmental matters – which are contained in 10 C.F.R. §§ 51.53(c), 51.95(c), and Appendix B to Part 51 – are similarly intended to produce a more focused and, therefore, more effective review. 61 Fed. Reg. 28,467 (June 5, 1996); Turkey Point, CLI-01-17, 54 N.R.C. at 11. To accomplish this objective, the NRC prepared a comprehensive Generic Environmental Impact Statement (“GEIS”) for License Renewal of Nuclear Plants (NUREG-1437) and made generic findings reflected in the GEIS and in Appendix B to 10 C.F.R. Part 51. Those issues that could be resolved generically for all plants are designated as Category 1 issues and are not evaluated further in a license renewal proceeding (absent waiver or suspension of the rule by the Commission based on new and significant information). 61 Fed. Reg. at 28,468, 28,470, 28,474; Turkey Point, CLI-01-17, 54 N.R.C. at 12. The remaining (i.e., Category 2) issues that must be addressed in an applicant’s environmental report are defined specifically in 10 C.F.R. § 51.53(c). See generally, Turkey Point, CLI-01-17, 54 N.R.C. at 11-12.

10 C.F.R. § 2.309(f)(1)(iii)-(iv) requires a petitioner to demonstrate that the issue raised by each of its contentions is within the scope of the proceeding and material to the findings that the NRC must make. Licensing boards “are delegates of the Commission” and, as such, they may “exercise only those powers which the Commission has given [them].” Public Service Co. of Indiana (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-316, 3 N.R.C. 167, 170 (1976) (footnote omitted); accord Portland General Electric Co. (Trojan Nuclear Plant), ALAB-534, 9 N.R.C. 287, 289-90 n.6 (1979). Accordingly, it is well established that a contention is not cognizable unless it is material to a matter that falls within the scope of the proceeding for which the licensing board has been delegated jurisdiction. Id.; see also Commonwealth Edison Co. (Zion Station, Units 1 and 2), ALAB-616, 12 N.R.C. 419, 426-27 (1980); Commonwealth Edison Co. (Carroll County Site), ALAB-601, 12 N.R.C. 18, 24 (1980).

It is also well established that a petitioner may not demand an adjudicatory hearing to attack generic NRC requirements or regulations. Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2 and 3), CLI-99-11, 49 N.R.C. 328, 334 (1999). “[A] licensing proceeding . . . is plainly not the proper forum for an attack on applicable statutory requirements or for challenges to the basic structure of the Commission’s regulatory process.” Philadelphia Electric Co. (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 A.E.C. 13, 20, aff’d in part on other grounds, CLI-74-32, 8 A.E.C. 217 (1974) (footnote omitted). Thus, a contention which collaterally attacks a Commission rule or regulation is not appropriate for litigation and must be rejected. 10 C.F.R. § 2.335; Potomac Electric Power Co. (Douglas Point Nuclear Generating Station, Units 1 and 2), ALAB-218, 8 A.E.C. 79, 89 (1974). A contention which “advocate[s] stricter requirements than those imposed by the regulations” is “an impermissible collateral attack on the Commission’s rules” and must be rejected. Public Service Co. of New Hampshire

(Seabrook Station, Units 1 and 2), LBP-82-106, 16 N.R.C. 1649, 1656 (1982); see also Arizona Public Service Co. (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), LBP-91-19, 33 N.R.C. 397, 410, aff'd in part and rev'd in part on other grounds, CLI-91-12, 34 N.R.C. 149 (1991). Likewise, a contention that seeks to litigate a generic determination established by Commission rulemaking is "barred as a matter of law." Pacific Gas & Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), LBP-93-1, 37 N.R.C. 5, 30 (1993).

These limitations are very germane to this proceeding in that the scope of admissible environmental contentions is constrained by 10 C.F.R. §§ 51.53(c), 51.95(c), and Appendix B to Part 51; and the scope of technical contentions is constrained by 10 C.F.R. Part 54. See Turkey Point, CLI-01-17, 54 N.R.C. at 5-13. See also Florida Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-00-23, 52 N.R.C. 327, 329 (2000); Baltimore Gas & Electric Co. (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-14, 48 N.R.C. 39, 41 (1998), motion to vacate denied, CLI-98-15, 48 N.R.C. 45, 56 (1998); Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2 and 3), CLI-98-17, 48 N.R.C. 123, 125 (1998).

B. Contentions Must Be Specific and Supported By a Basis Demonstrating a Genuine, Material Dispute

In addition to the requirement to address issues within the scope of the proceeding, a contention is admissible only if it provides:

- a "specific statement of the issue of law or fact to be raised or controverted;"
- a "brief explanation of the basis for the contention;"
- a "concise statement of the alleged facts or expert opinions" supporting the contention together with references to "specific sources and documents on which the requestor/petitioner intends to rely to support its position on the issue;" and

- “[s]ufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact,” which showing must 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, or, if the petitioner believes that the application fails to contain information on a relevant matter as required by law, the identification of each failure and the supporting reasons for the petitioner’s belief.”

10 C.F.R. § 2.309(f)(1)(i), (ii), (v) and (vi). The failure of a contention to comply with any one of these requirements is grounds for dismissing the contention. Palo Verde, CLI-91-12, 34 N.R.C. at 155-56. As discussed later in this answer, none of Pilgrim Watch’s contentions complies with these requirements.

These pleading standards governing the admissibility of contentions are the result of a 1989 amendment to 10 C.F.R. § 2.714, now § 2.309, which was intended “to raise the threshold for the admission of contentions.” 54 Fed. Reg. 33,168 (Aug. 11, 1989); see also Oconee, CLI-99-11, 49 N.R.C. at 334; Palo Verde, CLI-91-12, 34 N.R.C. at 155-56. The Commission has stated that the “contention rule is strict by design,” having been “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.’” Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 N.R.C. 349, 358 (2001) (citation omitted). The pleading standards are to be enforced rigorously. “If any one . . . is not met, a contention must be rejected.” Palo Verde, CLI-91-12, 34 N.R.C. at 155 (citation omitted). A licensing board is not to overlook a deficiency in a contention or assume the existence of missing information. Id.

The Commission has explained that this “strict contention rule” serves multiple purposes, which include putting other parties on notice of the specific grievances and assuring that full

adjudicatory hearings are triggered only by those able to proffer at least some minimal factual and legal foundation in support of their contentions. Oconee, CLI-99-11, 49 N.R.C. at 334. By raising the threshold for admission of contentions, the NRC intended to obviate lengthy hearing delays caused in the past by poorly defined or supported contentions. Id. As the Commission reiterated in incorporating these same standards into the new Part 2 rules, “[t]he threshold standard is necessary to ensure that hearings cover only genuine and pertinent issues of concern and that issues are framed and supported concisely enough at the outset to ensure that the proceedings are effective and focused on real, concrete issues.” 69 Fed. Reg. 2,182, 2,189-90 (Jan. 14, 2004).

Under these standards, a petitioner is obligated “to provide the [technical] analyses and expert opinion” or other information “showing why its bases support its contention.” Georgia Institute of Technology (Georgia Tech Research Reactor, Atlanta, Georgia), LBP-95-6, 41 N.R.C. 281, 305, vacated in part and remanded on other grounds, CLI-95-10, 42 N.R.C. 1, aff’d in part, CLI-95-12, 42 N.R.C. 111 (1995). Where a petitioner has failed to do so, “the [Licensing] Board may not make factual inferences on [the] petitioner’s behalf.” Id., citing Palo Verde, CLI-91-12, 34 N.R.C. 149. See also Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), LBP-98-7, 47 N.R.C. 142, 180 (1998) (a “bald assertion that a matter ought to be considered or that a factual dispute exists . . . is not sufficient”; rather “a petitioner must provide documents or other factual information or expert opinion” to support a contention’s “proffered bases”) (citations omitted).

Further, admissible contentions “must explain, with specificity, particular safety or legal reasons requiring rejection of the contested [application].” Millstone, CLI-01-24, 54 N.R.C. at 359-60. In particular, this explanation must demonstrate that the contention is “material” to the

NRC's findings and that a genuine dispute on a material issue of law or fact exists. 10 C.F.R. § 2.309(f)(1)(iv), (vi) (emphasis added). The Commission has defined a "material" issue as meaning one where "resolution of the dispute would make a difference in the outcome of the licensing proceeding." 54 Fed. Reg. at 33,172 (emphasis added).

As observed by the Commission, this threshold requirement is consistent with judicial decisions, such as Conn. Bankers Ass'n v. Bd. of Governors, 627 F.2d 245, 251 (D.C. Cir. 1980), which held that:

[A] protestant does not become entitled to an evidentiary hearing merely on request, or on a bald or conclusory allegation that . . . a dispute exists. The protestant must make a minimal showing that material facts are in dispute, thereby demonstrating that an "inquiry in depth" is appropriate.

Id. (footnote omitted); see also Calvert Cliffs, CLI-98-14, 48 N.R.C. at 41 ("It is the responsibility of the Petitioner to provide the necessary information to satisfy the basis requirement for the admission of its contentions . . ."). A contention, therefore, is not to be admitted "where an intervenor has no facts to support its position and where the intervenor contemplates using discovery or cross-examination as a fishing expedition which might produce relevant supporting facts." 54 Fed. Reg. at 33,171.² As the Commission has emphasized, the contention rule bars contentions where petitioners have what amounts only to generalized suspicions, hoping to substantiate them later, or simply a desire for more time and more information in order to identify a genuine material dispute for litigation. Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2), CLI-03-17, 58 N.R.C. 419, 424 (2003).

² See also Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), ALAB-687, 16 N.R.C. 460, 468 (1982), vacated in part on other grounds, CLI-83-19, 17 N.R.C. 1041 (1983) ("[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 2.714 [now 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.").

Therefore, under the Rules of Practice, a statement "that simply alleges that some matter ought to be considered" does not provide a sufficient basis for a contention. Sacramento Municipal Utility District (Rancho Seco Nuclear Generating Station), LBP-93-23, 38 N.R.C. 200, 246 (1993), review declined, CLI-94-2, 39 N.R.C. 91 (1994). Similarly, a mere reference to documents does not provide an adequate basis for a contention. Baltimore Gas & Electric Co. (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-25, 48 N.R.C. 325, 348 (1998).

Rather, NRC's pleading standards require a petitioner to read the pertinent portions of the license application, including the safety analysis report and the environmental report, state the applicant's position and the petitioner's opposing view, and explain why it has a disagreement with the applicant. 54 Fed. Reg. at 33,170; Millstone, CLI-01-24, 54 N.R.C. at 358. If the petitioner does not believe these materials address a relevant issue, the petitioner is "to explain why the application is deficient." 54 Fed. Reg. at 33,170; Palo Verde, CLI-91-12, 34 N.R.C. at 156. A contention that does not directly controvert a position taken by the applicant in the license application is subject to dismissal. See Texas Utilities Electric Co. (Comanche Peak Steam Electric Station, Unit 2), LBP-92-37, 36 N.R.C. 370, 384 (1992). Furthermore, 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. Florida Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-90-16, 31 N.R.C. 509, 521 & n.12 (1990).

V. PILGRIM WATCH'S CONTENTIONS DO NOT MEET THE STANDARDS FOR THE ADMISSION OF CONTENTIONS

A. Contention 1 – Aging Management of Systems and Components Containing Radioactive Water

Contention 1, which alleges that the aging management program for Pilgrim does not provide adequate inspection and monitoring for leaks of systems and components that may contain radioactive water (Pet. at 4), is inadmissible because (1) the Contention is overbroad and unduly vague and impermissibly challenges Commission regulation; (2) the Contention provides no basis to dispute the adequacy of aging management program for underground pipes and tanks; and (3) the Contention is beyond the scope of this proceeding.

At the outset, Contention 1 should be rejected because it is overbroad and constitutes an impermissible challenge to the Commission's license renewal regulations. The Contention claims that the "Aging Management Plan does not adequately inspect and monitor for leaks in all systems and components that may contain radioactively contaminated water." Pet. at 4 (emphasis added). Contrary to the wide breadth of the Contention, however, the license renewal rule does not encompass "all systems and components that may contain radioactive water." Rather, the scope of the license renewal regulations is carefully prescribed in 10 C.F.R. § 54.4. That provision limits the scope of 10 C.F.R. Part 54 to (1) safety-related systems, structures and components relied on to maintain the integrity of the reactor coolant pressure boundary, to shut down the reactor and maintain it in a safe condition, and to prevent or mitigate the consequences of reactor accidents; (2) non-safety-related systems, structures and components whose failure could prevent such safety-related systems from accomplishing their function, and (3) other nuclear power plant systems, structures and components relied on to comply with the

Commission's rules concerning fire protection, environmental qualification, pressurized thermal shock, anticipated transients without scram, and station blackout.

Many plant systems and components that may contain radioactively contaminated water do not fall within this defined scope of 10 C.F.R. Part 54, such as, for example, the plant's discharge line through which radioactive effluents may be discharged in accordance with 10 C.F.R. Part 20. This system and others that may contain radioactively contaminated water are not within the scope the license renewal rule as set forth in 10 C.F.R. § 54.4. Indeed, the Commission specifically denied a petition for rulemaking filed by the Union of Concerned Scientists that would have revised the scope of the license renewal rule to cover "liquid and gaseous radioactive waste management systems."³ The broadly worded Contention would, however, include such systems in its claims of inadequate aging management directly challenging the Commission's contrary determination that such systems are not covered by the license renewal rules. As such, the Contention impermissibly challenges Commission regulation, and to the extent the Contention encompasses systems and components that are not subject to the license renewal requirements of 10 C.F.R. Part 54, the Contention must be rejected as beyond the scope of this proceeding.

Similar claims made throughout Contention 1 that there "should be regular and frequent inspections of all components that contain radioactivity in this aging plant" (e.g., Pet. at 12) are likewise overbroad and impermissibly challenge the Commission's license renewal regulations

³ 66 Fed. Reg. 65,141 (Dec. 18, 2001) ("Union of Concerned Scientists; Denial of Petition for Rulemaking"). The Commission denied the petition because (1) "liquid and gaseous radioactive waste management systems are not involved in design and licensing basis events considered for license renewal," and (2) "the existing regulatory process is acceptable for maintaining the performance of the radioactive waste systems throughout the period of extended operation in order to keep exposures to radiation at the current levels below regulatory limits consistent with the conclusions made in the applicable regulations." Id.

which limit the scope of license renewal aging management to those systems and components described in 10 C.F.R. § 54.4.

Furthermore, Contention 1 must be rejected as unduly vague because it provides no specificity or basis for the alleged deficiencies. Pilgrim Watch identifies no specific PNPS systems or components within the scope of the rule that will not be adequately managed for aging, or that contain radioactive water that might be released. Pilgrim Watch identifies no alleged deficiencies in the aging management programs at Pilgrim associated with systems containing radioactively contaminated water. Such bare, unsupported assertions provide no basis for an admissible contention. In another license renewal proceeding, a licensing board rejected a similarly vague contention alleging that non-specified components needed to be managed to protect against contamination of the water supply. Nuclear Management Company, LLC (Monticello Nuclear Generating Plant), LBP-05-31, 62 N.R.C. 735, 756 (2005) (contention that license renewal application did not “contain adequate assurance that all components needing to be inspected and maintained will actually be subject to inspection and maintenance in a timely manner” rejected as “vague and speculative”).

Contention 1 is also inadmissible because it fails to provide a factual basis to support any claim challenging the adequacy of the Application. The Contention provides no information to indicate that the Buried Piping and Tanks Inspection Program in the Application – the sole provision of the Application referenced in the Contention – is in any way inadequate.

The only facts that Pilgrim Watch offers are recent reports of leaks of radioactive water at several nuclear power plants. Pet. at 6-8 and Exhibit A. Radioactive water leakage at other nuclear plants provides no indication, by itself, of any susceptibility to radioactive leakage at

Pilgrim or of any asserted deficiency in the aging management programs established for the Pilgrim license renewal. Pilgrim Watch provides no basis to link the leaks that have occurred at other nuclear power plants to any in-scope license renewal systems and components or to any claimed inadequacy of the Pilgrim aging management plan for buried piping and tanks.

In this respect, five of the events referenced in Pilgrim Watch's supporting documents concerned leakage from fuel pools. These included leakage from spent fuel pools at three pressurized water plants ("PWR"), from a spent fuel pool at a national laboratory reactor, and from a cask handling pool at a fuel fabrication facility.⁴ Pilgrim is a boiling water reactor ("BWR") and, unlike the spent fuel pools at PWRs which are typically partially below grade, the spent fuel pool at Pilgrim, typical of many BWRs, is above grade. The spent fuel pool at Pilgrim is within the reactor building on the refueling floor which is located above the reactor. Hence, the spent fuel pool is elevated within the reactor building, well above the floor of the building, which makes a leak readily detectable by plant personnel. PNPS Updated Safety Analysis Report ("UFSAR"), §§ 10.3.7, 12.2.2.1; see also Application at 2.4-3. Thus, unlike a PWR, any leaks from the Pilgrim spent fuel pool would be readily detected. Furthermore, three of the cited events concerned leakage from discharge piping systems which are not subject to aging management under the Commission's license renewal rules. See 10 C.F.R. § 54.4.⁵

⁴ The Petition refers to "at least eight events" outlined in its Exhibit A that have occurred where radioactively contaminated water has leaked into the ground. Pet. at 6. Exhibit A refers to events at nine different facilities seven of which occurred at nuclear power plants (Braidwood, Haddam Neck, Indian Point, Dresden, Salem, Byron, and Palo Verde), one which occurred at national laboratory (Brookhaven) and one which occurred at a fuel fabrication facility (BWX Technologies).

⁵ See Pet., Exhibit A-1 (description of events at Braidwood and Dresden), and Exhibit A-2 (NRC Preliminary Notification of Event or Unusual Occurrence at the Byron Plant). The source of the leak for the last event, at the Palo Verde Plant, is not identified in Pilgrim Watch's supporting papers. See Pet., Exhibit A-3.

In short, the reports of leakage at other plants cited by Pilgrim Watch provide no basis to support a claim that in-scope systems at Pilgrim with underground piping and tanks are likely to leak radioactive water⁶ or that Pilgrim's aging management plan for underground piping and tanks is inadequate. None of the leaks reported at other nuclear plants concerned, as can be best determined, systems or components analogous to the six in-scope systems at Pilgrim with buried piping and tanks. Nor is there any indication that these plants were implementing an aging management plan for underground piping and tanks when the leaks occurred, and thus no basis to suggest that the program described in the Application is deficient. Thus, the reported leaks at other plants provide no basis for the claims in Contention 1.

Similarly, Pilgrim Watch's other claimed bases for the Contention provide no support for admitting the contention. The Contention asserts that "Pilgrim has site specific attributes due to its history and location which makes leaks from components and systems such as underground

⁶ The in-scope systems with buried piping and tanks which are subject to the "Buried Piping and Tanks Inspection" program are identified in Section 3 of the Application. They are the following:

Standby gas treatment system. Application at 3.2-7, 3.2-72.

Salt service water system. *Id.* at 3.3-7, 3.3-66 & 67.

Station blackout diesel generator system *Id.* at 3.3-10 & 11, 3.3-92.

Fuel oil system *Id.* at 3.3-12, 3.3-107 & 108.

Fire protection water system. *Id.* at 3.3-13 & 14, 3.3-117.

Condensate storage system. *Id.* at 3.4-2, 3.4-28 & 29.

Other than claiming that leaks of radioactive water are possible at the Pilgrim plant based on occurrences of such leaks at other plants, the Contention advances no claims as to why these systems would be susceptible to leaks of radioactively contaminated water. Indeed, for example, the fuel oil system provides diesel fuel for various plant systems (*id.* at 2.3-39) and the station blackout diesel generator system station is comprised of the diesel generator and supporting subsystems, e.g., cooling water, lubricating oil and starting air (*id.* at 2.3-37). Neither of these systems contain radioactive water nor radioactivity in any other form; nor do they have any interaction with radioactive systems. *Id.* at 2.3-37 – 2.3-40. Likewise, the standby gas treatment system is an engineered safety features system designed to draw and decontaminate air from the reactor building and other potentially contaminated areas following an accident which operates only in the event of an accident. *Id.* at 2.3-20 – 2.3-21; UFSAR § 7.18.1. The fire protection system is a water makeup system that draws upon a site water supply supplemented by a city water main. Application at 2.3-42. The Contention provides no specificity as to why these systems or any other in-scope systems would be susceptible to leaks of radioactively contaminated water.

pipings more likely and more difficult to detect.” Pet. at 8. However, the Contention does not explain what these “attributes” are and identifies no facts to support this claim. It must therefore be rejected as vague and baseless.

Pilgrim Watch next claims that “[r]ecent discoveries of leaked radioactive water in other nuclear facilities have made it clear that current methods for monitoring systems and components such as buried piping and underground tanks are inadequate.” Pet. at 9. However, as discussed, this experience provides no support for its Contention here, because Pilgrim Watch provides no indication what those “methods” were at other plants, or whether they were in any way comparable to the Buried Piping and Tanks Inspection Program described in the Application. Indeed, there is no showing that any of the leakage at other plants occurred after implementation of aging management programs for license renewal.

Pilgrim Watch also refers to the “Bathtub Curve” of expected failures over the life of a component or structure and argues that leaks are more likely to occur as nuclear power plants age. Pet. at 9-10. However, this assertion is neither specific to Pilgrim nor to underground pipes and tanks. Nor does it provide any basis to claim that the aging management program at Pilgrim is inadequate.⁷

The Petition claims that the potential risk of leaks at Pilgrim might be increased by the inadvertent past use of “counterfeit or substandard pipe fittings and flanges.” Pet. at 11. This claim does not raise an aging issue. Rather, it would be a current design and licensing basis

⁷ Similarly, the Petition’s assertion (Pet. at 10-11) that low energy radionuclides can induce corrosion does not provide any basis to challenge the adequacy of the aging management program at Pilgrim.

issue, and hence provides no basis for the Contention.⁸ See, e.g., 60 Fed. Reg. at 22,464, 22,481-82; Turkey Point, supra, CLI-01-17, 54 N.R.C. at 5-6.

The Petition then questions (Pet. at 11-12) the adequacy of the inspection and aging management programs for underground pipes and tanks at Pilgrim, but provides no basis to dispute the adequacy of this program. As described by the Application, “the program includes (a) preventive measures to mitigate corrosion and (b) inspections to manage the effects of corrosion” Application at B-17. Buried components are to be inspected when excavated during maintenance and a focused inspection is to be performed within the first 10 years of the period of extended operation unless an opportunistic inspection occurs within this 10 year period. Id. The Petition recites these and other provisions of the program, and then simply claims – without out further explication or support – that ‘[c]learly inspections that might only occur every ten years are insufficient if there is a potential leak of radioactive water from corroded components that could be migrating off-site.’ Id. at 12 (emphasis added). No facts or expert opinion are provided to support the claimed inadequacy of this aging management program. No basis is offered to suggest that components are corroding nor is any information offered indicating the appropriateness of any other inspection period. Such unsupported allegations provide no basis for an admissible contention. See, e.g., Georgia Tech, supra, LPB-95-6, 41

⁸ Furthermore, the GAO report cited by the Contention provides no detail whatsoever with respect to Pilgrim, merely listing Pilgrim as one of several plants that may have received counterfeit or substandard parts including pipe fittings and flanges. See United States Government Accounting Office, Report No. GAO/RCED-91-6, “NUCLEAR SAFETY AND HEALTH: Counterfeit and Substandard Products Are a Governmentwide Concern” (Oct. 1990) at Table 2.1, pp. 15-16. Moreover, the NRC issued NRC Bulletin 88-05 (referred to in GAO/RCED-91-6 at 41) to alert utilities about potential counterfeit and substandard pipe fittings and flanges, and Boston Edison undertook a comprehensive and multi-discipline review to identify, locate and remediate, as appropriate, any counterfeit and substandard pipe fittings and flanges at the Pilgrim plant. See Boston Edison Company, “Response to NRC Bulletin 88-05 and Supplements 1 & 2, Nonconforming Materials” (Sept. 1988). Thus, this issue was handled under the NRC’s “ongoing agency oversight, review, and enforcement” of operational issues as contemplated by the NRC license renewal rules. See Millstone, supra, CLI-04-36, 60 N.R.C. at 638 (footnote omitted).

N.R.C. at 305 (a petitioner is obligated “to provide the [technical] analyses and expert opinion” or other factual information “showing why its bases support its contention”); Turkey Point, supra, LBP-90-16, 31 N.R.C. at 521 & n.12 (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).

Indeed, the assertion presumes that the component is corroded such that leakage can occur, whereas the purpose of the aging management program is to ensure that corrosion that could cause leaking will not be present. The assertion provides no basis to suggest that the aging management program proposed for Pilgrim would not achieve its intended purpose.⁹ As such, the claim has no basis and, as discussed next, the real thrust of the Contention is an asserted need for ongoing monitoring for radioactive leaks, which is an operational and not an aging management issue.

Finally, Contention 1 is inadmissible because its real focus is not on aging management, but on the adequacy of the PNPS radiological monitoring program, which is beyond the scope of this proceeding. The Petition claims that the “Aging Management Program at Pilgrim does not provide adequate monitoring to ensure that leaks from systems and components such as underground pipes and tanks are detected,” and that the “only effective way to monitor” for such leaks “would be to have on-site monitoring wells” that would be “sampled regularly.” Pet. at 13 (emphasis added). Thus, it is clear that the real thrust of Pilgrim Watch’s Contention is not that

⁹ In this respect, the guidance in the GALL Report states that “[o]perating experience” shows that an aging management program such as that set forth in the Pilgrim Application “is effective in managing corrosion of external surfaces of buried steel piping and tanks.” NUREG 1801, Generic Aging Lessons Learned (GALL) Report, Vol. 2, Rev. 1 at XI M-112.

more frequent or better inspections of buried piping is necessary, but that there should be an expanded radiological monitoring program implemented at the site. However, ongoing radiological monitoring is an operational program that is beyond the scope of license renewal. See, e.g., Monticello, supra, LBP-05-31, 62 N.R.C. at 754 (rejecting claims of inadequate “radiation monitoring” and asserted need “for new monitoring techniques”). Indeed, as support for its claimed need for on-site monitoring wells, the Contention refers to, and relies upon, Commission regulations in 10 C.F.R Parts 20 and 50 pertaining to ongoing radiological monitoring. Pet. at 14-15. However, the adequacy of monitoring programs under these regulations is not subject to litigation in license renewal proceedings. Monticello, supra, 62 N.R.C. at 754.

Operational issues such as radiological monitoring are not addressed in license renewal proceedings because the Commission has determined that such matters are appropriately handled by its regulations governing plant operations. See, e.g., 60 Fed. Reg. at 22,464, 22,481-82; Turkey Point, supra, CLI-01-17, 54 N.R.C. at 5-6. Such has proven to be the case with respect to recent reports of the radioactive leaks at several nuclear power plants. In response to these events, the nuclear industry has undertaken an industry-wide initiative to implement enhanced detection and management of inadvertent radiological releases into the groundwater, which is to be implemented by July 31, 2006.¹⁰ As have other nuclear utilities, Entergy has committed to undertake this initiative and has initiated a fleet-wide program to implement the initiative.

¹⁰ See NEI News Release, “Nuclear Energy Industry Unveils New Policy to Manage Inadvertent Radiological Releases” (May 9, 2006). Under the program, among other things, “every company operating or decommissioning a nuclear power plant will, [w]here appropriate, identify and schedule implementation of a company-or-site-specific action plan to assure timely detection and effective response to inadvertent radiological releases in groundwater . . . designed to prevent migration of even very low levels of radioactive material off plant sites.” Id. at 2 (emphasis added).

In short, the issues raised in this Contention are, at bottom, operational issues, not properly part of this license renewal proceeding, and are being appropriately addressed in the operational arena.

For the above reasons, Pilgrim Watch Contention 1 is not admissible.

B. Contention 2 – Monitoring for Corrosion in the Drywell Liner

Contention 2, which alleges that the aging management program for the drywell liner does not adequately monitor for corrosion in inaccessible areas and does not include a requirement for root cause analysis when corrosion is found (Pet. at 17), is inadmissible because it does not address and therefore fails to identify any deficiency in the discussion of this issue in the Application. Pilgrim Watch provides no basis to dispute the adequacy of aging management program for the drywell liner. Therefore, Contention 2 fails to establish any genuine dispute concerning a material issue.

Pilgrim Watch bases its contention primarily on Proposed License Renewal Interim Staff Guidance LR-ISG-2006-01: Plant-Specific Aging Management Program for Inaccessible Areas of Boiling Water Reactor Mark I Steel Containment Drywell Shell, which the NRC published in the Federal Register for comment on May 9, 2006. 71 Fed. Reg. 27,010 (2006).¹¹ However,

¹¹ Pilgrim Watch also refers to a January 31, 2006 conference call held by the NRC to discuss its contemplated issuance of interim guidance. See Pet. at 20. Pilgrim Watch's characterization of the NRC Staff's remarks in this conference call appear to be taken from a motion filed by petitioners in the Oyster Creek proceeding. Compare Motion for Leave to Add Contentions or Supplement The Basis of the Current Contentions, Docket No. 50-219-LR (Feb. 7, 2006) at 3-4. In response to that motion, the NRC Staff informed the licensing board in the Oyster Creek proceeding that its representations and statements during the call greatly differed from, and in some cases directly contradicted, the petitioners' characterizations. NRC Staff Response to Motion for Leave to Add Contentions or Supplement the Basis of the Current Contention, Docket No. 50-219-LR (Feb. 17, 2006) at 4. In particular, the Staff noted:

For example, on page 3 of its motion, NIRS asserts that the "NRC staff [has] concluded that corrosion of the Mark I reactor drywell liner is a major safety-related issue that has not received sufficient attention to date." The Staff, however, made no technical conclusions but has identified corrosion due to leakage as a potential avenue of concern for some Mark I plants and is considering recommending further

Footnote continued on next page

Pilgrim Watch does not mention or address the amendment to the license renewal application that Entergy submitted on May 11, 2006 to provide additional information responsive to this proposed guidance. Letter from S. Bethay to U.S. Nuclear Regulatory Commission, License Renewal Application, Amendment No. 1 (May 11, 2006) available at Adams Accession No. ML061380549 (hereinafter referred to as “Amendment No. 1”).

As previously discussed, a petitioner has an ironclad obligation to examine publicly available documentary material to uncover relevant information (see note 2, supra), and is required to explain why the application is deficient. 54 Fed. Reg. at 33,170; Palo Verde, CLI-91-12, 34 N.R.C. at 156. Where, as here, a petitioner’s contention does not directly controvert a position taken by the applicant in the license application, its contention is subject to dismissal. Comanche Peak, LBP-92-35, 36 N.R.C. at 384 (1992).

Moreover, the proposed interim staff guidance does not support Pilgrim Watch’s allegation that Entergy’s aging management program does not adequately monitor for corrosion in inaccessible areas (Pet. at 17). With respect to inaccessible areas (e.g. the bottom of the drywell liner, in the sand cushion region, which is embedded in concrete), the proposed interim staff guidance does not require monitoring. Rather, it recommends development of a corrosion

Footnote continued from previous page

evaluation by licensees. On page 4, NIRS assert that Hansraj Ashar, an NRC staff member, “clarified that for the inaccessible areas where there was a potential for corrosion, ultrasonic testing (“UT”) of the thickness of the drywell would be required.” In fact, Mr. Ashar, an NRC Senior Structural Engineer, in response to a question from the public, merely noted that UT testing is one thing that licensees can do in order to identify possible corrosion. . . . The Staff points out these discrepancies out only to demonstrate the unworkability of basing contentions on unreliable hearsay statements such as those at issue. . . .

Id. n.3. It is unfortunate that Pilgrim Watch would repeat the characterization by the petitioners in the Oyster Creek proceeding without acknowledging the NRC Staff’s disagreement with that characterization. In any event, the Proposed License Renewal Interim Staff Guidance published in the Federal Register should be accepted as the best indication of the NRC Staff’s contemplated position, and as discussed above, that position provides no basis demonstrating any deficiency in PNPS’ Application and Amendment No. 1.

rate that can be inferred from past UT examinations; and if degradation has occurred, a technical basis using the developed corrosion rate to demonstrate that the drywell shell will have sufficient wall thickness to perform its intended function during the period of extended operation. 71 Fed. Reg. at 27,012.

As described in Amendment No. 1, PNPS performed UT thickness measurements of the drywell shell in January 1987. The UT measurements were taken at twelve locations directly above the sand region and detected no loss of wall thickness. Amendment No. 1, Attachment at 3. PNPS performed additional UT thickness measurements adjacent to the sand cushion region in 1999 and 2001. For the examinations in 1999 and 2001, concrete at the periphery of the 9 foot elevation was chipped away to allow UT wall thickness measurements of the drywell shell to be taken at the level of the upper sand cushion area. The observed wall thickness reading showed the drywell thickness in these areas to be essentially as-built. Id. Amendment No. 1 concludes:

UT examinations to determine the drywell wall thickness at the sand cushion region and upper drywell indicated no detectable loss of material and hence no discernable corrosion rate. Based on this corrosion rate, no discernible loss of drywell shell thickness is projected through the period of extended operation.

Id., Attachment at 4. Thus, PNPS has addressed this issue in the manner recommended in the NRC's proposed guidance.

Similarly, Pilgrim Watch's claims of alleged inadequacies in the aging management program for the drywell liner (Pet. at 23) totally ignore Amendment No. 1. In addition to projecting no discernable loss of drywell shell thickness through the period of extended operation, Amendment No. 1 describes the ongoing program at Pilgrim for managing and preventing potential drywell corrosion. Amendment No. 1, Attachment at 3-4. A host of actions are set forth that are not limited to "inspection of the drywell liner every 10 years" as alleged in

the Contention. These include inspection of the drywell liner interior surfaces for degradation every refueling outage in accordance with the plant's Technical Specifications as well as additional examinations of the drywell liner every other outage. Id. Additionally, the program specifies UT thickness examinations that are to be performed under the PNPS IWE program in accordance with the requirements of Subsection IWE of ASME Code, Section XI.¹² Id. The Contention totally ignores this detailed program and provides no basis to challenge its adequacy.

Pilgrim Watch is also incorrect in alleging that the NRC Staff believes that the refueling seal must be brought within the scope of license renewal. See Pet. at 20. The NRC's proposed guidance states:

If moisture has been detected or suspected in the inaccessible area on the exterior of the drywell shell:

(a) Include in the scope of license renewal any components that are identified as a source of moisture, such as the refueling seal, and perform an aging management review.

...

71 Fed. Reg. at 27,012. As stated in Amendment No. 1,

There has been no observed leakage causing moisture in the vicinity of the sand cushion region at PNPS and no moisture has been detected or is suspected on the inaccessible areas of the drywell shell. Further, as discussed above, any potential leakage through the refueling bellows assembly is directed to a drain system. Therefore, no additional components have been identified that require aging

¹² The IWE provisions governing augmented examination of suspect areas specify that:

- (i) Surface areas accessible from both sides shall be visually examined using a VT-1 visual examination method,
- (ii) Surface areas accessible from one side only shall be examined for wall thinning using an ultrasonic thickness measurement method,
- (iii) When ultrasonic measurements are used, grid spacing shall not exceed 12 inches, and
- (iv) Ultrasonic measurements shall be used to determine the minimum wall thickness within each grid. The location of the minimum wall thickness shall be marked such that periodic reexamination of that location can be performed.

management review as a source of moisture that might affect the drywell shell in the lower region.

Amendment No. 1, Attachment at 2.

Pilgrim Watch provides no basis for disputing this conclusion. Pilgrim Watch alleges that Pilgrim has a history of corrosion in different areas of the drywell and that there has been a history of reduction in drywell thickness (Pet. at 22), but provides no basis for these allegations. The operating experience described in footnote 11 of the Petition relates to the torus and spray piping within the torus, and does not indicate the presence of any corrosion of the drywell shell. Pilgrim Watch's bald and unsupported allegations do not establish the existence of a genuine material dispute. Private Fuel Storage, LBP-98-7, 47 N.R.C. at 180.

Finally, there is also no basis for Pilgrim Watch's allegation that the aging management program for the drywell shell does not include a requirement for a root cause analysis when corrosion is found. Pet. at 17. Section B.0.3 of Appendix B to the Application states that the corrective action process is common to all aging management programs. Application, App. B at B-2. As stated in this section of the Application,

In the case of significant conditions adverse to quality, measures are implemented to ensure that the cause of the nonconformance is determined and that corrective action is taken to preclude recurrence. In addition, the root cause of the significant condition adverse to quality and the corrective action implemented are documented and reported to appropriate levels of management.

Id. Pilgrim Watch fails to address and provides no basis to dispute this portion of the application.

In sum, Contention 2 fails to address or identify any deficiency in the information in the Application concerning the aging management of the drywell shell. Pilgrim Watch offers no

basis demonstrating the existence of a genuine dispute on a material issue. Accordingly, this Contention should be rejected.

C. Contention 3 – SAMA Analysis

Contention 3, which alleges that the Environmental Report (“ER”) is inadequate because of alleged deficiencies in its analysis of Severe Accident Mitigation Alternatives (“SAMA”) (Pet. at 26), is inadmissible because (1) the Contention impermissibly challenges Commission regulation, and (2) the Contention provides no basis to establish a material dispute of fact regarding the adequacy of the SAMA analysis in the ER.

1. Contention 3 Impermissibly Challenges Commission Regulation

Contention 3 is premised on a fundamental misreading of the Commission’s regulations and requirements for analyzing SAMAs and, as such, it impermissibly challenges Commission regulation and must be rejected. At the heart of Contention 3 is the assertion that “the overarching defect in the Applicant’s SAMA analysis is that it looked at severe accident *risks*, rather than severe accident *mitigation alternatives*.” Pet. at 29 (bold emphasis in original; underline emphasis added). The Contention goes on to claim that the Commission’s regulations in 10 C.F.R. Part 51 require applicants to “mitigate the consequences” of severe accidents without regard to the likelihood of their occurrence, and that by considering the risk posed by such accidents (consequences multiplied by likelihood of occurrence), the ER improperly underestimates the magnitude of the consequences of a severe accident. *Id.* at 29-31 (emphasis added).

The Contention’s assertion that SAMA analysis is to focus solely on mitigation of consequences without regard to the likelihood of their occurrence is contrary to the Commission’s regulations as well as to the fundamental tenets of SAMA analysis as conducted

by the Commission pursuant to the mandate of the Third Circuit in Limerick Ecology Action, Inc. v. NRC, 869 F.2d 719 (3d Cir. 1989). In Limerick, the Third Circuit emphasized that the evaluation of risk (“the likelihood of occurrence times the severity of the consequences”) is at the heart of a SAMA analysis. 869 F.2d at 738. As explained by the Third Circuit, it is necessary to look at risk because only by focusing on risk can one properly evaluate and compare the true cost and benefit of proposed alternatives to mitigate severe accidents at a specific plant. Id. at 738-39.¹³ Moreover, only by considering risk can one determine those alternatives that provide the greatest benefit for the dollars expended. Accordingly, a proper evaluation of SAMAs requires consideration of risk.

Consistent with the Third Circuit’s Limerick decision, the Commission has consistently looked to the potential reduction of radiological risks in its evaluation of SAMAs.¹⁴ Moreover, any doubt that employing risk concepts is the fundamental tenet for SAMA analyses performed for license renewal is laid to rest by the Commission’s decision in Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2), CLI-02-17, 56 N.R.C. 1 (2002). In that case, Commission expressly stated in the context of license renewal for the McGuire and Catawba plants that:

Whether a SAMA may be worthwhile to implement is based upon a cost-benefit analysis – a weighing of the cost to implement the SAMA with the reduction in risks to public health, occupational health, and offsite and onsite property.

¹³ As an example, the Third Circuit noted that an accident with the same probability of occurrence at different nuclear power plants would produce “a higher risk” for “a plant located in a densely populated area” compared to plants in lower populated areas, and accordingly, a proper evaluation of the costs and benefits of implementing SAMAs would need to account for these different risk profiles. Id.

¹⁴ See, e.g., NUREG 1555, Standard Review Plans for Environmental Reviews for Nuclear Power Plants (Oct. 1999) at § 7.3 (Severe Accident Mitigation Alternatives) (SAMA evaluation “includes the identification and evaluation of design alternatives and procedural modifications that reduce the radiological risk from a severe accident . . .”) (emphasis added); see also id. at 7.3-6 (NRC Staff review is to “[e]valuate the applicant’s basis for estimating the degree to which various alternatives would reduce risk (expressed as a reduction in core damage frequency or in terms of person-rem averted)”) (emphasis added). See also note 15, infra.

Id. at 7-8. (emphasis added; footnote omitted).¹⁵

Thus, Pilgrim Watch's claim that neither the likelihood of occurrence nor "risk" is to be considered in performing SAMA analyses for license renewal is simply wrong. Pilgrim Watch has misread the regulation. The applicable regulation simply states that, if not considered in a previous plant environmental impact statement ("EIS"), the license renewal EIS must provide "consideration of alternatives to mitigate severe accidents." 10 C.F.R. § 51.53(c)(3)(ii)(L) (emphasis added). Every SAMA described in the Application is an alternative to mitigate severe accidents, but whether any of these SAMAs would have a real benefit necessarily requires consideration of risk. As made clear in Limerick and by consistent Commission practice, mitigation of severe accidents involves mitigating the risk posed by such accidents, which as expressly noted in Limerick is the "likelihood of occurrence" of a severe accident times the severity of the consequences." 869 F.2d at 738. Nowhere does the rule state or suggest that risk is to be ignored and that only consequences are to be considered, as by Pilgrim Watch claims.

Pilgrim Watch points to the description of the impacts from severe accidents as "SMALL" in the Table in Appendix B to the regulations as support for its position. This description states in full:

SMALL. The probability weighted consequences of atmospheric releases, fallout onto open bodies of water, releases to ground water, and societal and economic

¹⁵ As noted by the Commission "the reduction in risks" "is assessed in terms of the total averted risk: averted public exposure (health risk converted into dollars to estimate the cost of the public health consequence), averted onsite cleanup cost, averted offsite property damage costs, averted exposure costs, and averted power replacement costs." Id. at 8 n. 14 (emphasis added). The Commission further noted that "detailed information on how averted risk is calculated" could be found in NUREG/BR-0184, "Regulatory Analysis Technical Evaluation Handbook" (1997) and in draft NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants," Supp. 8, Regarding McGuire Nuclear Station, Units 1 & 2 (May 2002). Id. These sources clearly show averted risk, or benefit, from implementing a SAMA, is based on the reduction in core damage frequency or person-rem averted that would be achieved by implementing the SAMA. See NUREG/BR-0184 at § 5.7; NUREG-1437, Supp. 8 at 5-22 – 5-26.

impacts from severe accidents are small for all plants. However, alternatives to mitigate severe accidents must be considered for all plants that have not considered such alternatives. See § 51.53(c)(3)(ii)(L).

10 C.F.R. 51, Subpart A, Appendix B, Table B-1, Issue 76. Pilgrim Watch argues that because the Commission required SAMAs analysis even though it found the “probability weighted consequences” from severe accidents to be “small,” the Commission must have intended for SAMA analyses to focus solely on mitigating consequences without regard to risk. Pet. at 29-31. Pilgrim Watch, however, ignores the fact that the Commission included the requirement for a SAMA analysis for plants undergoing license renewal because the Commission concluded that, even though it had found the impacts from severe accidents to be small, requiring SAMA analyses in the license renewal process was necessary to meet its obligations under NEPA. See 61 Fed. Reg. 28,467, 28,480 (1996) (“Environmental Review for Nuclear Power Plant Operating Licenses”).¹⁶ Moreover, far from saying that risk should be ignored in SAMA analyses as Pilgrim Watch claims, the Commission went on to make clear that the reduction of risk is the key consideration in a SAMA analysis. The Commission first expressly noted that, based on previous SAMA analyses,

it [is] unlikely that any site-specific consideration of severe accident mitigation alternatives for license renewal will identify major plant design changes or modifications that will prove to be cost-beneficial for reducing severe accident frequency or consequences.

Id. at 28,481 (emphasis added). The Commission then emphasized that the SAMA analysis done for Limerick – “a high-population site” – in particular supported this conclusion, stating that:

¹⁶ See also 66 Fed. Reg. 10,834 (Feb. 20, 2001) (Nuclear Energy Institute; Denial of Petition for Rulemaking) (NRC denied NEI’s petition to amend the license renewal rules to delete the requirement to consider SAMAs because “the NRC must continue to consider SAMAs” in renewing a license “in order to meet its responsibilities under [NEPA]”).

Because risk is generally proportional to the population around a plant, [the Limerick] analysis suggests that other sites are unlikely to identify significant modifications that are cost-beneficial.

Id. (emphasis added). Thus, in requiring consideration of SAMAs for plants undergoing license renewal, the Commission expressly reaffirmed that consideration of “risk” is fundamental in determining whether implementing SAMAs are cost beneficial.¹⁷

In short, Pilgrim Watch’s claim that the Pilgrim SAMA analysis erroneously focuses on risk so as to improperly minimize the consequences of a SAMA is not supported. The reduction of risk (likelihood of occurrence times severity of consequences) is the fundamental tenet of SAMA analysis. Moreover, because the impacts from severe accidents as determined by the Commission are “SMALL,” the Commission does not expect a properly conducted SAMA analysis “to identify significant [plant] modifications that are cost-beneficial” (id; emphasis added), which is exactly counter to the underlying premise of Contention 3.

2. Contention 3 Fails to Raise any Material Dispute of Fact

Contention 3 must also be dismissed because it fails to identify any dispute of material fact with the Application. The Contention fails to provide any factual basis to show that the

¹⁷ The cases cited by Pilgrim Watch (Pet. at 30-31) are not to the contrary and do not support its position. The licensing board’s decision in Turkey Point merely restated the Commission’s license renewal regulations that the environmental impacts resulting from risks of severe accidents were out of scope and never stated, as claimed by Pilgrim Watch, that SAMA analyses were to exclude consideration of risk. See Florida Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-06, 53 N.R.C. 138, 160 (2001). Similarly, Consolidated Edison Co. (Indian Point, Unit 2) New York Power Authority (Indian Point, Unit 3), LBP-83-68, 18 N.R.C. 811 (1983), aff’d CLI-85-6, 21 N.R.C. 1043 (1985) does not support Pilgrim Watch’s position. That case was a health and safety case, not an environmental impact case, and concerned whether Indian Point 2 & 3 should be shut down because of safety concerns arising from potential severe accidents. Moreover, in affirming the licensing board’s decision, the Commission clarified that the board’s statement concerning the potential consequences of severe accidents (quoted by Pilgrim Watch) was merely reminding the Commission to “take into account the possibility that a low-probability accident at Indian Point may result in greater consequence than the same accident at another site.” Indian Point, CLI-85-6, 21 N.R.C. at 1054. In other words, the same accident in a high density population area would pose greater “risk” than in a low-density population area. Thus, this case is squarely in line with the Commission’s rationale and reasoning set forth in the text above and provides no support for Pilgrim Watch’s claim.

different modeling assumptions and estimates that it claims should have been used in the SAMA analysis would have any material impact on the results of the analysis.

a. Faulty Premises Underlying Contention 3

At the outset, Contention 3 rests on several faulty premises. First and foremost is the assertion, already discussed and refuted, that a SAMA analysis should focus solely on mitigation of consequences without regard to risk. This assertion has tainted the entire Contention resulting in the Contention's mischaracterization of the SAMA analysis as actually set forth in the Pilgrim ER. Pilgrim Watch would have the reader believe that the analytical methodology and inputs for the SAMA analysis were selectively chosen so as to skew the results of the analysis in order to avoid undertaking appropriate mitigation measures, but provide absolutely no basis for this unseemly suggestion. In fact, the results of the Pilgrim SAMA analysis are exactly in line with the Commission's expectation, stated above – that it is “unlikely” that SAMA analyses done for license renewal “will identify major plant design changes or modifications that will prove to be cost-beneficial for reducing severe accident frequency or consequences.” 61 Fed. Reg. at 28,481.

As would be expected by the Commission, the Pilgrim SAMA analysis does not identify any significant modifications to mitigate severe accidents to be cost-beneficial. But contrary to Pilgrim Watch's mischaracterizations, the SAMA analysis “found” five mitigation alternatives “to be potentially cost beneficial for mitigating the consequences” of severe accidents at Pilgrim which were recommended for further engineering evaluation and consideration. See Application, Appendix E (“Environmental Report” or “ER”) at 4-49. Furthermore, contrary to Pilgrim Watch's suggestion that the SAMA analysis was manipulated “to downplay the health and economic costs” so as “to make the benefits of mitigation appear to be zero” (Pet. at 48), the

SAMA analysis identified benefits for more than 50 of the 59 SAMAs evaluated and, as stated, in five instances found sufficient benefits compared to the estimated costs of implementing the SAMA to recommend the SAMA for further analysis and evaluation. See ER, Attachment E.2 (Evaluation of SAMA Candidates) at Table E.2-1.¹⁸

In short, Pilgrim Watch's repeated rhetorical mischaracterization of the Pilgrim SAMA analysis provides no basis for an admissible contention.

Second, Contention 3 impermissibly presumes the materiality of its asserted deficiencies and pleads no facts to establish their materiality. As noted earlier, the Commission has defined a "material" issue as meaning one where "resolution of the dispute would make a difference in the outcome of the licensing proceeding." 54 Fed. Reg. at 33,172 (emphasis added). Here the Contention sets forth nothing to establish that the asserted deficiencies would, if corrected as claimed by the Contention, alter the result of the SAMA evaluations.

In this respect, the SAMA analyses included numerous conservatisms. In particular, the benefit of each SAMA in reducing risk from internal events was increased several times to produce an "upper bound estimated benefit" to account for the potential impact of external events as well as for uncertainties. ER at 4-45; ER, Attachment E.1 at E.1-2; see also ER, Attachment E.1 at E.1-52 to E.1-54. Furthermore, conservative, bounding assumptions were used to develop the benefits for each of the SAMAs in which it was conservatively assumed that implementing the SAMA would either totally eliminate, or greatly reduce, the risk of a particular

¹⁸ The Contention focuses solely on the SAMA evaluation for installing a direct torus vent filter at Pilgrim, Pet. at 45-48, for which the evaluation mistakenly identified no benefit. Pilgrim is in the process of responding to Requests for Additional Information from the NRC Staff in which this evaluation is being redone and the Applicant will, in accordance with well-established NRC precedent, apprise the Licensing Board and the other parties of the results of this reevaluation upon its completion.

severe accident, when in fact the SAMA has some probability of failing to mitigate the accident. See ER, Attachment E.2 at E.2-4 to E.2-11. Thus, the “upper bound estimated benefit,” is a highly conservative estimate of the benefit, or averted risk, of implementing a particular SAMA.

Furthermore, a review of Table E.2-1 in Attachment E.2 to the ER shows that, excluding the five SAMA candidates found to be potentially cost beneficial, the costs for implementing the other SAMAs are significantly greater than this highly conservative “Upper Bound Estimated Benefit.” Indeed, for many SAMAs, the cost of implementing the SAMA is several times greater than its highly conservative “Upper Bound Estimated Benefit.” Moreover, the costs of implementing a SAMA were often only estimated to the point that the economic viability of the SAMA could be gauged, ER at 4-48, and thus some of the cost values in Table E.2-1 may greatly underestimate the actual cost.

Finally, two sensitivity analyses were performed to examine key assumptions in the discount rate and period of extended operation which showed no change in the results of the analyses. ER at 4-48 and ER, Attachment E.2 at E.2-12. Additionally, two other sensitivity analyses were performed to consider uncertainty in the start and duration of evacuation of the emergency planning zone (“EPZ”) around the Pilgrim plant. ER, Attachment E.1 at E.1-64. Again, these analysis showed negligible effect (2% or less) on the results of the analyses. Id. at E.1-68.

In light of the large conservatisms inherent in the analyses, the significant and often huge differences between the cost and benefit of implementing the various SAMAs, and sensitivity analyses showing that the results are not sensitive to changes in assumptions, it is behoven for Pilgrim Watch to have pled facts to establish the materiality of its asserted deficiencies. Such a

showing – necessary to avoid a meaningless “EIS editing session[.]” of the type that the Commission has warned against¹⁹ – is, however, absent from Contention. Pilgrim Watch provides no information demonstrating that any of its alleged deficiencies are significant enough to alter the SAMA analysis or to exceed the bounds of Entergy’s sensitivity analyses. In short, Pilgrim Watch provides no basis – no analysis or expert opinion – demonstrating that any of its allegations would make a difference in the outcome.

Third, Contention 3 erroneously presumes that, for an acceptable NEPA analysis, “severe accident analysis should assume the worst case scenario.” See, e.g., Pet. at 40. Pilgrim Watch cites no legal basis for this proposition and there is none. Not only does this argument fail in the context of NRC proceedings, such an assertion has been rejected by numerous courts, including the U.S. Supreme Court. NEPA’s “Rule of Reason” provides no exception for SAMA analysis, and the Commission has declared that it applies in SAMA settings as well.

Application of NEPA’s “Rule of Reason” is well established in NRC precedent. In licensing decisions dating from the enactment of NEPA to the present, licensing boards, appeal boards, and the Commission have stated more than 40 times that NEPA requires a consideration of only reasonable scenarios rather than some “worst-case.” For example, in considering the requirements for an EIS for a mining facility in New Mexico, the licensing board stated that the “‘hard look’ at the environmental consequences mandated by NEPA is subject to a ‘rule of reason,’ meaning that the assessment need not include every environmental effect that could potentially result from the action, but rather ‘may be limited to effects which are shown to have some likelihood of occurring.’” Hydro Resources, Inc. (P.O. Box 777, Crownpoint, New

¹⁹ McGuire, supra, CLI-03-17, 58 N.R.C. at 431.

Mexico 87313), LBP-04-23, 60 N.R.C. 441, 447 (2004) (footnote omitted). In Private Fuel Storage, L.L.C., the Commission rejected consideration of “worst-case” scenarios because their consideration involves “the arduous and unproductive task of analyzing conceivable, but very speculative, catastrophes” and diverts NRC “limited resources” from other more productive efforts. Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-02-25, 56 N.R.C. 340, 354 (2002).

Furthermore, NEPA’s “Rule of Reason” has been firmly embedded into the NEPA process by the U.S. Supreme Court in Robertson v. Methow Valley Citizens Council. In that case, the Court considered whether an EIS was inadequate to meet the requirements of NEPA because, *inter alia*, the report had not conducted a worst-case analysis. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 344-347 (1989). Considering the requirements imposed on agencies under NEPA, the Court determined that the preparation of an EIS serves two purposes: “It ensures” that (1) “the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts,” and (2) “it also guarantees that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision.” *Id.* at 349. The Court determined that an agency could best meet these twin goals for an EIS by not “distorting the decisionmaking process by overemphasizing highly speculative harms.” *Id.* at 356 (emphasis added) (footnote omitted).²⁰ As further explained by the Court, NEPA’s requirement for an agency to “discuss possible mitigation measures in defining the

²⁰ The legal precedent of the Supreme Court’s decision in Robertson has subsequently and repeatedly been followed. See, e.g., Edwardsen v. U.S. Dep’t of Interior, 268 F.3d 781, 785 (9th Cir. 2001) (“an EIS need not include a worst-case scenario”).

scope of the EIS” serves to achieve the first goal that “the agency has taken a ‘hard look’ at the environmental consequences of proposed federal action.” Robertson, 490 U.S. at 352.

Thus, NEPA’s Rule of Reason is integral to the NEPA process and applies not only to the evaluation of environmental impacts but also to the consideration of mitigation measures. The Commission has expressly recognized that SAMAs are “mitigation” measures which are analyzed no differently than other potential mitigation alternatives. McGuire, supra, CLI-03-17, 58 N.R.C. at 431. Applying the reasoning of Robertson, the Commission in that case (concerning the license renewal of the McGuire and Catawba plants), stated as follows:

While the cost-benefit discussion in the EISs may not be as detailed or unequivocal as [Petitioner] would like, the Supreme Court has made clear that the underlying statute, NEPA, demands no "fully developed plan" or "detailed explanation of specific measures which will be employed" to mitigate adverse environmental effects. Under NEPA, mitigation (and the SAMA issue is one of mitigation) need only be discussed in “sufficient detail to ensure that environmental consequences [of the proposed project] have been fairly evaluated.”

Id. (emphasis added; footnotes omitted).²¹

In short, SAMA analysis requires no different level of consideration or evaluation than that employed for analyzing mitigation generally under NEPA, which employs the Rule of Reason enunciated in Robertson that has been consistently applied in NRC proceedings.

²¹ The Commission went on to emphasize the proper role of a licensing board in reviewing the EIS as follows:

NRC adjudicatory hearings are not EIS editing sessions. Our busy boards do not sit to parse and fine-tune EISs. To litigate a NEPA claim, an intervenor must allege, with adequate support, that the NRC Staff has failed to take a “hard look” at significant environmental questions -- i.e., the Staff has unduly ignored or minimized pertinent environmental effects.

Id.

b. The Deficiencies Alleged in Contention 3 Provide No Basis to Admit the Contention

In light of the faulty premises underlying Contention 3, the deficiencies asserted in the Contention do not establish a basis for an admissible contention.

At the outset, the Contention asserts that “Entergy used an outdated version of the MACCS2 Code and MACCS2 User Guide” in its SAMA analysis and “ignored warnings about the limitations of this model.” Pet. at 31. However, as the Contention itself acknowledges, the MACCS2 “was developed by Sandia National Laboratories in 1997, and is currently the state-of-the-art consequence code employed by both NRC and DOE in conducting dose assessments of radiological releases to the atmosphere.” *Id.* (emphasis added). Further, Pilgrim Watch admits that software issues can be avoided by understanding MACCS2 limitations and capabilities. Pet. at 32. Pilgrim Watch does not provide any basis to assume that Entergy failed to understand or misapplied MACCS2. Nor does Pilgrim Watch provide any basis whatsoever for its allegations that Entergy “ignored warnings about the limitations of the model.” *Id.* at 31. Such speculation provides no basis for an admissible contention. *Cf. Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), LBP-99-25, 50 N.R.C. 25, 34 (1999) citing General Public Utilities Corp. (Oyster Creek Nuclear Generating Station), LBP-96-23, 44 N.R.C. 143, 164 (1996).

In light of Pilgrim Watch’s concessions that MACCS2 is state of the art and that the version in effect when Pilgrim performed its analysis could be used with a proper understanding, it is incumbent upon Pilgrim Watch to provide some basis explaining why the use of the prior version made a material difference in the outcome of the SAMA analysis. Pilgrim Watch lists various issues from a Defense Nuclear Facilities Safety Board (“DNFSB”) report (Pet. at 32 n.13) and from an 2004 MACCS2 Guidance Report (Pet. at 33 n.14), but does not demonstrate

how any of these issues relate to or would affect the SAMA analysis in Entergy's application.²²

Without such a showing, Pilgrim Watch fails to establish the existence of any genuine, material dispute with the application.

Furthermore, computer codes are mathematical approximations and further refinement is always possible, but at increased time and cost of analysis. As noted by one of the technical reports relied upon by the Contention, "[l]ike most radiological consequence codes in common use, MACCS2 has a number of limitations." *Id.* at 35. The Contention provides no basis to show that any of the inherent limitations of the MACCS2 Code are of any significance and would in any way alter the outcome of the SAMA analysis with respect to determining potentially cost beneficial SAMAs. Indeed, as noted by several of the references quoted in the Contention, proper application of the Code will yield valid results. *Id.* at 32.

Contention 3 also asserts that "Entergy used incorrect input data to analyze severe accident consequences." *Id.* at 34. In this respect, the Contention claims that the meteorological data used in the analysis is inadequate and that a series of new "meteorological instruments along the coast and at additional inland sites in the communities likely to be impacted by Pilgrim" need to be installed to collect the meteorological data need for the analysis. *Id.* at 37-38. Citing Regulatory Guide 1.194 ("Atmospheric Relative Concentrations for Control Room Radiological Habitability Assessments at Nuclear Power Plants"), Pilgrim Watch further claims that the NRC

²² For example, Pilgrim Watch quotes the MACCS2 Guidance Report as stating that MACCS2 does not account for releases originating from detonation events (Pet at 33 n.14), but does not explain why this has any bearing on Entergy's analysis. Pilgrim Watch also quotes the Guidance Report as indicating that the code does not model dispersion close (less than 100 meters) to the source (*id.*), but does not suggest that there is any offsite resident or property this close to the reactor, or that this limitation would have any effect on the calculated dose or property damage from a severe accident. Similarly, Pilgrim Watch quotes the DNFSB report as stating that the fire plume model may be non-conservative and suggesting that another model could be used for pool fire analysis (Pet. at 32 n.13). As discussed in the response to Pilgrim Watch's Contention 4, spent fuel pool fires are not part of a SAMA analysis and are not within the scope of the Category 2 issue.

recommends use of five years of meteorological data whereas the Pilgrim SAMA analysis used a single year of data. Id. at 38.

While additional data may always be desirable, the Contention provides no basis to suggest that additional meteorological data would materially affect the SAMA analysis or in any way alter the determination of potentially cost beneficial SAMAs. Regulatory Guide 1.194 does not support Pilgrim Watch's claimed need for additional data. It concerns data needed as input for an NRC sponsored computer code, ARCON96, used to model radioactivity concentration in the vicinity of reactor site building complexes for which it was specially developed. Reg. Guide 1.194 at 1.194-1 – 1.194-2. By its terms, Regulatory Guide 1.194 does not apply for modeling offsite accident radiological consequences for which the applicable NRC guidance is found in Regulatory Guide 1.145 ("Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants"). Id. at 1.194-3. In turn, Regulatory Guide 1.145 at 1.145-2 points to Regulatory Guide 1.23 ("Onsite Meteorological Programs") for meteorological input data which provides for the use of "data gathered on a continuous basis for a representative 12 month period" (although "[t]wo full cycles of data are desirable"). Reg. Guide 1.23 at 23.2. In this respect, however, as recognized by one of Pilgrim Watch's references, the MACCS2 Code cannot process more than "a year's worth" of data.²³

Pilgrim Watch makes no claim that the 12 month period of meteorological data used for the Pilgrim SAMA analysis is unrepresentative of the Pilgrim site's meteorology in any respect, but rather it asserts that "measurements from multiple sites in the field" are needed to "better characterize meteorological conditions." Pet. at 36 (emphasis added). To do so, Pilgrim Watch

²³ Edwin S. Lyman, "Chernobyl on the Hudson? The Health and Economic Impacts of a Terrorist Attack at the Indian Point Nuclear Plant" (Sept. 2004) at 26, 33.

claims that “it is necessary to install continuous recording meteorological instruments along the coast and at additional inland sites in the communities likely to be impacted by Pilgrim.” *Id.* at 37 (emphasis added). This continuous meteorological data collection system is an integral part of the elaborate radiological monitoring system that Pilgrim Watch claims needs to be “in place to monitor off-site radiological releases” from Pilgrim on an ongoing basis. *Id.* at 90-91 and Exhibit C.²⁴ Thus, as with Contention 1, the real thrust of this claim is an asserted need for an expanded radiological monitoring program for the Pilgrim plant, which is an operational issue beyond the scope of this license renewal proceeding.

Pilgrim Watch provides no legal basis for requiring Pilgrim to install the extensive new meteorological system that it claims is necessary to collect the necessary data, and there is none, particularly where, as here, no showing has been made that the asserted lack of meteorological data in any way materially affects the SAMA analysis.²⁵ In this respect, the Commission’s warning in the McGuire and Catawba license renewal proceeding that mitigation alternatives, including SAMAs, need only be evaluated in “sufficient detail to ensure that environmental consequences” of the proposed project “have been fairly evaluated” is particularly apropos. CLI-03-17, 58 N.R.C. at 431. The Contention provides no basis to suggest that SAMAs have not been fairly evaluated due to an asserted lack of meteorological data or that this asserted lack of data materially affects in any way the results of the SAMA analysis.

²⁴ Neither the Commission nor any regulatory body requires the elaborate monitoring system proposed by Pilgrim Watch, and as stated above, the propriety of such a monitoring system is an operational issue beyond the scope of this license renewal proceeding.

²⁵ *Cf. Texas Utilities Co.* (Comanche Peak Steam Electric Station, Units 1 and 2), ALAB-260, 1 N.R.C. 51, 54 (1975) (it would be “wholly unreasonable” under NEPA’s rule of reason to require an “elaborate analysis” for a proposed action that would “have little environmental impact”).

The Contention next alleges that, because of limitations of the MACCS2 Code, the population demographics of the surrounding area were not optimally represented in the model since the input parameters for the model divided the surrounding population into directional sectors as opposed to population rings. Pet. at 38. However, as with the other modeling limitations discussed above, the Contention provides no basis to show that this limitation is of any significance and would in any way alter the determination of potentially cost beneficial SAMAs. Pilgrim Watch provides no basis – no reference or expert opinion – indicating that the use of directional sectors, as opposed to populations zones, materially affects in any way the outcome of the SAMA analysis. Therefore, this allegation fails to demonstrate the existence of any genuine, material dispute with the Application.

The Contention next raises a host of assertions related to the emergency response assumptions used in the model. *Id.* at 39-43. The model requires inputs concerning the emergency response to an accident, such as the elapsed time between the siren alert and the beginning of the evacuation (“evacuation delay time”) and the speed at which the evacuation is accomplished (“evacuation speed”). ER, Attachment E.1 at E.1-64. The inputs for these parameters used in the model were derived from the Pilgrim Emergency Plan, specifically Appendix 5 to the Pilgrim Emergency Plan, “Pilgrim Station Evacuation Time Estimates and Traffic Management Update, Revisions 5, November 1998” (“1998 Study”). *See Id.* at E.1-64, referring to Reference E.1-20, PNPS Emergency Plan Revision 24 (Feb. 7, 2001).

At the outset, the Contention claims that the SAMA analysis should have used the most recent evacuation time estimate developed for the plant – i.e., the “Pilgrim Station Development of Evacuation Time Estimates, KLD TR-382, Revision 6 (October 2004)” (“2004 Study”) – so as to utilize “the most accurate estimates.” Pet. at 39. Although it cites certain facts from the 2004

study (*id.* at 40 n. 17), the Contention does not identify to what extent the evacuation delay time or evacuation speed for the 2004 Study would vary from the 1998 Study and what impact the new estimates would have on the analysis. As previously noted, Entergy performed two sensitivity analyses – one examining the effect of tripling the delay in the start of an evacuation, and the second the effect of decreasing the evacuation speed by approximately 30 percent – which showed minimal effect on the results of less than 2%. See ER, Attachment E.1 at E.1-64, E.1-68. Pilgrim Watch provides no discussion, expert opinion, or other basis to suggest that the 2004 evacuation time estimate would have exceeded the bounds of these sensitivity analyses or altered the outcome of the analysis in any material way.²⁶

The Contention next directly challenges the validity of the evacuation time estimates developed in the 1998 Study, raising a host of alleged deficiencies with respect to those estimates, claiming for example that the development of the estimates did not consider, for instance, that an accident might occur “on holidays, during the commuter rush hour, on summer weekends, or in bad weather.” *Id.* at 40. According to the Contention, both “[e]mergency planning and severe accident analysis should assume the worst case scenario.” *Id.* However, as discussed above, the Contention provides no legal basis for its assertions that a SAMA analysis requires the use of “the worst case scenario,” and there is none. The Commission has made clear that a SAMA analysis is to be treated as any other NEPA mitigation analysis for which the well established Rule of Reason has consistently been employed in NRC licensing proceedings.

²⁶ The 1998 Study results were used because, at the time of the actual performance of the calculations, the 2004 Study results were not available. The evacuation time estimates in the 2004 Study are in the same range as those for the 1998 Study and thus use of the 2004 estimates would cause no change in the results of the SAMA analyses. See 2004 Study at Tables J-3A & J-3B (showing evacuation time estimates of greater than three hours and less than 7 hours for 100% evacuation of the general population).

Moreover, the Contention's assertion that the 1998 Study performed evacuation time estimates only for, "[o]ff-season, mid-week, mid-day in good weather; and Summer mid-week, mid-day, good weather" and failed to consider that an accident could occur on "holidays, during the commuter rush hour, on summer weekends, or in bad weather" (Pet. at 40; emphasis added) greatly mischaracterizes the 1998 evacuation study. To the contrary, the 1998 Study evaluated a wide range of scenarios for which evacuation time estimates were developed. These included a range of weather conditions, "Good," "Rain," and "Snow," including "[s]udden rain . . . with tourist and beach population at capacity concurrent with accident at Pilgrim Station;" both "Summer" and "Off-season;" and both "Weekend" and Midweek" days and a range of times, "Midday," "Evening," including periods of "Heavy traffic." See 1998 Study at Table 9-1 ("Description of Evacuation Scenarios 1-10").

Thus, the Contention's claim that development of the evacuation time estimates did not consider that an accident might occur "on holidays, during the commuter rush hour, on summer weekends, or in bad weather" (Pet. at 40) is simply incorrect. Such mischaracterization of a document provides no basis for an admissible contention. See, e.g., Philadelphia Electric Co (Limerick Generating Station, Units 1 and 2), ALAB-804, 21 N.R.C. 587, 593 (because cited document "does not support the point for which it is urged," the contention lacks a "cognizable basis"); Dominion Nuclear North Anna, LLC (Early Site Permit for North Anna ESP Site), LBP-04-18, 60 N.R.C. 253, 265 (2004) (documents provided in support of a contention "will be carefully examined by the Board" to determine whether they "supply an adequate basis for the contention").

Furthermore, the validity of the Pilgrim emergency plan and the evacuation time estimates developed as part of the plan should not be subject to challenge in this proceeding.

The exclusion of emergency planning issues from license renewal proceedings has been repeatedly reaffirmed by the Commission:

Through mandated periodic reviews and emergency drills, 'the Commission ensures that existing plans are adequate throughout the life of any plant even in the face of changing demographics, and other site related factors. . . . [D]rills, performance criteria, and independent evaluations provide a process to ensure continued adequacy of emergency preparedness.' 56 Fed. Reg. 64,966. Emergency planning, therefore, is one of the safety issues that need not be re-examined within the context of license renewal.

Turkey Point, CLI-01-17, 54 N.R.C. at 9 (emphasis added); see also Millstone, CLI-04-36, 60 N.R.C. at 640 ("We consider Turkey Point dispositive of this issue."). Accordingly, assumptions that are consistent with the established emergency plan should be accepted as reasonable in this proceeding.

The Contention raises other challenges to the evacuation time estimates which must likewise be rejected as demanding use of worst case scenarios and for impermissibly challenging the Pilgrim emergency plan. For example, the Contention claims that the model improperly limited the evacuation zone to 10 miles, and improperly assumes that the population is out of danger upon crossing the 10 mile emergency zone boundary for the plant. Pet. at 39, 42. The model, however, properly limited the evacuation zone to 10 miles because that is all that the plant's emergency response plan provides for in accordance with applicable NRC requirements. Claiming that the evacuation zone should be greater than 10 miles is a direct, impermissible challenge to the Commission's emergency planning requirements. Moreover, to assume an evacuation zone of greater than 10 miles would not be realistic because the emergency plan only provides for an evacuation from within the 10 mile emergency planning zone. Additionally, the Pilgrim SAMA analysis models the dose to members of the public not only within the 10 mile zone but also out to 50 miles and thus fully accounts for the risk beyond 10 miles. See ER,

Attachment E.1, Table E.1-13 (“Estimated Population Distribution with a 50-mile Radius”) at E.1-61 which sets forth the demographic input data “used to obtain the off-site dose and economic impacts for [the SAMA] cost-benefits analyses” (id. at E.1-60).

The Contention also claims that shadow evacuation of persons beyond the 10 mile EPZ was not considered in either the emergency plan evacuation time estimates or in the model for the SAMA analysis. Pet. at 40, 42-43. Again, this claim seeks to call for a worst case scenario analysis, not required under NEPA, and impermissibly seeks to challenge evacuation time estimates developed as part of the Pilgrim emergency plan. The Contention also claims that the model for the SAMA analysis does not consider those who cannot evacuate and must shelter. Id. at 39. Pilgrim Watch provides no explanation as to how this would affect the projections of risk or the calculated benefits of any particular SAMA, or that any of the results of the analysis would be changed. Furthermore, under the emergency plan in place for Pilgrim, state and local governments would provide assistance for immobile and handicapped persons in the evacuation zone to evacuate from the EPZ.²⁷ Thus, this claim is based on a mischaracterization of the Pilgrim Emergency Plan and provides no basis for an admissible contention. Limerick, supra, ALAB-804, 21 N.R.C. at 593 (because cited document “does not support the point for which it is urged,” the contention lacks a “cognizable basis”).

Finally, the Contention challenges the adequacy of the sensitivity analyses performed to evaluate the results of the model to uncertainties in the evacuation delay time and the evacuation speed. Pet. at 41-43. For evacuation delay time, the model assumed, for the base case, that the elapsed time between the siren alert and the beginning of evacuation would be 40 minutes, and

²⁷ See, e.g., Pilgrim Emergency Plan, § J (“Protective Responsibility at J.3 and § J.10.d); Commonwealth Radiological Response Plan, § 8.4 (“Evacuation”).

as a sensitivity analysis, assumed that this elapsed time would be 2 hours. ER, Attachment E.1 at E.1-64. For evacuation speed, the model assumed an average evacuation speed of 2.17 miles per hour derived from the evacuation speed estimates for the Pilgrim Station set forth in the 1998 Study and for a sensitivity case assumed an average speed of 1.54 miles per hour. Id. The results of the comparison of the base case to the two sensitivity cases show a maximum change in the population dose estimates of “less than 2%.” Id. at E.1-68.

The Contention claims that the estimates used for the two sensitivity cases are not correct, and that an asserted inability to hear the sirens, bad weather, and other considerations will lengthen the time estimates used for the sensitivity analyses. Pet. at 41-43.²⁸ Again, the Contention would have the analysis assume worst case assumptions contrary to Commission precedent. Moreover, the Contention ignores the results of the sensitivity analyses, that large changes in the estimates for the evacuation delay time and the evacuation speed produce only negligible changes in the results. Accordingly, given the large conservatism in the estimated SAMA benefits and the significant disparity between the costs of implementing various SAMAs and the benefit derived from their implementation, the use of widely different assumptions for the evacuation delay time and the evacuation speed would not alter the determination of those SAMAs that potentially may be cost beneficial.

In short, the Contention fails to provide any basis to show that its numerous challenges to the adequacy of the estimates for evacuation delay time and the evacuation speed used in the

²⁸ The Contention’s claim that the “sirens that are in place cannot be heard by residents inside some buildings and houses” and “cannot be heard inside vehicles” was the subject of a 10 C.F.R. §2.206 petition that has been reviewed and rejected. See Letter J.E. Dyer, Director, Office of Nuclear Reactor Regulation, to Mary Elizabeth Lampert (Apr. 1, 2005). No substantiation was found of any violation of NRC regulations, and based on “evaluations by the Federal Emergency Management Agency (FEMA) and the NRC’s quarterly evaluations of siren reliability,” there is “reasonable assurance” that the siren system “has the capability to essentially complete the initial notification of the public within the plume exposure planning zone within about 15 minutes.” Id.

SAMA analysis would alter the outcome of the analysis, and therefore these claims must be dismissed for lack of materiality.

Finally, the Contention claims that, due to limitations in the economic model of the MACCS2 Code, the SAMA analysis does not account for the loss of economic activity, such as the business value of the property or tourism. Pet. at 43-45. However, as with the other asserted modeling limitations discussed above, the Contention provides no basis to show that this limitation is of any material significance and would in any way alter the determination of potentially cost-beneficial SAMAs. The only information provided in support of this assertion is state-wide data concerning traveler spending in Massachusetts. See Pet. Exhibit D. Furthermore, references cited by the Contention reflect that even with its asserted limitations, the MACCS2 Code is state-of-the-art and can be properly applied to yield valid results. Id. at 31-32. The Contention provides no basis to suggest that the Code has not been properly applied here.

In summary, Contention 3 is mined with faulty premises that pervade the entire Contention. The Contention would have the Commission abandon the fundamental tenet that SAMA analysis is based on the reduction of risk and totally ignores Commission pleading requirements that an admissible contention must raise a material issue of dispute. The Contention fails to raise any dispute with the Application that would alter the outcome of this license proceeding, and hence, the Contention is inadmissible.

D. Contention 4 – Spent Fuel Pool Accidents

Contention 4, which alleges that the Environmental Report is inadequate because it fails to evaluate severe accident mitigation alternatives associated with the on-site storage of spent fuel (Pet. at 50), is inadmissible because issues associated with spent fuel storage, including accident risk and mitigation, are Category 1 issues beyond the scope of this proceeding.

Contention 4 is also inadmissible because Pilgrim Watch provides no basis demonstrating that the generic findings relating to spent fuel are inapplicable in this proceeding.

On-site spent fuel is a Category 1 issue, based on the generic finding that “the expected increase in the volume of spent fuel from an additional 20 years of operation can be safely accommodated on site with small environmental effects through dry or pool storage at all plants if a permanent repository or monitored retrievable storage is not available.” 10 C.F.R. Part 51, App. B, Table B-1. As the Commission has held,

The GEIS’s finding encompass spent fuel accident risks and their mitigation. See GEIS at xlvi, 6-72 to 6-76, 6-86, and 6-92. The NRC has spent years studying in great detail the risks and consequences of potential spent fuel pool accidents, and the GEIS analysis is rooted in these earlier studies. NRC studies and the agency’s operational experience support the conclusion that onsite reactor spent fuel storage, which has continued for decades, presents no undue risk to public health and safety. Because the GEIS analysis of onsite fuel storage encompasses the risk of accidents, [a contention seeking to raise spent fuel accidents in a license renewal proceeding] falls beyond the scope of individual license renewal proceedings.

Turkey Point, CLI-01-17, 54 N.R.C. at 21 (emphasis added). The analysis in the GEIS includes a finding that “even under the worst probable case of a loss of spent fuel pool coolant (a severe seismic-generated accident causing a catastrophic failure of the pool), the likelihood of a fuel-cladding fire is highly remote.” GEIS at 6-72 – 6-75 (citation omitted).²⁹

²⁹ It is well established that under NEPA’s rule of reason, agencies are not required to probe remote or speculative consequences or discuss every conceivable alternative to a proposed action. See, e.g., NRDC v. Morton 458 F.2d 827, 837 (D.C. Cir. 1972). In particular, NEPA does not require consideration of accidents that are remote and speculative. San Luis Obispo Mothers for Peace v. NRC, 751 F.2d 1287, 1300-01 (D.C. Cir. 1984), aff’d on rehearing en banc, 789 F.2d 26 (D.C. Cir.), cert. denied, 479 U.S. 923 (1986); Carolina Env’tl. Study Group v. U.S., 510 F.2d 796, 798-800 (D.C. Cir. 1975).

The GEIS’s determination that the occurrence of a zirconium spent fuel pool fire is “highly remote” (GEIS at 6-72 – 6-75) references the Commission’s 1990 Review and Revision of the Waste Confidence Decision (55 Fed. Reg. 38,474 (Sept. 18 1990)). In its Waste Confidence Decision, Commission determined that “even if the timing of a spent fuel pool failure were conducive to fire,” the likelihood of such a fire would be “extremely rare.” 55 Fed. Reg. 38,481 (emphasis added). The Commission reasoned as follows:

Footnote continued on next page

Pilgrim Watch's assertion that the NRC's generic findings on-site spent fuel management deals with "normal operations" (Pet. at 52) is therefore simply wrong because the GEIS plainly addressed spent fuel accidents as well as normal operations. Consequently, Pilgrim Watch's assertion that the Environmental Report is inadequate because it fails to address the environmental impacts of on-site storage of spent fuel assemblies (Pet. at 50) is a direct challenge to the generic finding that is codified in Table B-1 of 10 C.F.R. Part 51 as well as to 10 C.F.R. §§ 51.53(c) and 51.94(c) which do not require analyses of Category 1 issues. Because the NRC's rules may not be challenged in individual licensing proceedings, this claim is inadmissible.

Pilgrim Watch is also wrong in asserting that its contention is within the scope of the proceeding because Severe Accident Mitigation Alternative (SAMA) analyses are within the scope of a license renewal proceeding (Pet. at 50). The Commission has directly addressed this assertion and has held:

... Part 51's reference to "severe accident mitigation alternatives applies to nuclear reactor accidents, not spent fuel storage accidents."

Footnote continued from previous page

[E]ven if the timing of a spent fuel pool failure were conducive to fire, a fire could occur only with a relatively sudden and substantial loss of coolant -- a loss great enough to uncover all or most of the fuel, damaging enough to admit enough air to keep a large fire going, and sudden enough to deny operators the time to restore the pool to a safe condition. Such a severe loss of cooling water is likely to result only from an earthquake well beyond the conservatively estimated earthquake for which reactors are designed. Earthquakes of that magnitude are extremely rare.

The plant specific studies . . . found that, because of the large safety margins inherent in the design and construction of their spent fuel pools, even the more vulnerable older reactors could safely withstand earthquakes several times more severe than their design basis earthquake. Factoring in the annual probability of such beyond-design basis earthquakes, . . . the average annual probability of a major spent fuel pool fuel pool failure at an operating reactor . . . was calculated at two chances in a million per year of reactor operation.

Id. (emphasis added) (citations omitted).

Turkey Point, CLI-01-17, 54 N.R.C. at 21 (emphasis in original). This is consistent with section 5.4 of the GEIS, which specifically defines a “severe accident” for the purpose of SAMA analysis as “instances of particular vulnerability to core melt or unusually poor containment performance given a core-melt accident.”³⁰ GEIS at 5-106. As the Commission explained,

[T]he GEIS deals with spent fuel storage risks (including accidents) generically, and concludes that “regulatory requirements already in place provide adequate mitigation.”

CLI-01-17, 54 N.R.C. at 21-22 (citations omitted).³¹ Therefore, even packaged as a SAMA contention, Pilgrim Watch’s Contention 4 is barred as beyond the scope of the proceeding and as a challenge to the generic findings codified in 10 C.F.R. Part 51.

Pilgrim Watch’s claim that a SAMA analysis of spent fuel fires is necessary because of new information (Pet. at 56) does not bring this Category 1 issue within the scope of the proceeding. As a NRC rule, the Category 1 findings in 10 C.F.R. Part 51, Appendix B, Table B-1, are not subject to attack by any means in this proceeding. 10 C.F.R. 2.335(a). Therefore, if a person believes that there is new and significant information that would alter a Category 1 finding, the proper course of action is to submit a petition for waiver or rulemaking. As the Commission has stated:

³⁰ It is also consistent with the NRC’s “Policy Statement on Severe Reactor Accidents Regarding Future Designs and Existing Plants” which defines “[s]evere nuclear accidents [as] those in which substantial damage is done to the reactor core whether or not there are serious offsite consequences.” 50 Fed. Reg. 32,138 (Aug. 8, 1985) (emphasis added).

³¹ In concluding that the environmental impacts of on-site spent fuel storage are “small for each plant” and that on-site spent fuel storage is a Category 1 issue, the GEIS states:

The need for the consideration of mitigation alternatives within the context of renewal of a power reactor license has been considered, and the Commission concludes that its regulatory requirements already in place provide adequate mitigation incentives for on-site storage of spent fuel.

GEIS at 6-86 (emphasis added).

The Commission recognizes that even generic findings sometimes need revisiting in particular contexts. Our rules thus provide a number of opportunities for individuals to alert the Commission to new and significant information that might render a generic finding invalid either with respect to all nuclear power plants or for one plant in particular. In the hearing process, petitioners with new information showing that a generic rule would not serve its purpose at a particular plant may seek a waiver of the rule. See 10 C.F.R. § [2.355] . . . Petitioners with evidence that a generic finding is incorrect for all plants may petition the Commission to initiate a fresh rulemaking.

Turkey Point, supra, CLI-01-17, 54 N.R.C. at 12 (emphasis added). As explained when this requirement was first proposed,

Litigation of environmental issues in a hearing will be limited to unbounded category 2 and category 3 issues unless the rule is suspended or waived.

SECY-93-032, 10 C.F.R. Part 51 Rulemaking on Environmental Review for Renewal of Nuclear Power Plant Operating Licenses (Feb. 9, 1993) at 4. The final rule subsequently combined Category 2 and 3 issues (61 Fed. Reg. at 28,474), but made no changes that would alter the treatment of Category 1 issues. Thus, a petitioner who wishes to litigate a Category 1 issue must submit a petition for waiver, pursuant to 10 C.F.R. § 2.335.

Further, the information to which Pilgrim Watch refers is not new and significant, and therefore would not serve as a basis to waive the Category 1 findings even if Pilgrim Watch had submitted a waiver petition. Pilgrim Watch refers to testimony by Dr. Gordon Thompson indicating that the repository will not open in 2010 (Pet. at 57), but this is irrelevant, because the NRC's Waste Confidence Rule does not rely on the repository being available by 2010. Rather, it provides in pertinent part:

[t]he 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.

10 C.F.R. § 51.23(a) (emphasis added). See also Review and Final Revision of Waste Confidence Decision, 55 Fed. Reg. 38,474, 38,494-95 (Sept. 18, 1990).

Likewise, Pilgrim Watch's allegation that the Yucca Mountain repository will fill to capacity shortly after it opens is neither new nor significant. In its Waste Confidence rulemaking, the Commission explicitly considered the first repository's capacity and the need for a second repository and concluded 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," and that it "need not at this time consider the institutional uncertainties arising from having to restart a second repository program." 55 Fed. Reg. at 38,502, 38,504. "At bottom, the petitioners voice concerns only about uncertainties in high-level waste disposal, uncertainties that the Commission has always acknowledged, but has decided will be overcome in the next several decades." Oconee, CLI-99-11, 49 N.R.C. at 344-45.

Further, as the Commission has held in excluding such a challenge in a license renewal proceeding:

The Commission sensibly has chosen to address high-level waste disposal generically rather than unnecessarily to revisit the same waste disposal questions, license-by-license, when reviewing individual applications. High-level waste storage and disposal, we have said, "is a national problem of essentially the same degree of complexity and uncertainty for every renewal application and it would not be useful to have a repetitive reconsideration of the matter." 61 Fed. Reg. 66,537, 66,538 (Dec. 11, 1996). . . . If Petitioners are dissatisfied with our generic approach to the problem, their remedy lies in the rulemaking process, not in this adjudication.

Oconee, CLI-99-11, 49 N.R.C. at 345.

Pilgrim Watch's assertion that risk of spent fuel pool fires is greater than previously thought (Pet. at 56) is similarly insufficient. Pilgrim Watch relies primarily on a 2003 article by

Robert Alvarez et al. (Pet. at 62), but this article has already been reviewed by the NRC and found to suffer from excessive conservatism, with the result that its recommendation does not have a sound technical basis. COMSECY-93-019, Review of the Paper “Reducing the Hazards from Stored Spent Power-Reactor Fuel in the United States,” Robert Alvarez et al., January 31, 2003 (To Be Published in Science and Global Security), Aug. 7, 2003, available at Adams Accession No. ML0523407401.

Pilgrim Watch also refers to NUREG-1738³² (Pet. at 62, 63) which considered the potential of spent fuel pool fires in the context of plants undergoing decommissioning (which lack many of the functioning safety systems of an operating nuclear power plant). While NUREG-1738 provides additional information on the potential for spent fuel pool fires, none of the information presented in NUREG-1738 controverts the conclusion in the GEIS that the occurrence of a zirconium spent fuel pool fire is “highly remote.” See GEIS at 6-72 – 6-75. To the contrary, NUREG 1738 ultimately concludes that there is a “very low likelihood” of a zirconium pool fire (NUREG-1738 at vii, x, 5-1 and 5-3; emphasis added) – a conclusion that parallels and reconfirms the conclusion of the GEIS that the likelihood of a fuel cladding fire is “highly remote” (GEIS at 6-72 – 6-75).

Additionally, Pilgrim Watch refers to the potential for heavy loads dropping into the spent fuel storage pool resulting in structural damage to the pool and drainage of the pool. Pet. at 64. However, the technical studies underlying the Commission’s generic determination that spent fuel fires are highly remote studied the potential for cask drops or other heavy load impacts to damage the spent fuel pool and concluded that such accidents were highly unlikely to cause

³² NUREG-1738, “Final Technical Study of Spent Fuel Pool Accident Risk and Decommissioning Nuclear Power Plants” (Jan. 2001) (“NUREG-1738”).

drainage of the spent fuel pool.³³ Moreover, Pilgrim Watch's reference to asserted occurrences of load drops at the Pilgrim plant provides no factual basis whatsoever to suggest that these incidents caused any damage to the spent fuel pool or posed a danger of drainage of the pool. In this respect, Pilgrim Watch ignores the energy absorbing system included in the cask handling area of the Pilgrim spent fuel pool, which ensures that damage to the spent fuel pool from a dropped cask "will not result in a leakage rate greater than the pool makeup capability." UFSAR at 10.3-7. In short, Pilgrim Watch fails to provide any factual basis for an admissible contention regarding heavy load drops or any other event causing drainage of the spent fuel pool and a potential spent fuel pool fire, much less provide new information necessary to trigger the NRC's reconsideration of the GEIS conclusions regarding spent fuel storage. See Carolina Power & Light Co. (Shearon Harris Nuclear Power Plant), CLI-01-11, 53 N.R.C. 370, 390 (2001) ("vague references to potential spent fuel catastrophes" do not constitute an admissible contention).³⁴

Furthermore, Pilgrim Watch's concern appears centered on loss of cooling water caused by terrorist acts. See Pet at 65-73. The Commission has ruled, however, that "NEPA imposes no legal duty on the NRC to consider intentional malevolent acts, such as [the September 11, 2001 attacks] on a case-by-case basis in conjunction with commercial power reactor license

³³ See NUREG-1353, Regulatory Analysis for the Resolution of Generic Issue) 82, "Beyond Design Basis Accidents in Spent Fuel Pools" (April 1989) ("NUREG-1353") at 4-14 - 4-15 (the probability of structural damage to the spent fuel pool as a result of a dropped cask was determined to be 3.1 E-08 per reactor year (best estimate) with an upper bound estimate of 3.1 E-07).

³⁴ Pilgrim Watch also refers to NUREG-1275 (Pet. at 65) which concerned incidents of accidental drainage of water from spent fuel pools of operating nuclear power plants, but fails to mention that none of the incidents surveyed in NUREG-1275 resulted in a loss of coolant inventory that threatened to uncover the spent fuel assemblies stored in the pool. The drop in the water level in the spent fuel pool for all of the incidences investigated ranged from less than a few inches to a maximum of between 5 and 10 feet for one of the incidents. See NUREG-1275 Vol. 12, "Operating Experience Feedback Report: Assessment of Spent Fuel Cooling" (Feb. 1997) at Figure 3-2. (The Petition gives an incorrect citation to NUREG-1275.) The normal depth of the water above the spent fuel stored in the Pilgrim spent fuel pool is approximately 25 feet. UFSAR at 10.3-4. Thus, even if this maximum loss were to occur in the Pilgrim spent fuel pool, the spent fuel would still be covered by 15 feet of water. Accordingly, NUREG 1275 provides no support to claim that accidental drainage of the pool may cause uncovering of the spent fuel and a spent fuel pool fire.

renewal applications.” Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2), CLI-02-26, 56 N.R.C. 358, 365 (2002). On reply, Pilgrim Watch may refer to a recent decision by the U.S. Court of Appeals for the Ninth Circuit holding that the NRC should have considered the effects of terrorism in an environmental assessment for an independent spent fuel storage installation at the Diablo Canyon Power Plant. San Luis Obispo Mothers for Peace v. NRC, No. 03-74628, slip op. (9th Cir. June 2, 2006). The Court, however, has not yet issued its mandate,³⁵ so this decision currently has no effect. Even if this decision becomes effective, it would not affect license renewal proceedings, because the Commission has held:

Even if we were required by law to consider terrorism under NEPA, the NRC has already issued a Generic Environmental Impact Statement (“GEIS”) that considers sabotage in connection with license renewal. . . . The GEIS concluded that, if such an event were to occur, the resultant core damage and radiological release would be no worse than those expected from internally initiated events.

McGuire, CLI-02-26, 56 N.R.C. at 365 n.24 (citations omitted).

Moreover, the Ninth Circuit’s decision is inconsistent with Limerick Ecology Action v. NRC, 869 F.2d 719, 741-44 (3d Cir. 1989), which upheld the NRC’s determination that the risk of sabotage could not be assessed meaningfully and therefore was unlitigable. Therefore, even if the Ninth Circuit’s decision were to become effective, there would be a split in the circuits. Because the Ninth Circuit decision is not controlling, and because the Commission held in McGuire that sabotage is already addressed in the GEIS, Entergy respectfully submits that until the Commission directs otherwise, the Board should continue to follow the NRC’s license renewal precedent.³⁶ In any event, because spent fuel storage is governed by the Waste

³⁵ Nor has the time expired within which the NRC or the utility involved may seek rehearing, rehearing *en banc*, or Supreme Court review.

³⁶ Pilgrim Watch claims (Pet. at 65-66) that a study by the National Academy of Sciences, “Safety and Security of Commercial Spent Nuclear Fuel Storage Public Report” provides new and significant information concerning terrorist attacks on spent fuel pools at nuclear power plants. However, after reviewing the information in the

Footnote continued on next page

Confidence Rule and is a Category 1 issue in license renewal, it can be admitted as a contention only if the Commission waives these rules.

Finally, even if spent fuel pool SAMAs were an appropriate topic for consideration, Pilgrim Watch's contention would be inadmissible because it fails to provide any showing that the SAMAs which it proposes are cost beneficial. The NRC has held that, because there are numerous conceivable SAMAs and thus it will always be possible to come up with some mitigation alternative that has not been addressed by a licensee, it would be unreasonable to undertake full adjudicatory proceedings based merely upon a suggested SAMA where the petitioners have done nothing to indicate the approximate relative cost and benefit of the SAMA. McGuire, CLI-02-17, 56 N.R.C. at 11-12. Here, Pilgrim Watch has compared the cost of two proposals with the cost of the consequences of a severe accident (Pet. at 76). Because the cost of implementation should be compared with risk reduction (probability times consequences) to determine whether a SAMA is cost-beneficial, Pilgrim Watch's discussion is meaningless.³⁷

In summary, Contention 4 seeks to raise an issue that has been resolved generically and is beyond the scope of this proceeding. Because it has not petitioned the Commission for a waiver,

Footnote continued from previous page

NAS Report, the Commission continues to generally consider "the likelihood of a zirconium fire capable of causing large releases of radiation into the environment to be extremely low." U.S. Nuclear Regulatory Commission Report to Congress on the National Academy of Sciences Study on the Safety and Security of Commercial Spent Nuclear Fuel Storage" (Mar. 2005) at 21. Thus, the NRC has fully considered the NAS Report and found no basis, even in the context of a terrorist attack, to change its conclusion regarding the risks of spent fuel pool fires stated in the GEIS.

³⁷ Pilgrim Watch quotes the Alvarez paper as stating that the removal of the older spent fuel to dry storage would be justified by a traditional cost-benefit analysis if the likelihood of a spent fuel fire in the U.S. during the next 30 years were judged to be greater than about a percent. Pet. at 76 n.46. However, this statement merely reflects a back-calculation of the averted risk if one were to accept the authors' proposition that the property losses from a spent fuel pool fire would likely be hundreds of billions of dollars – a proposition that the NRC has rejected as suffering from excessive conservatism and lacking a sound technical basis. COMSECY-93-0019, Attachment at 1; see also id. at 4-5. Pilgrim Watch does not provide any indication of what the actual risk of such an accident would be, or a basis to assume that it would be anywhere near one percent.

its contention may not be entertained. Further, even if this contention were within the scope of the proceeding, it would be inadmissible because it fails to show that the Commission's generic determinations are inapplicable to Pilgrim or would not serve their intended purpose, and hence fails to establish any genuine dispute with a material issue.

E. Contention 5 – Radiological Impacts

Pilgrim Watch Contention 5, which alleges that new information shows greater offsite radiological impacts than were previously known (Pet. at 79), is inadmissible because it is beyond the scope of this proceeding and a challenge to the license renewal rules. Contention 5 seeks to raise a Category 1 environmental issue that cannot be raised, absent a waiver of the rules by the Commission. Even if Contention 5 were within the scope of the proceeding, it would be inadmissible because it lacks any basis demonstrating the existence of a genuine material dispute.

This Contention represents a challenge to the scope of the environmental review specified in 10 C.F.R. § 51.53(c), and to the NRC's generic environmental findings in the GEIS and Appendix B to 10 C.F.R. Part 51. Offsite radiological impacts (i.e., individual effects from other than disposal of spent fuel and high-level waste) are Category 1 issues determined to have small effects, based on a generic finding in the GEIS. 10 C.F.R. Part 51, App. B, Table B-1. Thus, as the Commission has held, radiological exposure from power reactor operation is a Category 1 issue, and such a contention is not litigable. Turkey Point, CLI-01-17, 54 N.R.C. at 17 n. 19. Therefore, Pilgrim Watch Contention 5 is excluded from consideration in this proceeding.

Pilgrim Watch's allegation that there is new and significant information regarding cancer rates (Pet. at 79) does not bring this Contention within the scope of the proceeding. As

previously discussed, a petitioner who believes that new and significant information alters a generic finding must seek a waiver from the Commission. Pilgrim Watch has not done so.

Further, even if this Contention were within the scope of the proceeding, which it is not, it would be inadmissible because it is not supported by a basis demonstrating the existence of a genuine material dispute. None of the discussion in Pilgrim Watch's Contention supports the existence of new and significant information that would alter the Commission's generic, Category 1 finding.

Pilgrim Watch relies on the BIER VII³⁸ report for the assertion that no amount of radiation is safe (Pet. at 81). BEIR VII concludes that radiation protection decisions should be based on the linear-no threshold hypothesis of dose-risk relationships ("LNT"); however, NRC regulations have consistently been based on LNT. The NRC's Standards for Protection Against Radiation, in 10 C.F.R. Part 20, are based on LNT. See 56 Fed. Reg. 23,360 (May 21, 1991). Furthermore, the GEIS applied a 4×10^{-4} risk coefficient without any threshold in assessing the impacts of license renewal. See, e.g., NUREG 1437 at 4-98 and E-31 to E-32. Thus, BEIR VII provides no basis to alter the generic, Category 1 findings in the GEIS.

Pilgrim Watch also alleges that changing demographics are such that the dose effect on the population will be far greater than originally anticipated when the plant was licensed (Pet. at 82). This assertion is irrelevant. The radiological impacts for the period of extended operation are assessed generically in the GEIS, and the environmental impact statement that was prepared for the current operating term is simply not at issue.

³⁸ Health Risks from Exposure to Low Levels of Ionizing Radiation: BIER VII Phase 2, National Academies Press (2006) ("the BIER VII Report").

Pilgrim Watch next refers to various studies, including the Southeastern Massachusetts Health Study 1978-1986 (“SMHS Study”)³⁹ published in 1990 and the Meteorological Analysis of Radiation Releases for the Coastal Areas of the State of Massachusetts for June 3rd to June 20th, 1982. Since both these reports predate the GEIS, they are obviously not new information. Nor does Pilgrim Watch provide any demonstration that they are significant. Pilgrim Watch provides no information suggesting that the studies support a risk estimates that are greater than those used by the NRC in the GEIS.

Finally, Pilgrim Watch refers to a personal communication with Dr. Richard Clapp, concerning an analysis of 1974-1989 Massachusetts Cancer Registry for Leukemia & Thyroid Cancer (Pet. at 86) – once again referring to data predating the GEIS. Pilgrim Watch does not show that this analysis is inconsistent with the risk estimates used in the GEIS, and in fact admits that calculations for leukemia and thyroid cancer are not statistically significant. Id.

The various other assertions in this Contention are equally unsupported and irrelevant. Pilgrim Watch refers vaguely to cumulative impacts (Pet. at 83), but provides no information showing that the impact of continued operations has been underestimated in the GEIS, which specifically considered cumulative impacts. See GEIS at §§ 3.8.1.7, 4.6.2.3. Pilgrim Watch refers vaguely to bioaccumulation and buildup of radioactivity (Pet. at 88), but other than

³⁹ The SMHS Report is a case-comparison epidemiological study. The Report is unremarkable from other epidemiological studies that form the scientific basis for the NRC regulations. Because the SMHS is limited in scope and did not perform exposure estimates as part of the study, its conclusions lack the weight of other epidemiological studies. As the SMHS Report acknowledges, “[w]e considered the estimation of individual radiation doses to be beyond the scope of this state-funded study; nevertheless, there was a potential for misclassification from the use of crude surrogate measures, thus constituting a major methodological weakness. To model exposure potential, we relied – as have many others – on plant proximity.” SMHS Report at 270-271; Pet. Exh. F-1 at 58-59. The NRC regulations are based on epidemiological studies that do not have this methodological weakness, such as the studies of survivors of Hiroshima and Nagasaki. See, e.g., 56 Fed. Reg. 23,360, supra.

misstating a Pilgrim Radiological Environmental Monitoring Program Report,⁴⁰ provides no information relating these topics to Pilgrim. Pet. at 89. Pilgrim Watch provides no discussion of the annually reported results of Pilgrim's radiation monitoring programs or any other data to suggest that radioactivity is accumulating in plants and animals. Pilgrim Watch idly speculates that Pilgrim may operate with defective fuel (Pet. at 89-90) but points to no alleged off-site resulting dose impacts, much less suggesting in any way that the NRC's regulatory requirements would be exceeded. Lastly, Pilgrim Watch asserts that the system to monitor off-site releases at Pilgrim is inadequate (Pet. at 91), but attaches only a listing of examples of non-mandatory monitoring programs (Pet. at Exhibit C), far exceeding any applicable NRC requirement, that Entergy could initiate. In sum, Pilgrim Watch's allegations are nothing more than conclusory speculation that radiation releases from normal operation of Pilgrim ought to be studied more.

In summary, Pilgrim Watch's Contention 5 is inadmissible because it is beyond the scope of this proceeding and a challenge to the NRC's rules, It is also inadmissible because it is not supported by a basis demonstrating any genuine material issue. For both of these reasons, it must be dismissed.

F. Pilgrim Watch's Notice of Adoption of Contention

Pilgrim Watch's notice that it is adopting the contention of the Massachusetts Attorney General should be rejected, because Pilgrim Watch has not requested the Board's leave. 10

⁴⁰ The Contention asserts (Pet. at 89 n. 53) that the "licensee's own Radiological Environmental Monitoring Program Report for 1982 showed for example: Cesium-137, (1,000,000) times higher than expected in milk" and "vegetation samples" from around Pilgrim suggesting that emissions of Cesium-137 from the Pilgrim plant were 1,000,000 times "higher than expected." However, the referenced 1982 Program Report, using the conservative dose estimation methodology described in Regulatory Guides 1.109 and 1.111, determined that based on actual measured releases of Cesium-137 from the Pilgrim plant, Cesium-137 levels were 1,000,000 times greater than the concentration that would be attributable to Pilgrim (due to high background dose rate of Cesium-137 resulting from atmospheric weapons testing).

C.F.R. § 2.309(f)(2) allows a party to amend or add a contention after the initial filing only upon leave of the presiding officer.

Pilgrim Watch's notice should also be rejected because Pilgrim Watch has not addressed the late-filing criteria in 10 C.F.R. § 2.309(c)(1)(i)-(viii) and (f)(2)(i)-(iii). 10 C.F.R. § 2.309(b) and the Notice of Opportunity for Hearing (71 Fed. Reg. at 15,222-23) in this proceeding require that a petitioner file its list of contentions within 60 days of the Notice. 10 C.F.R. § 2.309(c) provides that any non-timely contentions will not be entertained absent a determination by the presiding officer that the request should be admitted based on a balancing of eight factors. In addition, 10 C.F.R. § 2.309(f) provides that a contention may only be amended or a new contention added after the initial filing based on a showing that:

- (i) The information upon which the amended or new contention is based was not previously available;
- (ii) The information upon which the amended or new contention is based is materially different than information previously available; and
- (iii) The amended or new contention has been submitted in a timely fashion based on the availability of subsequent information.

NRC case law establishes that these factors apply in cases where one intervenor seeks to adopt the contentions of another after the initial filing date. Houston Lighting & Power Co. (South Texas Project, Units 1 and 2), ALAB-779, 21 N.R.C. 360, 381-82 (1985). While 10 C.F.R. § 2.309(f)(3) requires designation of a lead representative when a party seeks to adopt another's contention, that section does not allow such adoption and does not waive compliance with the late filing requirements.

Pilgrim Watch has not addressed the late filing criteria. Longstanding NRC practice obliges a petitioner to show that untimely contentions satisfy the late filing requirements, and

where a petitioner fails to do so, the Board may properly dismiss the late request without further consideration. Calvert Cliffs, CLI-98-25, 48 N.R.C. at 347 (“[T]he Commission itself has summarily dismissed petitioners who failed to address the five factors for a late-filed petition.”) (footnote omitted); Boston Edison Co. (Pilgrim Nuclear Power Station), ALAB-816, 22 N.R.C. 461, 465-66 (1985) (“[G]iven its failure to even address the . . . lateness factors, [a late] intervention petition [is] correctly denied because it [is] untimely.”). Pilgrim Watch’s failure to do so is grounds by itself to deny the Motion. Because Pilgrim Watch has not discharged its burden of justifying its late filing, its Motion must be denied.⁴¹

Even if Pilgrim Watch had addressed the lateness criteria, its Motion to adopt the contention of the Massachusetts Attorney General would fail. Pilgrim Watch has no good cause for not having included, in its own Contention 4 on spent fuel pool fires, whatever additional information is provided in the Massachusetts Attorney General’s petition. Whatever information was available to the Massachusetts Attorney General to formulate its contention was also available to Pilgrim Watch. Further, Pilgrim Watch has asserted no expertise or relevant experience regarding those issues, has provided no indication of how its participation would assist in developing the record on the Massachusetts Attorney General’s contention, and has made no showing why the Attorney General’s sponsorship of its contentions is insufficient to protect Pilgrim Watch’s interest. In short, there is no merit to Pilgrim Watch’s request.

⁴¹ The admissibility of Massachusetts’ contention was addressed in Entergy’s Answer to the Massachusetts Attorney General’s Request for a Hearing and Petition for Leave to Intervene, and Petition for Backfit Order (June 22, 2006). That Answer will not be repeated here, but is incorporated herein by reference in the event that Pilgrim Watch’s Motion is granted.

VI. SELECTION OF HEARING PROCEDURES

Commission rules require the Atomic Safety and Licensing Board designated to rule on the Petition to “determine and identify the specific procedures to be used for the proceeding” pursuant to 10 C.F.R. §§ 2.310 (a)-(h). 10 C.F.R. § 2.310. The regulations are explicit that “proceedings for the . . . renewal . . . of licenses subject to [10 C.F.R. Part 50] may be conducted under the procedures of subpart L.” *Id.* § 2.310(a). The regulations permit the presiding officer to use the procedures in 10 C.F.R. Part 2, Subpart G (“Subpart G”) in certain circumstances. *Id.* § 2.310(d). It is the proponent of the contentions, however, who has the burden of demonstrating “by reference to the contention and the bases provided and the specific procedures in Subpart G of this part, that resolution of the contention necessitates resolution of material issues of fact which may be best determined through the use of the identified procedures.” *Id.* § 2.309(g). Pilgrim Watch did not address the selection of hearing procedures in the Petition and therefore did not satisfy its burden to demonstrate why Subpart G procedures should be used in this proceeding. Accordingly, any hearing should be governed by the procedures of Subpart L.

VII. CONCLUSION

For the reasons stated above, Pilgrim Watch has failed to offer any admissible contention in this proceeding. Therefore, its request for hearing should be denied.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Paul Gaukler", written over a horizontal line.

David R. Lewis
Paul A. Gaukler

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Dated: June 26, 2006

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

Before the Atomic Safety and Licensing Board

In the Matter of)	
)	
Entergy Nuclear Generation Company and)	Docket No. 50-293-LR
Entergy Nuclear Operations, Inc.)	ASLBP No. 06-848-02-LR
)	
(Pilgrim Nuclear Power Station))	

CERTIFICATE OF SERVICE

I hereby certify that copies of "Entergy's Answer to the Request for Hearing and Petition to Intervene by Pilgrim Watch and Notice of Adoption of Contention," dated June 26, 2006, were served on the persons listed below by deposit in the U.S. Mail, first class, postage prepaid, and where indicated by an asterisk by electronic mail, this 26th day of June, 2006.

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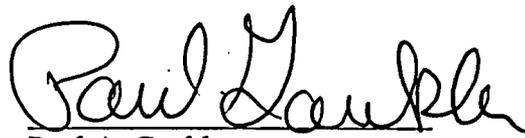
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