June 19, 2006

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
ENTERGY NUCLEAR OPERATIONS, INC.	)	Docket No. 50-293
	)	
(Pilgrim Nuclear Power Station)	)	ASLBP No. 05-842-03-LR
	)	

NRC STAFF'S RESPONSE TO REQUEST FOR HEARING AND PETITION TO INTERVENE FILED BY PILGRIM WATCH

INTRODUCTION

Pursuant to 10 C.F.R. § 2.309(h)(1), the U.S. Nuclear Regulatory Commission Staff (Staff) hereby files its response to the request for hearing and petition to intervene filed by Pilgrim Watch (Petitioner).[1] As set forth below, Pilgrim Watch has shown standing to intervene in this proceeding but has not proferred an admissible contention. Therefore, the petition should be denied.

BACKGROUND

By letter dated January 25, 2006, Entergy Nuclear Operations, Inc. (Entergy or Applicant) submitted an application for renewal, pursuant to 10 C.F.R. Part 54 of Operating License No. DPR-35 for the Pilgrim Nuclear Power Station (Pilgrim) for 20 years.[2] The current operating license for Pilgrim expires on June 8, 2012.

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[1] *See* Request for Hearing and Petition to Intervene, Re: License Renewal Application, January 25, 2006, May 25, 2006 (Petition).

[2] *See* Letter from Michael A. Balduzzi, Entergy Nuclear Operations, Inc., to U.S. NRC, Re: License Renewal Application, January 25, 2006.

On March 27, 2006, the NRC published a notice of acceptance and docketing and opportunity for hearing regarding the License Renewal Application (LRA).[3] On May 25, 2006, Pilgrim Watch filed its Petition. On June 7, 2006, this Atomic Safety and Licensing Board was established to preside over this proceeding.

The Staff hereby files its response in opposition to Pilgrim Watch's Petition.

DISCUSSION

A. Petitioner's Standing

1. Legal Requirements for Standing

Any person who requests a hearing or seeks to intervene in a Commission proceeding must demonstrate that he or she has standing to do so. Section 189a.(1)(A) of the Atomic Energy Act of 1954, as amended ("AEA" or "Act"), 42 U.S.C. § 2239(a)(1)(A), states:

> In any proceeding under this Act, for the granting, suspending, or amending of any license . . . , the Commission shall grant a hearing upon the request of any person whose interest may be affected by the proceeding, and shall admit any such person as a party to such proceeding.

The Commission's regulations in 10 C.F.R. § 2.309(d)(1) provide that a request for hearing or petition to intervene must state:

> (i) The name, address and telephone number of the petitioner;
>
> (ii) The nature of the requestor's/petitioner's right under the Act to be made a party to the proceeding;
>
> (iii) The nature and extent of the requestor's/petitioner's property, financial or other interest in the proceeding; and
>
> (iv) The possible effect of any decision or order that may be issued in the proceeding on the requestor's/petitioner's interest.

Additionally, the relevant case law provides that, to attain standing, a petitioner must

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[3] *See* Entergy Nuclear Operations, Inc., Pilgrim Nuclear Power Station; Notice of Acceptance for Docketing of the Application and Notice of Opportunity for Hearing Regarding Renewal of Facility Operating License No. DPR-35 for an Additional 20-Year Period, 71 Fed. Reg. 15222 (March 27, 2006).

demonstrate that:

> (1) it has suffered a distinct and palpable harm that constitutes injury-in-fact within the zone of interests arguably protected by the governing statute;
>
> (2) the injury can fairly be traced to the challenged action; and
>
> (3) the injury is likely to be redressed by a favorable decision.

See, e.g., Steel Co. v. Citizens for a Better Env't, 523 U.S. 83, 103-04 (1998); *Kelley v. Selin*, 42 F.3d 1501, 1508 (6th Cir. 1995); *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 323 (1999).

To establish standing, there must be an "injury in fact" that is either actual or threatened. *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 195 (1998) (citing *Wilderness Soc'y v. Griles*, 824 F.2d 4, 11 (D.C. Cir. 1987)). The injury must be "concrete and particularized," not "conjectural" or "hypothetical." *Sequoyah Fuels Corp. & Gen. Atomics* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 72 (1994). As a result, standing will be denied when the threat of injury is too speculative. *Id.* Furthermore, the alleged "injury in fact" must lie within the "zone of interests" protected by the statutes governing the proceeding; either the AEA or the National Environmental Policy Act ("NEPA"). *Quivira Mining Co.* (Ambrosia Lake Facility, Grants, New Mexico), CLI-98-11, 48 NRC 1, 6 (1998), *aff'd sub nom. Envirocare of Utah, Inc. v. NRC*, 194 F.3d 72 (D.C. Cir. 1999).

Further, a petitioner must also establish a causal nexus between the alleged injury and the challenged action. *Commonwealth Edison Co.* (Zion Nuclear Power Station, Units 1 & 2), LBP-98-27, 48 NRC 271, 276 (1998), *aff'd*, CLI-99-4, 49 NRC 185 (1999). A determination that the injury is fairly traceable to the challenged action, however, does not depend "on whether the cause of the injury flows directly from the challenged action, but whether the chain of causation is plausible." *Sequoyah Fuels*, CLI-94-12, 40 NRC at 75. Finally, the redressability element of standing requires a petitioner to show that its claimed actual or threatened injury could be cured

by some action of the decisionmaker. *Sequoyah Fuels Corp.* (Gore, Oklahoma Site Decommissioning), CLI-01-2, 53 NRC 9, 14 (2001).

An organization may satisfy the standing criteria of 10 C.F.R. § 2.309(d)(1) based either on its own interests or that of its members. To establish "organizational standing," the organization must allege with particularity that the proposed action will cause an "injury in fact" to the organization itself, with respect to its own organizational interests. The asserted "injury" to the organization must meet the three-part judicial test for the standing of a "person." *See Houston Lighting & Power Co.* (South Texas Project, Units 1 & 2), ALAB-549, 9 NRC 644, 646 (1979).

Alternatively, an organization can plead standing based on representing its members' interests ("representational standing"). To do this, it must demonstrate that at least one individual member has standing to participate, in accordance with a three-part judicial test. *Houston Lighting & Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-535, 9 NRC 377, 390-94 (1979). The organization must: (1) identify at least one of its members by name and address; (2) demonstrate how that member may be affected by the licensing action; and (3) show (preferably by affidavit) that the organization is authorized to request a hearing on behalf of that member. *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), LBP-98-12, 47 NRC 343, 354, *aff'd in part, rev'd in part*, CLI-98-21, 48 NRC 185 (1998).

2. Pilgrim Watch has established representational standing.

The Petitioner has established standing through its member, Mary Elizabeth Lampert.[4] Ms. Lampert submitted an affidavit stating that she resides approximately six (6) miles from Pilgrim and that she is a member and director of Pilgrim Watch and would like Pilgrim Watch to represent her interests in this matter because she has concerns about the license renewal of

[4] Mary Elizabeth Lampert, Request for a Hearing and Petition to Intervene, Affidavit of Standing (May 26, 2006).

Pilgrim Nuclear Station.[5] She and Pilgrim Watch want to participate in hearings on the license renewal to decide whether the plant's operations are adequate to assure the safe operation of the nuclear plant for an additional twenty years without the public health and safety being compromised.[6]

Ms. Lampert does not establish that she has suffered any concrete or particularized injury caused by the challenged action that would be redressed by a favorable decision. However, under the long-recognized "proximity presumption" principle, an individual petitioner, or a member of an organization, may base its standing upon a showing that his or her residence, or that of its members, is within the geographical area that might be affected by an accidental release of fission products. This approach "presumes a petitioner has standing to intervene without the need specifically to plead injury, causation, and redressability if the petitioner lives within, or otherwise has frequent contacts with, the zone of possible harm from the nuclear reactor or other source of radioactivity." *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), LBP-01-6, 53 NRC 138, 146 (2001), *aff'd on other grounds*, CLI-01-17, 54 NRC 3 (2001). The Commission's general rule of thumb in reactor licensing proceedings (that persons who reside or frequent the area within a 50-mile radius of the facility are presumed to have standing) has also been applied to license renewal proceedings by several licensing boards. *See e.g. id.* at 148-49.[7] Based on the location of her residence six miles from Pilgrim, the Staff does not contest Ms. Lampert's standing to intervene.

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[5] *See id.*

[6] *See id.*

[7] The Commission has not ruled on this issue. *See Turkey Point,* CLI-01-17, 54 NRC at 20 n. 20; *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2 and 3) CLI-99-11, 49 NRC 328, 333 n. 2 (1999).

Pilgrim Watch has established representational standing. To demonstrate standing based on the interests of its members, a group must show that the licensing action it challenges may injure the group or someone the group is authorized to represent. *Int'l Uranium (USA) Corp.* (White Mesa Uranium Mill), LBP-97-14, 46 NRC 55, 56 (1997). The organization must identify at least one member by name and address, demonstrate how that member's interests may be affected, and show that the group is authorized to request a hearing on behalf of that member. *Yankee Rowe*, LBP-98-12, 47 NRC at 354-55. The Petition makes this showing by identifying the name and address of a member who will be affected by issuance of a renewed license. Furthermore, Petitioner has demonstrated that an affected member has authorized it to represent them in this proceeding by attaching declarations to the Petition. Petition at 2. As discussed above, the Petition demonstrates the requisite element, that a member would have standing in his or her own right based on the proximity presumption. For these reasons, Petitioner has satisfied the requirements necessary to establish representational standing. Accordingly, Petitioner has met the requirements for standing to intervene in this proceeding.

B. Petitioner's' Proposed Contentions

1. Legal Standards Governing the Admission of Contentions

To gain admission to a proceeding as a party, in addition to satisfying the criteria for standing, a petitioner must submit at least one admissible contention that meets the requirements of 10 C.F.R. § 2.309(f). *See* 10 C.F.R. § 2.309(a). This regulation requires a petitioner to:

(i) Provide a specific statement of law or fact to be raised or controverted;

(ii) Provide a brief explanation of the basis for the contention;

(iii) Demonstrate that the issue raised in the contention is within the scope of the proceeding;

(iv) Demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding;

(v) Provide a concise statement of the alleged facts or expert opinions which support the requestor's/petitioner's position on the issue and on which the petitioner intends to rely at hearing, together with references to the specific sources and documents on which the requestor/petitioner intends to rely to support its position on the issue; and

(vi) Provide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact. This information 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). The Commission has emphasized that its rules on contention admissibility are "strict by design." *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), CLI-01-24, 54 NRC 349, 358 (2001). Failure to comply with any of these requirements is grounds for dismissing a contention. *See Private Fuel Storage,* CLI-99-10, 49 NRC at 325.

The contentions should refer to the specific documents or other sources of which the petitioner is aware and upon which he or she intends to rely in establishing the validity of the contentions. *Millstone*, CLI-01-24, 54 NRC at 358 (citing *Oconee*, CLI-99-11, 49 NRC at 333). Contention admissibility requirements "demand a level of discipline and preparedness on the part of petitioners, 'who must examine the publicly available material and set forth their claims and the support for their claims at the outset.'" *Louisiana Energy Services* (National Enrichment Facility) (*LES*), CLI-04-25, 60 NRC 223, 224-225 (2004). A petitioner must also submit more than "bald or conclusory allegation[s]" of a dispute with the applicant. *Id.*

Properly formatted contentions "must focus on the license application in question, challenging either specific portions of or alleged omissions from the application (including the SAR and ER)." *LES* (National Enrichment Facility), LBP-04-14, 60 NRC 40, 55 (2004); *aff'd* CLI-04-25, 60 NRC 223 (2004). *See* 10 C.F.R. § 2.309(f)(1)(vi). Additionally, "Any contention that fails directly to controvert the application or that mistakenly asserts the application does not address a relevant issue can be dismissed." *LES*, LBP-04-14, 60 NRC at 55.

A petitioner must also "present the factual information and expert opinions necessary to support its contention adequately" and failure to provide such an explanation regarding the basis of a proferred contention requires the contention to be rejected. *Id.* In this regard, "neither mere speculation nor bare assertions alleging that a matter should be considered will suffice to allow the admission of a proferred contention." *Id.* Nor can a Licensing Board "make assumptions of fact that favor the petitioner." *Id.* Finally, "With limited exception, no rule or regulation of the Commission can be challenged in an adjudicatory proceeding." *Id.* at 54; *See* 10 C.F.R. § 2.335.

2. The Scope of the License Renewal Proceeding.

The scope of a license renewal proceeding is limited, in both the safety and environmental contexts. Review of safety issues is limited to "a review of the plant structures and components that will require an *aging* management review for the period of extended operation and the plant's systems, structures and components that are subject to an evaluation of time-limited *aging* analyses." *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-26, 56 NRC 358, 363-64 (2002) (citations omitted) (emphasis in original). *See also Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), LBP-04-15, 60 NRC 81, 90 (2004), *aff'd*, CLI-04-36,

60 NRC 631 (2004); *Balt. Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 & 2), CLI-98-14, 48 NRC 39, 41 (1998); 10 C.F.R. §§ 54.4, 54.21(a) and (c).

The scope of the environmental review is limited in accordance with 10 C.F.R. §§ 51.71(d) and 51.95(c). Consideration of environmental issues in the context of license renewal proceedings is specifically limited by 10 C.F.R. Part 51 and by the NRC's "Generic Environmental Impact Statement (GEIS) for License Renewal of Nuclear Plants" (NUREG-1437) ("GEIS"). *See Turkey Point*, CLI-01-17, 54 NRC at 11-13. A number of environmental issues potentially relevant to license renewal are classified in 10 C.F.R. Part 51, Subpart A, Appendix B as "Category 1" issues, which means that "the Commission resolved the[se] issues generically for all plants and those issues are not subject to further evaluation in any license renewal proceeding." *Turkey Point*, LBP-01-06, 53 NRC at 152-53, *aff'd*, CLI-01-17, 54 NRC 3. The remaining issues in Appendix B, designated as "Category 2," must be addressed by the Applicant in its environmental report, and in the NRC's supplemental environmental impact statement for the facility at issue pursuant to 10 C.F.R. §§ 51.71(d), 51.53(c) and 51.95(c). *Id.*

3. Pilgrim Watch's Contentions

For each set of contentions, this response will summarize the Staff's response to the primary contention, and identify which, if any, of Petitioner's cited bases support the admissibility of the contention. The Staff's response will then address each cited basis for the contention in turn. As a threshold matter, it is understood, that, "Although licensing boards are to litigate 'contentions' rather than 'bases,' it has been recognized that 'the reach of a contention necessarily hinges upon its terms coupled with its stated bases." *LES*, LBP-04-14, 60 NRC at 57.

Proposed Contention 1

> The Aging Management program proposed in the Pilgrim application for license renewal is inadequate because (1) it does not provide for adequate inspection of all systems and components that may contain radioactively contaminated water and (2) there is no adequate monitoring to determine if and when leakage from these areas occurs. Some of these systems include underground pipes and tanks which the current aging management and inspection programs do not effectively inspect and monitor.

Staff's Response to Proposed Contention 1

Proposed Contention 1 is inadmissible. While within the scope of this proceeding, Proposed Contention 1 is not supported by bases that satisfy the pleading requirements of 10 C.F.R. § 2.309. First, the asserted bases fail to demonstrate that a genuine dispute exists with the Applicant regarding a material issue of law or fact. *See* 10 C.F.R. 2.309(f)(1)(vi). Petitioner also fails to meet the requirement to challenge either specific portions of, or alleged omissions from, the LRA. *See id*.; *LES*, LBP-04-14, 60 NRC at 57. Additionally, Petitioner's reliance on vague or generalized studies and unsubstantiated assertions without reference to the LRA, fails to demonstrate that there are material issues of fact in dispute. *See* 10 C.F.R. § 2.309(f)(1)(vi). Second, Petitioner's asserted bases for Proposed Contention 1 lack sufficient facts and contain no supporting expert opinion. *See* 10 § C.F.R. 2.309(f)(1)(v). Petitioner impermissibly relies on generalized suspicions and vague references to alleged events at other plants and equally unparticularized portions of general studies for providing a factual basis. *See id.*; *Millstone*, CLI-01-24, 54 NRC at 363. The Petitioner or the sources relied upon, do not point to any components of particular concern, that is, components or systems that contain radioactive contaminated water. *Id.* Further, Petitioner cites no expert opinion in support of its alleged facts. *See* 10 C.F.R. 2.309(f)(1)(v). Consequently, Proposed Contention 1 is inadmissible. *Id.*

Contention Basis 1.3.1: Recent events in several U.S. nuclear facilities have demonstrated that undetected leaks in underground pipes and buried tanks can cause the release of radioactive materials into the ground.

Staff's Response to Contention Basis 1.3.1

Contention Basis 1.3.1 does not support the admissibility of Proposed Contention 1 because it does not raise a genuine dispute with the Applicant on a material issue of law or fact (*See* 10 C.F.R. § 2.309(f)(1)(vi)) and it lacks support. Relying on leakage incidents at three other plants and participation in a 10 C.F.R. § 2.206 petition, Petitioner contends that a "40 year facility has age related problems which are unique to older facilities and should be dealt with as part of the [AMP]." Petition at 7-8. Petitioner, however, has not pointed to any site-specific facts that suggest similar leaks at Pilgrim or to any portion of the application with which they have a dispute. *See* 10 C.F.R. § 2.309(f)(1)(vi). Therefore this portion of Contention Basis 1.3.1 does not support the admissibility of Proposed Contention 1. *See id.*; *LES*, LBP-04-14 60 NRC at 57.

Additionally, Petitioner asserts that Pilgrim has "site-specific attributes due to its history and location which make leaks from components and systems such as underground piping more likely and difficult to detect." Petition at 7-8. However, here and elsewhere in Proposed Contention 1, Petitioner does not provide site-specific facts to support this assertion nor identify with any specificity how purported leaks at other plants are relevant to Pilgrim. *See* 10 C.F.R. 2.309(f)(1)(v). Accordingly, this portion of Basis 1.3.1 is unsupportive of Proposed Contention 1 as well, because Petitioner has failed to "present the factual information and expert opinions necessary to support its contention adequately." *LES*, LBP-04-14, 60 NRC at 55; *See* 10 C.F.R. § 2.309(f)(1)(v).

Contention Basis 1.3.2: Exposure to radioactive materials in the ground water is a threat to human health and a violation of 10 C.F.R. § 20.1302 and § 50 Appendix A

Staff's Response to Contention Basis 1.3.2

Contention Basis 1.3.2 does not support the admissibility of Proposed Contention 1 because Petitioner has failed to demonstrate that there is a genuine dispute as a matter of law or fact (*See* 10 C.F.R. § 2.309(f)(1)(vi)) and fails to provide an adequate basis in fact or expert opinion to support its assertion. *See* 10 C.F.R. § 2.309(f)(1)(v). Petitioner relies on studies alleging adverse health effects at two other facilities to assert "the Aging Management Program at Pilgrim needs to be proactive for detecting leaks so that they can be discovered before they percolate into the ground water or Cape Cod Bay and result in tragedies like Grundy County [Illinois]." Petition at 8-9.

Even assuming that the releases of tritium and strontium 90 did occur as alleged, Petitioner cites no deficiency or dispute with Pilgrim's application that would lead to like releases. *See* 10 C.F.R. § 2.309(f)(1)(vi). Nor does Petitioner specify what "proactive" means, and why the LRA is deficient in this regard. *See id; Millstone*, CLI-01-24, 54 NRC at 361. Lacking such specificity, this basis cannot meet the "reasonably specific factual and legal basis" required for an admissible contention. *Millstone*, CLI-01-24, 54 NRC at 359; 10 C.F.R. § 2.309(f)(1)(v)-(vi).

Similarly, Petitioner provides no facts or expert opinion in Contention Basis 1.3.2 for linking Pilgrim to harms it purports exist at other facilities. *See* 10 C.F.R. § 2.309(f)(1)(v); *LES*, LBP-04-14, 60 NRC at 55. Unsupported as well, are Petitioner's vague allusions to "past radiation releases" at Pilgrim and "an aging population" that is "more susceptible to environment assaults." Petition at 9. Therefore, Contention Basis 1.3.2 also falls for a lack of factual basis. *See* 10 C.F.R. § 2.309(f)(1)(vi); *LES*, LBP-04-14, 60 NRC at 55.

Finally, Petitioner cites the National Academy of Sciences (NAS) BIER VII Report for the proposition that "there is no safe dose of radiation and that it is approximately three times more

dangerous than current NRC regulations predict." Petition at 9. This cannot provide a supporting basis because it is an impermissible attack on Commission regulations. *See* 10 C.F.R. § 2.335(a); *Millstone*, CLI-01-24, 54 NRC at 364.

Contention Basis 1.3.3: Aging nuclear plants are more likely to experience corrosion related leaks

Staff's Response to Contention Basis 1.3.3

This basis does not support the admissibility of Proposed Contention 1 because Petitioner fails to provide sufficient facts or expert opinion (*See* 10 C.F.R. § 2.309(f)(1)(v)) or demonstrate there is a genuine dispute of law or fact. *See* 10 C.F.R. § 2.309(f)(1)(vi). Petitioner relies on a Union of Concerned Scientists (UCS) study which, in turn, is based on a National Aeronautics and Space Administration (NASA) data, to conclude, "[u]nfortunately, age-related degradation is being found too often by failures than by condition-monitoring activities...Therefore condition-monitoring activities in many facilities are inadequate." Petition at 10.

The NASA data, which serves as the foundation of this assertion, is no more than a general reference for the conclusion that parts fail more often as they age in their useful lives. *See* NASA, Reliability Centered Maintenance Guide For Facilities and Collateral Equipment, at 3-14; 3-15 (2000). There are no facts or expert opinion presented to support its applicability to the application or for the conclusory statements regarding condition monitoring activities. *See* 10 C.F.R. § 2.309(f)(1)(vi); *LES*, LBP-04-14, 60 NRC at 55. As the Licensing Board has stated, "providing any material or document as a basis for a contention, without setting forth an explanation of its significance is inadequate to support the admission of the contention." *Id.* at 56. Additionally, here and elsewhere in Proposed Contention 1, Petitioner never identifies any specific items at the system, or component level, which may be at risk.

See 10 C.F.R. § 2.309(f)(1)(v).

Finally, Petitioner cites no portion of the application that is deficient in recognizing that older parts may become more unreliable as they reach the end of their useful lives, or, how this conflicts with regulations. *See* 10 C.F.R. § 2.309(f)(1)(vi). Consequently, Contention Basis 1.3.3 does not support the admissibility of Proposed Contention 1.

Contention Basis 1.3.4: Corrosion can be induced by low energy radionuclides

Staff's Response to Contention Basis 1.3.4

Contention Basis 1.3.4 does not support the admissibility of Proposed Contention 1 because Petitioner fails to demonstrate there is a genuine dispute of law or fact (*See* 10 C.F.R. § 2.309(f)(1)(vi)) and fails to provide sufficient facts or expert opinion. *See* 10 C.F.R. § 2.309(f)(1)(v). Petitioner presents information drawn from a study to conclude that, "Low energy radiation degrades the passive oxide layers that protect metals. Without this protective layer, the metals are easily corroded." Petition at 10.

Petitioner, however, points to no portion of the LRA that is disputed by the information presented. *See* 10 C.F.R. § 2.309(f)(1)(vi); *LES*, LBP-04-14, 60 NRC at 57. Nor does Petitioner present facts to demonstrate that Pilgrim suffers from the same effects, and thus impermissibly relies on "mere speculation" and "bare assertions that the matter should be considered." *See LES*, LBP-04-14, 60 NRC at 56; 10 C.F.R. § 2.309(f)(1)(v). Therefore, Contention Basis 1.3.4 cannot support the admissibility of Proposed Contention 2. *See* 10 C.F.R. § 2.390(f)(1)(v)-(vi).

Contention Basis 1.3.5: The potential risk of leaks at Pilgrim might be increased by the inadvertent past use of counterfeit or substandard parts

Staff Response to Contention Basis 1.3.5

Contention Basis 1.3.5 does not support the admissibility of Proposed Contention 1 because it lacks support (*See* 10 C.F.R. § 2.309(f)(1)(v)) and fails to demonstrate that a material dispute exists as to law or fact with the Applicant. Relying on a General Accounting Office (GAO) study (GAO, *Nuclear Safety and Health, Counterfeit and Substandard Products Are A*

Governmentwide Concern, GAO/RECD-91-6 (Oct. 1990) (GAO study)) showing that Pilgrim and other plants received counterfeit or substandard pipe fittings and flanges, Petitioner goes on to assert this could make contaminated water leaks more likely and that there is no evidence in the LRA the problem has been addressed. Petition at 11.

Petitioner fails to provide a factual basis or expert opinion (*See* 10 C.F.R. § 2.309(f)(1)(v)), and does not mention another portion of the GAO study cited that details the NRC's response to the issue. *See* GAO study at 24. The NRC's response is relevant because it is well-settled that all portions of documents proferred by a petitioner in support of proposed contentions are open to scrutiny. *See LES*, LBP-04-14, 60 NRC at 56. Petitioner also ignores subsequent actions in response to the GAO study, and detailed in publicly available documents, that detail steps taken by the NRC and licensees in the 16 years following the study's issuance. *See e.g.*, NRC Generic Letter 91-05, *Licensee Commercial-Grade Procurement and Dedication Programs*. By doing so, Petitioner fails to provide a reason why the GAO study is significant to this proceeding and impermissibly seeks the Licensing Board to make erroneous assumptions of fact. *See LES*, LBP-04-14, 60 C.F.R. at 56; 10 C.F.R. § 2.309(f)(1)(vi). Therefore, Contention Basis 1.3.5 cannot support the admissibility of Proposed Contention 2.

> Contention Basis 1.3.6: The Aging Management Program at Pilgrim does not provide adequate inspection of systems and components such as underground pipes and tanks.

Staff's Response to Contention Basis 1.3.6

Contention Basis 1.3.6 does not support the admissibility of this contention. The core of this basis consists of a series of speculative assertions by Petitioner that proposed ultra-sonic testing (UT) methods "would not necessarily detect a hole or crack in the component" and that "array UT technology implies testing only selected areas of the pipe/tank." Petition at 12. These assertions are unsupported, and therefore, constitute impermissible "mere speculation." *LES*,

LBP-04-14, 60 NRC at 55. Equally unsupported are Petitioner's speculative references to the novelty of UT. Rather than providing independent facts or expert opinion, Petitioner essentially asks the Licensing Board to make an impermissible assumption of fact that the phased-array method of UT is unsuitable, simply because it is new to this context. *See id.* at 56.

Finally, Petitioner offers no other factual or expert support for the conclusion that, "[t]here should be regular and frequent inspections of all components that contain radioactive water in this aging plant." Petition at 12. Therefore, Basis 1.3.6 is unsupportive of Proposed Contention 1 because Petitioner has not presented "the factual information and expert opinions necessary to support its contention adequately." *LES*, LBP-04-14, 60 NRC at 55; *See also* 10 C.F.R. § 2.309(f)(1)(v).

> Contention Basis 1.3.7: 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.

Staff's Response to Contention Basis 1.3.7

Contention Basis 1.3.7 does not support the admissibility of Proposed Contention 1 because it lacks specificity and support (10 C.F.R. § 2.309(f)(1)(v)) and fails to present a genuine issue of law or fact (10 C.F.R. § 2.309(f)(1)(vi)). Petitioner makes a series of general assertions regarding the danger of leaks at nuclear power plants (Petition at 13), but fails to substantiate these with specific facts or expert opinion that relate them to Pilgrim. *See* 10 C.F.R. § 2.309(f)(1)(v). In doing so, Petitioner fails to meet "the obligation of the petitioner to present factual information and expert opinion necessary to support its contentions adequately." *LES*, LBP-04-14, 60 NRC at 55.

Similarly, Petitioner provides no facts or expert opinion to support the efficacy of a well monitoring program. *See* 10 C.F.R. § 2.309(f)(1)(v). At most, what is offered is a general reference to a UCS report which provides no information specific to leaks at Pilgrim, or, the

effectiveness of monitoring wells. *See* Union of Concerned Scientists, U.S. Nuclear Plants in the 21st Century (May 2004). Indeed, Petitioner seems to question the effectiveness of wells observing at one point "[i]n most of the recent cases of leaked radioactive water, the leaks were detected by monitoring wells, but often not until long after the leaks occurred." Petition at 13.

This last statement also leads to the question of what issue Petitioner is attempting to raise in this basis in that the Petition, and the UCS study cited, seem to be more supportive of enhanced inspections rather than monitoring wells. As such, Contention Basis 1.3.7 falls short of the specificity and the "minimal factual and legal foundation" required to support contentions. *Millstone*, CLI-01-24, 54 NRC at 363; *See* 10 C.F.R. § 2.309(f)(1)(vi). Accordingly, Contention Basis 1.3.7 does not support the admissibility of Proposed Contention 1.

Contention Basis 1.3.8: Current NRC Regulations require Pilgrim to improve its current inspection and monitoring programs

Staff Response to Contention Basis 1.3.8

Contention Basis 1.3.8 does not support the admissibility of Proposed Contention 1 because Petitioner fails to provide sufficient facts or expert opinion (*See* 10 C.F.R. § 2.309(f)(1)(v)) and fails to demonstrate that there is a genuine dispute of law or fact. (*See* 10 C.F.R. § 2.309(f)(1)(vi)). Petitioner cites 10 C.F.R. § 20.1302 and Part 50, Appendix A, Criterion 60, for the proposition that leaks at other plants mean that such an occurrence cannot be unanticipated at Pilgrim, and, as a result, require redress under the regulation. Petition at 14.

Other than vague references to alleged leaks at other facilities, however, Petitioner cites no facts or expert opinion (*See* 10 C.F.R. § 2.309(f)(1)(v)) to support its assertion that "recent events make such a scheme a natural addition to the Pilgrim Aging Management Plan." Petition at 14. This again refers to unconnected events at other plants for which Petitioner provides only a speculative link. As such, Contention Basis 1.3.8 attempts to give voice to a "generalized

suspicion" that cannot support the admissibility of Proposed Contention 1. *See Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2); CLI-03-17, 58 NRC 419, 424 (2003).

Petitioners also fail to articulate a "detailed, fact-based showing that a genuine dispute of law or fact exists." *Duke Energy Corp*. (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-14; 55 NRC 278, 289 (2002) (citing *Millstone*, CLI-03-24, 54 NRC at 358-59). Even while acknowledging that the Applicant was not required to perform additional monitoring, Petitioner, as noted, asserts that added testing is a "natural addition" to the LRA. Petition at 14. Neither this, nor Petitioner's reference to current regulations, explains why, or even if, Petitioner believes the LRA to be deficient. *See* 10 C.F.R. § 2.309(f)(1)(v). They also fail to meet the requirement to "include references to the specific portions of the application...that the petitioner disputes and the supporting reasons for each dispute." *Millstone*, CLI-01-24, 54 NRC at 361; *See* 10 C.F.R. § 2.309(f)(1)(vi). For the foregoing reasons, Contention Basis 1.3.8 does not support the admissibility of Proposed Contention 1.

Conclusion as to Contention 1

Based on the foregoing discussion, the Staff contends that Contention 1 is inadmissible.

Proposed Contention 2

> The Aging Management program proposed in the Pilgrim application for license renewal fails to adequately assure the continued integrity of the drywell liner, or shell, for the requested license extension. The drywell liner is a safety-related containment component, and its actual wall thickness should be confirmed by periodic ultrasonic testing (UT) measurements at all critical areas, including those which are inaccessible for visual inspection. The current plan does not adequately monitor for corrosion in these inaccessible areas, nor does it include a requirement for a root cause analysis when corrosion is found.

Staff's Response to Proposed Contention 2

Proposed Contention 2 is inadmissible. While it is within the scope of this proceeding, Proposed Contention 2 is inadmissible because it lacks a basis in fact or expert opinion (*See* 10 C.F.R. § 2.309(f)(1)(v)), and fails to present a genuine issue of law or fact. *See* 10 C.F.R. § 2.309(f)(1)(vi). Additionally, Petitioner impermissibly attempts to piggyback on to the Staff's dialogue with industry and the public relative to forthcoming Interim Support Guidance (ISG) (*See Duke Energy Corp*. (Oconee Nuclear Station, Units 1, 2 and 3), CLI-99-11, 49 NRC 328, 336 (1999)) as a substitute for Petitioner's obligation to provide facts or technical expertise in support of its assertions. *See LES*, LBP-04-14, 60 NRC at 55; 10 C.F.R. § 2.309(f)(1)(v). Therefore, as discussed below, Proposed Contention 2 is inadmissible.

> Contention Basis 2.3.1: The NRC Has Acknowledged that Corrosion of Mark I Drywells is a Major Safety Related Issue that is not Addressed by Current NRC Guidance Documents

Staff's response to Contention Basis 2.3.1

Contention Basis 2.3.1 does not support the admissibility of Proposed Contention 2 because it does not present a genuine dispute of law or fact. *See* 10 C.F.R. § 2.309(f)(1)(vi). It is unclear from the references Petitioner makes to the public meeting on January 31, 2006 (Petition at 20), what Petitioner intends to litigate here. *See Millstone*, 54 NRC at 363. There is no mention of, or otherwise reference to, the LRA or Applicant, contrary to the established principle that a contention, and by extension basis, that "fails directly to controvert the application or that mistakenly asserts the application does not address a relevant issue can be dismissed." *LES*, LBP-04-14, 60 NRC at 57; *See* 10 C.F.R. § 2.309(f)(1)(vi).

Separately, Petitioner provides insufficient support for this basis. *See* 10 C.F.R. § 2.309(f)(1)(v). Petitioner proffers no independent facts or expert opinion and impermissibly relies solely on ongoing Staff dialogue with industry and the public to establish a basis. *See Oconee*, CLI-99-11, 49 NRC at 336 ("At bottom, the RAIs show only an ongoing staff dialogue

with Duke Energy, not any ultimate staff determinations. Apart from a broad reference to these follow-up questions posed by the staff, the petitioners did not posit and reason or support of their own–no alleged facts and no expert opinions..."). In this respect, Petitioner fails its duty to "review the application and to identify what deficiencies exist and to explain why the deficiencies raise material safety concerns." *Id.* Therefore, Contention Basis 2.3.1 cannot serve as a basis in support of Proposed Contention 2 on this ground as well. *See* 10 C.F.R. § 2.309(f)(1)(v).

Contention Basis 2.3.2: Current NRC Guidance Documents do not Adequately Address Corrosion of the Drywell Liner

Staff's Response to Contention Basis 2.3.2

Contention Basis 2.3.2 does not support the admissibility of Proposed Contention 2 because it lacks specificity, fails to raise a genuine dispute of law or fact (*See* 10 C.F.R. § 2.309(f)(1)(vi)) and has insufficient basis. *See* 10 C.F.R. § 2.309(f)(1)(v). Petitioner asserts that unless they are allowed to intervene "using their experts and documentation, these concerns will not be adequately addressed as part of the Pilgrim license renewal." Petition at 21. Yet, here as elsewhere, Petitioner does not identify their experts or documentation contrary to the expectation that parties will bear their burden to "clearly identify the matters on which they intend to rely with reference to a specific point." *See Oconee*, CLI-99-11, 49 NRC at 337 (quoting *Public Serv. Co. of New Hampshire* (Seabrook Station, Units 1 & 2), CLI-89-3, 29 NRC, 234, 241 (1989)). At bottom, Petitioner impermissibly attempts to substitute the ISG process as a foundation for this basis without providing the required minimum of independent factual support. *See Oconee*, CLI-99-11, 49 NRC at 335. Moreover, Petitioner's reliance on *Washington Public Power Supply System* (WPSS Nuclear Project No.3), ALAB-747, 18 NRC 1167, 1175-76 (1983) (Petition at 21) is inapposite because that decision does not relieve Petitioner from its requirement to posit support of its own. *See id.* at 337.

Contention Basis 2.3.2 also fails because other than the vague assertion that, "The Pilgrim Application for License Renewal does not adequately address this issue...," Petitioner does not identify a specific deficiency in the LRA contrary to the requirement to "include references to the specific portions of the application...that the petitioner disputes and the supporting reasons for each dispute."[8] *Millstone*, CLI-01-24, 54 NRC at 361; *See* 10 C.F.R. § 2.309(f)(1)(vi). Therefore, on this ground as well, Contention Basis 2.3.2 does not support the admissibility of Proposed Contention 2. *See* 10 C.F.R. § 2.309(f)(1)(vi).

Contention Basis 2.3.3 : Pilgrim has a history of corrosion in different areas of the drywell, and there has been a reduction in drywell wall thickness

Staff's Response to Contention Basis 2.3.3

Contention Basis 2.3.3 lacks basis, and therefore cannot support the admissibility of Proposed Contention 2. *See* 10 C.F.R. § 2.309(f)(1)(v). Petitioner asserts that the Applicant's discovery and subsequent remediation of corrosion in the torus bays and drywell spray header respectively, provides evidence that, "Pilgrim has been experiencing corrosion in some of the highly critical regions of the drywell, including enough to impact the thickness of the drywell liner." Petition at 22-23. Petitioner's assertion fails to appreciate that the torus bays and drywell spray header are entirely distinct features from the drywell shell to which Contention Basis 2.3.3 is apparently addressed. *See* Pilgrim Station, Final Safety Analysis Report, §§ 5.2.3.3.1; 5.2.3.3.2. 5.3.3.2.4. Therefore, Petitioner's allegation that corrosion in the torus bays and spray header is indicative of corrosion in the drywell shell is misdirected and no more than a "bare assertion" that provides insufficient basis. *See LES*, LBP-04-14, 60 NRC at 55.

[8] It is unclear from Petitioner's filing whether it was aware that the Applicant has submitted License Renewal Application Amendment 1, dated May 11, 2006 [ADAMS Accession No. ML061380549] in which the Applicant provides additional information relative to the Pilgrim drywell shell region.

Further, Petitioner's remaining reference to the UCS report (Petition at 23) also fails to provide a minimal factual basis. The referenced section of the report makes no mention of Pilgrim, the LRA or drywell shell region *(See* Union of Concerned Scientists, U.S. Nuclear Plants in the 21st Century, at 20 (May 2004)) and therefore cannot provide a "reasonably specific factual" basis for a contention. *Millstone*, CLI-01-24, 54 NRC at 359.

In sum, Petitioner has not proferred an adequate basis in fact or expert opinion in Contention Basis 2.3.3. *See* 10 C.F.R. § 2.309(f)(1)(v). Therefore, it cannot support the admissibility of Proposed Contention 2. *Id.*

> Contention Basis 2.3.4: The Aging Management Program at Pilgrim only requires inspection of the drywell liner every ten years and primarily relies on visual examinations which cannot monitor for corrosion of inaccessible areas of the drywell.

Staff's Response to Basis 2.3.4

Contention Basis 2.3.4 does not support the admissibility of Proposed Contention 2 because it fails to present a genuine dispute of law or fact (*See* 10 C.F.R. § 2.309(f)(1)(vi)) and lacks support. *See* 10 C.F.R. § 2.309(f)(1)(v). It is not apparent that Petitioner has considered LRA, Amendment 1 which pertains to the issues raised in Contention Basis 2.3.4. Specifically, the Applicant details its past and current inspection procedures and results in the upper and lower drywell shell including the sandbed area. Based on this, Petitioner's query related to "where and how often the ultra-sonic test measurements for drywell [shell] thickness are made" (Petition at 23) and assertion that "apparently no monitoring for corrosion of this likely problem area as been done at Pilgrim (Petition at 24), can no longer be seen to present genuine questions of law or fact. *See* 10 C.F.R. § 2.309(f)(1)(vi). Consequently, they cannot support the admissibility of Proposed Contention 2. *Id.*

Petitioner's subsequent assertion that "water must have been present in the [drywell] area to have caused the past corrosion" (Petition at 24) lacks basis. *See* 10 C.F.R. § 2.309(f)(1)(v).

Petitioner identifies no source for this assertion making it an inadmissible "bald or conclusory" allegation of a dispute with the applicant." *Millstone*, CLI-01-24, 54 NRC at 358. In its remaining assertion related to root cause analysis, Petitioner attempts to impermissibly substitute Staff comments (*See Oconee*, CLI-99-11, 49 NRC at 335) for its obligation to provide facts or expert opinion. *See LES*, LBP-04-14, 60 NRC at 55. Based on this, Contention Basis 2.3.4 cannot support the admissibility of Proposed Contention 2. *See* 10 C.F.R. § 2.309(f)(1)(v).

Conclusion as to Contention 2

Based on the foregoing discussion, the Staff contends that Contention 2 is inadmissible.

Proposed Contention 3:

> The Environmental Report is inadequate because it ignores the true off-site radiological and economic consequences of a severe accident at Pilgrim in its Severe Accident Mitigation Alternatives (SAMA) analysis
>
> The Environmental Report inadequately accounts for off-site health exposure and economic costs in its SAMA analysis of severe accidents. By using probabilistic modeling and incorrectly inputting certain parameters into the modeling software, Entergy has downplayed the consequences of a severe accident at Pilgrim and this has caused it to draw incorrect conclusions about the costs versus benefits of possible mitigation alternatives.

As basis for this contention, Petitioner alleges that the SAMA analysis in the ER did not fully consider alternatives that could mitigate the consequences listed in Appendix B, *e.g.* "Atmospheric releases, fallout onto open bodies of water, releases to ground water, and societal and economic impacts." Petition at 28-29. Petitioner objects to the use of Probabilistic Risk Assessment (PRA) in the analysis of SAMAs, asserting that it "drastically" minimizes the likely impacts of a severe accident by making the costs appear to be negligible. *Id.* At 29. Petitioner further asserts that Entergy used an outdated version of the MACCS2 code and User Guide (*id.* at 31) and "incorrect input parameters, including meteorological, emergency response, and

economic data, into a software model of limited scope." *Id.* at 29. Finally, Petitioner states that Entergy's SAMA analysis looked at risks rather than mitigation alternatives. *Id.*

Staff Response to Proposed Contention 3:

The contention is inadmissible. While it is within scope, that is, it addresses alleged insufficiencies in the SAMA analysis in Entergy's ER, the issues raised are not material to the findings that must be made in this matter. *See e.g. Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 1 and 2), LBP-04-15, 60 NRC 81, 89 (2004); *Private Fuel Storage, LLC.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 179-80 (1998), *aff'd* in part, CLI-98-12, 48 NRC 26 (1998). In addition, the contention is not supported by expert opinion or sufficient facts, as required by 10 CFR § 2.309(f)(1)(v).

As discussed *infra.*, a contention "will be ruled inadmissible if the petitioner 'has offered no tangible information, no experts, no substantive affidavits, but instead only 'bare assertions' and speculation.'" *Fansteel*, CLI-03-12, 58 NRC at 203, quoting *Oyster Creek*, CLI-00-6, 51 NRC at 208. If a petitioner fails to provide the requisite support for its contentions, then a Licensing Board may neither make factual assumptions that favor the petitioner, nor supply information that is lacking. *LES*, LBP-04-14, 60 NRC at 56, (citation omitted); *Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), LBP-01-35, 54 NRC 403, 422 (2001)), *aff'd,* CLI-04-25, 60 NRC 223. Furthermore, if a petitioner does not believe that an application adequately addresses a relevant issue, then the petitioner is required to explain why the application is deficient. *Turkey Point*, CLI-01-17, 54 NRC at 16. The petition must provide "supporting grounds" for its contention that the application must, but does not, consider some information required by law. *Id.*

None of Petitioner's assertions are supported by expert opinion. In a complicated and technical area such as SAMA analysis, the Petitioner cannot rely on its own assertions, but must support its statements with the expert opinion, facts, sources and documents that the Petitioner

intends to rely on. 10 C.F.R. § 2.309(f)(1)(v). Since the Petition contains little or no attribution, the contention is insufficient and is, therefore, inadmissible.

The Petitioner states that "the likely impacts of a severe accident have been drastically minimized by using probabilistic modeling which makes the costs of all severe accidents appear negligible. The overarching defect in the applicant's SAMA analysis is that it looked at severe accident risks, rather than the severe accident mitigation alternatives, as required by the regulations. The regulations require a broad assessment of mitigation alternatives, not an easy dismissal by 'probability weighting.'" Petition at 29.

Petitioner's statements concerning PRA, which is utilized in SAMA analysis, evinces a misunderstanding of the very core of risk-informed decision-making, and how probability and consequence information is used in the SAMA process for identifying potential alternatives and for determining whether a potential alternative warrants implementation. For Pilgrim, a set of 281 possible SAMAs were identified from a number of sources. *See* LRA, ER at p.4-33. These sources included the Pilgrim PRA analysis, and other sources as well. *Id.* These alternatives were further assessed and screened based on a number of considerations. Ultimately, in determining whether an alternative should be implemented the licensee performed a cost-benefit analysis using a methodology that is consistent with the NRC Regulatory Analysis Technical Evaluation Handbook (NUREG/BR-0184). This analysis is designed to identify and estimate the relevant values and impacts of a each proposed change, and provides a structured approach for balancing benefits and costs in determining whether implementation is justified. The PRA is used within this analysis to evaluate the reduction in probabilities (core damage frequency) and consequences (population dose) that would be associated with implementation of each alternative. Use of the PRA in this manner is an essential and widely accepted part of the cost-benefit methodology, as described in Section 5.6 of NUREG/BR-0184. Petitioner offers no

factual support or expert opinion for its assumptions regarding the use of PRA to assess the SAMAs in Entergy's ER.

Basis 3.3.1, Probabilistic Modeling Can Underestimate the True Consequences of a Severe Accident

Staff Response to Basis 3.3.1

Basis 3.3.1 does not support the admissibility of Contention 3. *See id.* at 30. Again, Petitioner offers no expert opinion or other support for its assumptions and conclusions concerning PRA. Petitioner also incorrectly assumes that the probability values from the PRA are used to dismiss all consequences (and SAMAs) out of hand. *Id.* But, in fact, the PRA is used to estimate the benefit of each SAMA. As discussed above, the benefit of each SAMA is expressed in terms of the reduction in core damage frequency (CDF) and the reduction in offsite consequences (population dose) that would be achieved assuming the SAMA was implemented. *See* ER, § E. 2. 3 (p. E. 2-3), and Table E. 2-1 (p. E. 2-15 to 2.44). These reductions are in turn converted to equivalent dollar savings (averted costs) using established NRC guidelines for performing regulatory analysis. *See* NUREG/BR-0186. Decisions regarding SAMA implementation are based on a comparison of these benefits with the estimated cost of implementation. *See* ER, §§ 4.21.5.4 (p.4-44) and 4.21.6 (p. 4-48). *See also* NUREG/BR-0184, § 5.8; NUREG-1555, Environmental Standard Review Plan, Section for SAMA, § 7.3.

The above paragraphs are consistent with the accepted methodology for SAMA analysis. The Petitioner's objections to the use of PRA are without basis. The Applicant followed not only accepted industry practice, but also accepted NRC practice in preparing its SAMA analysis. The SAMAs were looked at and analyzed, but were found not to be viable candidates. They were, therefore discarded. Petitioner has not produced any factual basis or expert opinion in support of its criticisms of the Applicant's methodology.

Petitioner also finds fault with the basic definition of risk: "The product of consequence and frequency of accidental release," stating that this somehow runs afoul of the regulations. Petition at 30. Yet Petitioner provides no support for its thesis that the definition of risk is incorrect or that risk should not be considered in SAMA analysis.

Petitioner's discussion of the Indian Point case is incorrect. Petition at 31. *See Consolidated Edison Co. of N.Y.* (Indian Point, Unit 2), *Power Authority of the State of N.Y.* (Indian Point, Unit 3), LBP-83-68, 18 NRC 811 (1983), aff'd CLI-85-6, 21 NRC 1043 (1985). The quotation alleged to be in the decision distorts the holding in that case. The Board 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 NRC at 1054. The holding was clearly specific to Indian Point and has no relevance here. It is important to note that the Commission in that case instructed the Board to consider serious accidents with "'equal attention' to both probabilities and consequences." *Id.*

Petitioner asserts that "even though the probability of a severe accident is so low that the impacts can be considered small, all plants must still consider alternatives to mitigate the consequences of those accidents," implying that the Applicant did not consider a full range of SAMAS. Yet the ER demonstrates that 281 SAMAs were analyzed in the first instance. The implication is, thus, without basis in fact.

Basis 3.3.2: Entergy Used an Outdated Version of the MACCS2 Code and MACCS2 User Guide, and Ignored Warnings About the Limitations of this Model

Staff Response to Basis 3.3.2

In Basis 3.3.2, Petitioner contends that Entergy used an outdated version of the MACCS2 (MELCOR Accident Consequence Code System) code and users guide. *Id.* at 31. Petitioner asserts that Entergy *may* have "minimized consequences by using incorrect input parameters for

the computer consequence model." *Id.* This is nothing more than mere speculation and is insufficient to support the contention.

Petitioner acknowledges that the regulations do not stipulate how the consideration of SAMAs must be accomplished. *Id.* Petitioner further acknowledges that NUREG – 1437 discusses the CRAC2 Code and the MACCS2 Code and that the MACCS2 "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.* Petitioner cites a Department of Energy analysis of the MACCS2 Code that concludes that when the code is run for the intended applications utilizing information appropriate information contained documentation, "it is judged that it will meet the intended function." *See* MACCS*2 Computer Code Application Guidance for Documented Safety Analysis*, Department of Energy, June 2004.

Petitioner concludes that Entergy used an out of date User Guide for MACCS2: the Code Manual for MACCS2: Volume 1, User's Guide, SAND97-0594 (NUREG/CR-6613), which was written in 1997. *Id.* at 32-33. This is based on Petitioners mistaken conclusion that the DOE document cited above is a new Users Guide. But it is, in fact, a DOE document intended for use by DOE analysts, not the Code user's guide. The Users Guide has not been updated since 1997. Thus, the version of the User's Guide referenced in the ER is, in fact, the last official release of the User's Guide. Any implication that the applicant is running an older version of MACCS2, because it is using the 1997 guide, and has not addressed known errors in the code that have been addressed in the new version of the code (Version 1.13.1, January 2004) is without foundation. Failure of the applicant to cite this partic ular document is an insufficient basis to conclude that the applicant is running an older version of MACCS2, and has not addressed known errors in the code. Although Petitioner cites some possible errors that the Applicant *could* have made, there is a complete failure to show that any errors were, in fact, made by the

Applicant. This basis is therefore mere speculation and cannot be utilized in support of the contention.

Petitioner implies that Applicant manipulated the data input in order to affect the results and seeks the complete inputs to the MACCS2 for the license renewal of Pilgrim. *Id.* at 34. But there is no legal support for the position that the Applicant should be required to provide the complete inputs. *See e.g. Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), LBP-03-17, 58 NRC 221 (2003), *aff'd*, CLI-03-12, 58 NRC 419 (2003) (The regulations do not require license renewal applicant to publish its entire PRA). The failure of the applicant to provide a complete listing of the MACCS2 input file is not a sufficient basis for asserting or concluding that the input is flawed, or that the applicant has inappropriately manipulated the input. Although a complete listing of the MACCS2 input file was not provided in the ER, a summary description of the site-specific input parameters in each of the major modeling areas is provided in Section E.1.5.2 of the ER. These areas include population data, land fraction, watershed class, regional economic data, agriculture data, meteorological data, and emergency response assumptions. The petitioner has not taken issue with any of these specific inputs, other than raising more general concerns regarding modeling of sea breeze, emergency response, and economic data, as discussed below. The request for a complete input listing appears to be designed to obtain discovery to be used as a basis for additional contentions, and as such, is specifically prohibited by the Commission. *See McGuire, supra.,* CLI-03-17, 58 NRC at 424 ("[O]ur contention rules bar contentions where petitioners have only 'what amounts to generalized suspicions, hoping to substantiate them later,' or 'simply desire more time and more . . . information' in order to identify a genuine material dispute for litigation.").

Basis 3.3.3 Entergy Used Incorrect Input Data to Analyze Severe Accident Consequences

Staff Response to Basis 3.3.3

In Basis 3.3.3, Petitioner alleges that Entergy used incorrect input data to analyze severe accident consequences, stating that "there are limitations inherent in the software which can result in an incorrect evaluation of actual plume dispersion and which by design omit the majority of economic costs." Petition at 34. "In addition to these built-in limitations, Entergy's inputs to the code, including meteorological data, demographics, emergency response, and regional economic data, were incomplete, incorrect or out of date." *Id.* at 34. Petitioner does not provide any expert opinion regarding the alleged deficiencies of the Applicant's analysis.

Petitioner objects to the use of a straight line Gaussian plume model in the MACCS2 code. *Id.* at 34-35. Petitioner also objects to Applicant's use of only two sources of meteorological input data, stating that multiple sites should have been used and Entergy should have collected data regarding wind speed, wind direction, dispersion, demographics, emergency response, evacuation delay time, evacuation speed, and economics. *Id.* at 36-45.

Petitioner has not established that any of these alleged shortcomings of MACCS2 are, in fact, deficiencies, or that they impact the results of the SAMA analysis or reduce the reliability of the code to the point that the code cannot or should not be used to support the SAMA analysis. The code has been previously evaluated and found to be sufficient to support regulatory analyses and cost-benefit analyses. *See e.g.* NUREG/BR-0184, p. 5.38; NUREG/CR-6853, Comparison of Average Transport and Dispersion Among a Guassian, a Two-dimensional, and a Three-dimensional Model, Lawrence Livermore National Laboratory, p. 5 (October 2004). The Petitioner has not provided any contradictory expert opinion on the matter. The basis is not supported and, therefore, does not support the admissibility of the Contention.

Regarding Petitioner's claims about the sea breeze phenomenon at coastal sites such as Pilgrim, there has not been a sufficient showing that: (1) the phenomenon is unique to the Pilgrim site and not present at many other coastal sites where MACCS2 has been utilized, (2) the Applicant did not, in fact, model this phenomenon, or (3) the claimed failure to fully characterize or model the phenomenon would result in any meaningful difference in results of the SAMA evaluation or render the site-specific MACCS2 data inadequate. In fact, the petitioner has not even indicated whether the phenomenon would increase or decrease offsite consequences. Other than to offer its own views as to how Entergy might have collected meteorological data, the petitioner has not made any claims or offered any supporting arguments as to why the applicant's meteorological data is inadequate or whether/how the results of the SAMA evaluation would be impacted if the data were collected using the "improved scheme for meteorological monitoring"

Petitioner states that the NRC has acknowledged that more meteorological data may be required. Petition at 38. The Staff disagrees. The Petitioner has not shown that the Regulatory Guide (RG) cited as authority for that assertion, RG 1.194, is applicable to SAMA analysis. On its face, RG 1.194 pertains to control room habitability assessments. RG 1.194, § C.1 (p. 1.194-3). Furthermore, the Regulatory Guide indicates that with sufficient justification, the minimum meteorological data set is one complete year of hourly observations. *Id.* at 1.194-5 and 6. The Staff notes that the MACCS2 meteorological data file format is designed to accept only 1 year of hourly recordings of the weather data. NUREG/CR-6613, Vo. 1, Appendix A, § A.1, p. a-1. The Petitioner has failed to show that additional data is necessary or that the one year of data is insufficient.

Petitioner asserts that Entergy's SAMA analysis could have been more realistic or better. For example, Petitioner takes issue with Entergy's estimation of total population within a 50 mile radius, stating that it would have been more realistic to do it as Petitioner suggests. Petition at

38. But the Petition fails to establish why the applicant's approach is inadequate, and that the petitioner's "more realistic approach" would have any impact on SAMA results. Similarly, petitioner objects that the model assumes that the population is out of danger once crossing the 10-mile boundary, but fails to establish why the applicant's approach is inadequate, and that an alternative approach would have any impact on SAMA results. *Id.* at 39. The same is true of the remainder of Petitioner's objections to the model. *See id.* at 39-45. Nowhere does the petition establish why Entergy's approach is inadequate or that an alternative approach would have any impact on the SAMA results.[9] Thus, Petitioner has failed to show that the issue is material to the findings or that a genuine dispute exists on a material issue of law or fact.

Basis 3.3.4 The Faulty SAMA Analysis Used by Entergy in the Environmental Report Caused it to Wrongly Dismiss Mitigation Alternatives Such as Adding a Filter to the Direct Torus Vent

Staff Response to Basis 3.3.4

Finally, in Basis 3.3.4, the Petition alleges that the SAMA analysis used by Entergy was faulty and caused it to wrongly dismiss mitigation alternatives such as adding a filter to the Direct Torus Vent. Petition at 45. This is the only specific error in the ER delineated in the petition. However, the petitioner fails to establish that a more appropriate treatment of the benefits of the filtered vent would result in the filtered vent becoming cost-beneficial. Therefore, this basis does not support the admission of Contention 3.

Conclusion as to Contention 3

Based on the foregoing, the Staff contends that Contention 3 is inadmissible.

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[9] Petitioner's reliance on a MACCS2 analysis for Indian Point is misplaced. Petition at 45. As Petitioner notes, the analysis was site specific to Indian Point. Thus, it has no applicability here.

Proposed Contention 4:

> The Environmental Report Fails to Address Severe Accident Mitigation Alternatives (SAMAs) Which Would Reduce the Potential for Spent Fuel Pool Water Loss and Fires
>
> The Environmental Report is inadequate because it fails to address the environmental impacts of the on-site storage of spent fuel assemblies which, already densely packed in the cooling pool, will be increased by fifty percent during the renewal period. A severe accident in the spent fuel pool should have been considered in Applicant's SAMA review just as accidents involving other aspects of the uranium fuel cycle were. In addition, new information shows spent fuel will remain on-site longer than was anticipated and is more vulnerable than previously known to accidental fires and acts of malice and insanity. The ER should address Severe Accident Mitigation alternatives that would substantially reduce the risks and consequences associated with on-site spent fuel storage. Petitioners have outlined some of these alternatives.

Petition at 50.

As basis for this contention, Petitioner asserts that a severe accident in a SFP should be considered as part of the SAMA analysis. *Id.* at 50. Petitioner also asserts that a severe accident involving a spent fuel pool (SFP) is a Category 2 issue under 10 CFR Part 51, Appendix B. Petition at 52.

Staff's Response to Proposed Contention 4

The Contention is Outside the Scope of License Renewal

This contention is inadmissible. It is outside the scope of this proceeding. Pursuant to 10 C.F.R. § 51.53(c)(2), the applicant is not required to provide information regarding the storage and disposal of spent fuel. The issue of the admissibility of contentions requesting consideration of SAMAs relating to SPF accidents in license renewal proceedings was settled by the Commission in the *Turkey Point* case. *See Turkey Point*, CLI-01-17, 54 NRC 3. In that case, the Petitioner proffered a contention that concerned the risk of severe accidents involving spent fuel caused by aircraft crashes or hurricanes. *Id.* at 6. Apparently, the contention also raised issues

arising from NUREG-1738, the Staff's 2001 study of SFP accident risk at decommissioning reactors[10] and argued that this SFP issue was a Category 2 issue under 10 C.F.R. Part 51, Appendix B. *See Turkey Point*, LBP-01-06, 53 NRC at 164-65. The Licensing Board held that portion of the contention inadmissible because the issue of onsite spent fuel storage is a Category 1 issue that "cannot be examined further in a license renewal proceeding," and is further barred by the Commission's Waste Confidence Rule. *Id.* at 165. On appeal, the Commission affirmed the Board's decision for the reasons given by the Board. *Turkey Point*, CLI-01-17, 54 NRC at 6. The Commission went on to hold that:

> The GEIS's finding encompasses spent fuel accident risks and their mitigation, See GEIS, at xlviii, 6-72 to 6-76, 6-86, 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 spent fuel storage encompasses the risk of accidents, [the] Contention . . . falls beyond the scope of individual license renewal proceedings.

Id. at 21.

Regarding the admissibility of SFP SAMA contentions, the Commission held:

> Part 51 does provide that "alternatives to mitigate severe accidents must be considered for all plants that have not considered such alternatives." See Appendix B to Subpart A of Part 51; see also GEIS at 5-106 to 5-116. . . . Part 51's reference to "severe accident mitigation alternatives" applies to nuclear reactor accidents, not spent fuel storage accidents. . . . As we have seen, the GEIS deals with spent fuel storage risks (including accidents) generically, and concludes that "regulatory requirements already in place provide adequate mitigation." GEIS at 6-86, 6-92, xlviii; see also id. at 6- 72 to 6-76.
>
> On the issue of onsite fuel storage, then, the GEIS rejects the need for further consideration of mitigation alternatives at the license renewal stage. Id. Indeed, for all issues designated as Category 1, the Commission has concluded that additional site-specific mitigation alternatives are unlikely to be beneficial and need not be considered for license renewal, See 61 Fed. Reg. at 28,484; GEIS at 1-5, 1-9.

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[10] NUREG-1738, Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants, (Feb. 2001).

Id. at 21-22. The Contention is, thus, outside the scope of this proceeding and is, therefore, inadmissible.

Petitioner's arguments notwithstanding, *Turkey Point* obviates the need to address this matter any further. Nonetheless, the Staff will briefly deal with the remaining issues raised.

An Adjudicatory Proceeding is not the Appropriate Forum for Addressing Changes to the Commission's Regulations

Petitioner objects to the application of the Commission's regulations and precedent that require any request to change the categorization of an issue under Appendix B from 1 to 2 be brought before the Commission via a petition for rulemaking or a waiver request. Petition at 54-56. *See e.g. Turkey Point,* CLI-01-17, 54 NRC at 12, citing [Final Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses], 61 Fed. Reg 28,467, 28,470 (1996). *See also* 10 C.F.R. § 2.335.

As the Commission stated in *Turkey Point:*

> 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, for example, 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. § 2.758 [now 10 C.F.R. § 2.335] . . . . Petitioners with evidence that a generic finding is incorrect for all plants may petition the Commission to initiate a fresh rulemaking. See 10 C.F.R. § 2.802. Such petitioners may also use the SEIS notice-and-comment process to ask the NRC to forgo use of the suspect generic finding and to suspend license renewal proceedings, pending a rulemaking or updating of the GEIS. See 61 Fed. Reg. at 28,470; GEIS at 1-10 to 1-11.

Turkey Point, CLI-01-17, 54 NRC at 12. The request that this Board ignore the Commission's regulations is a direct attack on the regulations and can not be admitted as a contention. *See e.g.* 10 C.F.R. § 2.335.

There is no "new and significant information" regarding the storage of spent fuel onsite.

The Petitioner states that the requirement in 10 C.F.R. § 51.53(c)(iv) that the environmental report "contain any new and significant information regarding the environmental impacts of license renewal" mandates that the Applicant address SFP SAMAs based on alleged "new and significant" information regarding (1) an increase in the length of time that spent fuel will have to remain on site, and (2) an increase in the risk of an accidental SFP fire at Pilgrim. Petition at 56-72. The Staff submits that this information is neither new nor significant.

Regarding Petitioner's first point, although not required to address spent fuel storage in the ER, the Applicant did address the additional storage issue by indicating that, if necessary, it will seek authorization to construct an Interim Spent Fuel Storage Installation (ISFSI). LRA, Environmental Report, Appendix E, 3.2.3. Since Pilgrim still has space in its SFP and may not need an ISFSI in the future and is not proposing any modification to the facility, the statement is sufficient. Petitioner has not pointed to any regulation that would require the Applicant to do more.

In addition, the "new information" is not new, nor will it affect the plant during its operating years, including any extension. Therefore, it is not material to any issue in this proceeding. To the extent that the Petitioner addresses the Waste Confidence Rule and the underpinnings thereof, that constitutes an attack on the Commission's regulations and cannot be raised in this proceeding. *See* 10 C.F.R. §§ 2.335 and 51.23.

Regarding Petitioner's second point - the alleged increased risk of spent fuel fires - again the information is neither new nor significant.

To the extent that Petitioner claims that the information in NUREG-1738 is new, it is not. Petition at 62. The Commission was well aware of it at the time it decided Turkey Point. *See Turkey Point*, CLI-01-17, 54 NRC at 22, n.11. Nor is it significant. As pointed out by the

Commission, that study, among others, "concluded that the risk of [spent fuel pool] accidents is acceptably small."[11] *Id.* at 22. Similarly, the 2001 Alvarez report relied upon by Petitioner is not new or significant. The Staff prepared and the Commission approved a response to the report in 2003, concluding that it was overly conservative and unrealistic, spent fuel stored is safe, and the measures in place to protect the public are adequate.[12]

None of the remaining information cited by Petitioner is new or significant. For example, the possible loss of pool water for a variety of reasons is a well known issue, and the types of events cited were considered within previous analyses (*e.g.*, NUREG-1738), and the likelihood of these events progressing unmitigated to a SFP fire was found to be very small.

To the extent that Petitioner raises issues relating to terrorism, the Commission has said that there is no need to address terrorism issues in license renewal proceedings. "[I]t is sensible not to devote resources to the likely impact of terrorism during the license renewal period, but instead to concentrate on how to prevent a terrorist attack in the near term at the already licensed

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[11] Petitioner makes the statement that in NUREG-1738, the Staff conceded that if the water in a high density SFP is lost, even if the fuel is one year or more from discharge, the fuel will heat up to a point there the zircaloy cladding will melt and then catch fire. Petition at 62. This statement is incorrect. For purposes of offsite consequence analyses in NUREG-1738, the staff did assume that if the water level in a fuel storage pool drops below the top of the spent fuel, a SFP fire would result (p.3-35, 3-37, and 3-38). However, this was considered a conservative assumption that bounds all sequences that could lead to fuel uncovery, and uncertainties in whether these sequences would lead to a SFP fire. For purposes of offsite consequence analyses in NUREG-1738, the staff also conservatively assumed that all of the fuel assemblies in the SFP will participate in a SFP fire, and did not credit the possibility that fewer assemblies might be involved in a SFP in later years because of substantially lower decay heat in the older assemblies (p.3-31). The staff noted that based on analyses performed up to that time fire propagation is expected to be limited to less than two full cores 1 year after shutdown, and that the assumption that all of the stored fuel participates adds conservatism to the calculation.

[12] COMSECY-03-0018, August 7, 2003, ADAMS Accession No. ML052340740.

facilities." *McGuire*, CLI-02-26, 56 NRC at 365. In addition, the Commission affirmed that it has adequately address terrorism issues generically in the GEIS.[13]

In sum, the Petitioner has not demonstrated that there is any "new and significant" information that the Applicant was required to address in its ER, pursuant to 10 C.F.R. § 51.53(c)(iv).

The Mitigation Alternatives Proffered by Petitioner are not Material and are Outside the Scope of this Matter

The Petitioner offers several mitigation alternatives, including reconfiguring the SFP and use of dry cask storage. Petition at 72-77. None of these proposals are material to this case, since, as discussed above, fuel storage issues are beyond the scope of this proceeding and SAMAs involving SFPs are not required for license renewal.

Conclusion as to Contention 4

Based on the foregoing discussion, the Staff contends that Contention 4 is inadmissible.

Proposed Contention 5

> New and significant information about cancer rates in the communities around Pilgrim and the demographics of these communities has become available. In addition, new studies show that even low doses of ionizing radiation can be harmful to human health. Epidemiological studies of cancer rates in the communities around Pilgrim show an increase of radiation-linked disease that can be attributed to past operations of the plant. The demographics of the population immediately surrounding the plant, including its age and geographical distribution, make this population more susceptible to radiation-linked damage than was contemplated when the plant was licensed. Pilgrim does not currently have off-site monitoring capabilities that can properly track releases of radiation into the community.

Staff's Response to Contention 5:

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[13] "Even if we were required by law to consider terrorism under NEPA, the NRC has already issued a . . . 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 releases would be no worse than those expected for internally initiated events." *Duke* 56 NRC at 365, n.24 (citations omitted).

Proposed Contention 5 is inadmissible because it is not based on "new and significant information" (*See* 10 C.F.R. § 51.53(c)(iv)) and presents Category 1 issues that are outside of the scope of these proceedings (*See* 10 C.F.R. Part 51, Subpart A, Appendix B; § 2.309(f)(1)(iii)). Additionally, it represents an impermissible attack on NRC regulations (*See* 10 C.F.R. § 2.335) and lacks a basis in fact or expert opinion. *See* 10 C.F.R. § 2.309(f)(1)(v). Petitioner asserts that "[n]ew and significant information...show[s] that even low doses of ionizing radiation can be harmful to human health" and that epidemiological studies demonstrate that cancer rates have increased in communities around Pilgrim and that the local population is more at risk due to changing demographics. Petition at 79. As discussed below, none of the asserted bases for Contention 5 survive regulatory scrutiny. However, the overarching difficulty of this contention is that, in its entirety, it is outside the scope of license renewal. Appendix B to Part 51 categorizes radiation exposure to the public during the license renewal term as Category 1. *See* 10 C.F.R. Part 51, Subpart A, Appendix B, "Human Health." The Commission has found that the "[r]adiation doses to the public will continue at current levels associated with normal operations." *Id.* As discussed below, Petitioner has not presented any new or significant information that would cause the issue raised in this contention to be transformed into a Category 2 issue. Therefore, the contention is inadmissible.

Contention Basis 5.3.1: The Population Directly Abutting Pilgrim is Increasing Substantially and the Population is Older and thus More Susceptible to Radiation Damage

Staff's Response to Contention Basis 5.3.1

Contention Basis 5.3.1 fails to demonstrate that a genuine dispute exists as to law or fact (*See* 10 C.F.R. § 2.309(f)(vi)), lacks basis (*See* 10 C.F.R. § 2.309(f)(v)), and, does not contain new and significant information. *See* 10 C.F.R. § 51.53(c)(iv). Petitioner asserts that the population in the vicinity of Pilgrim has increased significantly over that anticipated during the

plant's construction and faults the ER for not "highlighting" the population growth in the region which it insists will be growing older, and will thus be more susceptible to radiological exposure. Petition at 82-83.

Nowhere, however, does Basis 5.3.1 demonstrate that a genuine dispute exists with the Applicant on a material issue of law or fact. *See* 10 C.F.R. § 2.309(f)(1)(vi). Petitioner's sole reference to the ER states that it does not "highlight" population and demographic data, but otherwise fails to state if, and why, it is deficient. *See id.* This does not meet the requirement to "include references to specific portions of the application...that the petitioner disputes and the supporting reasons for each dispute." *Millstone*, CLI-01-24, 54 NRC at 361. The accompanying discussion of population growth (Petition at 83) suffers from the same flaw. *See Millstone*, CLI-01-24, 54 NRC at 361.

Additionally, Contention Basis 5.3.1 fails to provide a sufficient basis of fact or expert opinion. *See* 10 C.F.R. § 2.309(f)(1)(v). It merely offers two studies of older workers at two nuclear facilities, who are presumably at higher risk, and have no apparent connection with the general population around Pilgrim. Petition at 83. In relying on these studies, Petitioner fails to note that "providing any material or document as a basis for a contention, without setting forth an explanation of its significance, [the material or document] is inadequate to support the admission of a contention." *Fansteel*, CLI-03-13, 58 NRC at 205. In a related sense, by proffering these studies, Petitioner asks the Licensing Board to impermissibly "make assumptions of fact that favor the petitioner." *LES*, LBP-01-14, 60 NRC at 55.

Petitioner's reliance on a letter abstract (Petition at 83) suffers from the same defect. *See* 10 C.F.R. § 2.309(f)(1)(v). Besides providing an inadequate basis, as the letter itself notes that further modeling is needed (Petition at Exhibit F-4), the letter abstract apparently is intended to call into question whether radiological exposure regulations were too lenient in permitting licensed

operations that nevertheless posed a health hazard to the local community. This latter point comprises an impermissible attack, albeit a tangential one, on Commission regulations. *See* 10 C.F.R. § 2.335; *Millstone*, CLI-01-24, 54 NRC at 364. Finally, Petitioner offers nothing in the way of new and significant information in Basis 5.3.1 within the meaning of 10 C.F.R. § 51.53(c)(iv).

In sum, Contention Basis 5.3.1 fails to demonstrate that a material dispute exists with the Applicant regarding a material issue of law or fact. Further, it provides an insufficient basis and is in part, a disallowed attack on Commission regulations. Therefore, Basis 5.3.1 cannot support the admissibility of Proposed Contention Basis 5.

Contention Basis 5.3.2: Radioactive Emissions from Pilgrim

Staff's Response to Contention Basis 5.3.2

Contention Basis 5.3.2 is an impermissible attack on Commission regulations and therefore cannot serve as a basis for Proposed Contention 5. *See* 10 C.F.R. § 2.335; *Millstone*, CLI-01-24, 54 NRC at 364. Relying on the NAS BEIR VII Study purportedly demonstrating that "there is no safe dose of radiation for humans," Petitioner contends that the application is flawed because it nonetheless permits releases of low levels of radioactivity that "meet the limits specified in NRC's regulations" and that are "closely monitored and evaluated for compliance with the NRC restrictions..."[14] Petition at 84.

[14] The Staff takes exception to Petitioner's interpretation of the BEIR VII Study. The Staff evaluated the BEIR VII study and concluded that no revision of NRC dose standards was warranted based on its findings. BEIR VII reconfirmed the linear, no-threshold dose-response relationship between the exposure to ionizing radiation and the development of cancer in human beings, the relationship upon which the NRC has always based radiation dose standards. BEIR VII also confirmed that the risk of health effects at low doses (below 10,000 millirem) and low dose rates is very small. The radiation risk coefficients in BEIR VII for mortality from all solid cancers and leukemia are similar to those in BEIR V, IRCP, and UNSCEAR.

This plainly constitutes an inadmissible assault on Commission regulations. *See* 10 C.F.R. § 2.335; *Millstone*, CLI-01-24, 54 NRC at 364. Aside from this, Basis 5.3.2 fails to show that a material dispute exists with the Applicant on a genuine issue of law or fact. *See* 10 C.F.R. § 2.309(f)(1)(vi). Nowhere does it challenge the application as deficient pursuant to regulation (*See id*.) and instead affirms the opposite. Petition at 84. Finally, Contention Basis 5.3.2 fails to present "the factual information and expert opinions necessary to support its contention adequately." *LES*, LBP-04-14, 60 NRC at 55; *See* 10 C.F.R. § 2.309(f)(1)(v). Accordingly, Basis 5.3.2 is unsupportive of the admissibility of Contention 5.

Contention Basis 5.3.3: Radiation-Linked Diseases in Communities near Pilgrim

Staff's Response to Basis 5.3.3

This basis fails to support the admissibility of Contention 5 because it fails to raise a genuine dispute of law and fact (*See* 10 C.F.R. § 2.309(f)(1)(vi)), lacks basis in fact or expert opinion (10 C.F.R. § 2.309(f)(1)(v)), and, does not comprise "new and significant information." *See* 10 C.F.R. § 51.53(c)(iv). Citing a series of studies, Petitioner contends, "[t]here is new information since Pilgrim began operations in 1972 that shows increases in radiation-linked diseases in communities around Pilgrim." Petition at 85. Petitioner, however, fails the requirement to "include references to the specific portions of the application...that the petitioner disputes and the supporting reason for each dispute." *Millstone*, 54 NRC at 361; *See* 10 C.F.R. § 2.309(f)(1)(vi). Similarly, Petitioner does not specify facts that are in dispute with the Applicant. *See id.* Consequently, it is unclear from Basis 5.3.3 what the Petitioner intends to litigate, and it is therefore, unsupportive of the admissibility of Proposed Contention 5. *Millstone*, CLI-01-24, 54 NRC at 363; 10 C.F.R. § 2.309(f)(1)(vi).

Basis 5.3.3.also lacks support and impermissibly consists of a litany of general suspicions. *See Oconee,* 58 NRC at 424; 10 C.F.R. § 2.309(f)(1)(v). It offers a vague and unsubstantiated

assertion (*See Millstone*, CLI-01-24, 54 NRC at 363) that there is a causal link between increased risks of cancer in areas surrounding Pilgrim and a purported chain of events. Petition at 85. However, the *Southeastern Massachusetts Health Study* cited by Petitioner to allege that increases in radiation-linked cancers were due to practices at Pilgrim (Petition a 85), has been called into serious question upon subsequent, joint industry and State review. *A Review of the Southeastern Massachusetts Health Study*, Hoffman, Lyon, Masse, Pastides, Sandler and Trichopoulus (1992). Essentially, Petitioner is proffering "no more than a speculative chain of events leading to potential injury." *Millstone*, CLI-01-24, 54 NRC at 359.

Likewise, the remainder of Basis 5.3.3 consists of a series of strung together studies that do not meet a minimum factual showing of a nexus with events at Pilgrim, or the LRA, and impermissibly invite "mere speculation" and "bare assertions alleging that a matter should be considered." *LES*, LBP-04-14, 60 NRC at 55. In the end, Basis 5.5.3 is an attempt to resurrect data that at its core, is not sufficiently new or significant. *See* 10 C.F.R. § 51.53(c)(iv). Therefore, Contention Basis 5.5.3 cannot support the admissibility of Proposed Contention 5.

Contention Basis 5.3.4: BEIR VII: Health Effects of Low Level Ionizing Radiation

Staff's Response to Contention Basis 5.3.4

Contention Basis 5.3.4 is an inadmissible attack on Commission regulations. *See* 10 C.F.R. § 2.335; *Millstone*, CLI-01-24, 54 NRC at 364. It also fails to show that a genuine dispute exists with the Applicant on a matter of law or fact and lacks a basis in fact or expert opinion. *See* 10 C.F.R. § 2.309(f)(1)(v)-(vi). Petitioner relies on the NAS BEIR VII Report to apparently assert that "no amount of radiation is safe" and goes on to rely on "[a] summary of cancer deaths estimated at NRC's dose release provided in the BEIR VII Report" to conclude that "it is not surprising that radiation-linked disease rates are higher than expected in communities exposed to Pilgrim's past radiological releases." Petition at 87-88. From these statements, it is

evident that Basis 5.3.4 is a platform for impermissibly attacking Commission regulations and, on this ground alone, cannot support the admissibility of Proposed Contention 5. *See* 10 C.F.R. § 2.335; *Millstone*, CLI-01-24, 54 NRC at 364.

Petitioner also fails to assert that a genuine dispute as a matter of law or fact exists with the Applicant. *See* 10 C.F.R. 2.309(f)(1)(vi); *LES*, LBP-04-14, 60 NRC at 57. Contention Basis 5.3.4 contains no reference whatsoever to the application and nowhere cites a regulatory basis as to why it is deficient. *Id.* Therefore, Basis 5.3.4 cannot support the admissibility of Proposed Contention 5 on this ground as well.

Finally, in presenting Contention Basis 5.3.4, Petitioner fails "the obligation of the petitioner to present the factual information and expert opinions necessary to support its contention adequately." *LES*, LBP-04-14, 60 NRC at 55; *See* 10 C.F.R. § 2.309(f)(1)(v). It relies on a generalized summary in the BEIR VII report and purportedly out of date NRC regulations to "[validate] concerns raised by Petitioners and [help] explain the radiation-linked disease observed near Pilgrim NPS." Petition at 88. Here and elsewhere in Basis 5.3.4, there are no specific facts raised to support this conclusion. *See* 10 C.F.R. § 2.309(f)(1)(v). Further, Petitioner offers no expert opinion in support of this basis. *Id.*

At bottom, Contention Basis 5.3.4 is defective on three fronts: as an impermissible attack on Commission regulations (*See* 10 C.F.R. § 2.335); its failure to present a genuine dispute (*See* 10 C.F.R. § 2.309(f)(1)(vi); and its lack of an adequate basis. *See* 10 C.F.R. § 2.309(f)(1)(v). It therefore fails to support the admissibility of Proposed Contention 5.

Contention Basis 5.3.5: Bio-Accumulation of Radionuclides in the Environment from 1972-2032

Staff's Response to Contention Basis 5.3.5

Contention Basis 5.3.5 does not present new and significant information (See 10 C.F.R. § 51.53(c)(iv)). Nor does it raise a genuine dispute of law or fact (See 10 C.F.R.

§ 2.309(f)(1)(vi)), and, it lacks basis (10 C.F.R. § 2.309(f)(1)(v)), and therefore, cannot support the admissibility of Proposed Contention 5. Petitioner asserts that the effects of radiation exposure are cumulative and goes on to contend that alleged past releases of radionuclides from Pilgrim "should be taken into account when actual ongoing doses to the public are evaluated." Petition at 89.

None of the information offered by Petitioner in this basis is new or significant (See 10 C.F.R. § 51.53(c)(4) to the extent to warrant a waiver from being a Category 1 issue. *See* Part 51, Subpart A, Appendix B; *Fla. Power & Light Co.*, CLI-01-17, 54 NRC at 17). Contention Basis 5.3.5 also cites no portion of the application, or, any facts that are in dispute with the Applicant. *See* 10 C.F.R. § 2.309(f)(1)(vi). At most, Petitioner offers, as previously noted, a vague suggestion that alleged past releases should be "taken into account." Petition at 89. Therefore, Basis 5.3.5 cannot support the admissibility of Proposed Contention 5. *See id.*

Petitioner also fails to provide adequate facts or expert opinion in Contention Basis 5.3.5. *See* 10 C.F.R. § 2.309(f)(1)(v). In this regard, Petitioner cites a vague portion of a general study to suggest, *"[i]f* radioactive emissions persist for years, decades, or even centuries...then even modest reductions in annual discharges *may not* be sufficient to prevent an environmental build up of these materials over time." Petition at 88 [emphasis added]. This assertion fails to meet the Commission's requirement for specificity in addition to the disfavoring of "generalized suspicions." *See Duke Energy Corp.,* CLI-03-17, 58 NRC at 424. The second portion of Contention Basis 5.3.5 suffers from the same defect. *See id.* Consequently, Basis 5.3.5 cannot support the admissibility of Proposed Contention 5 on this ground as well.

Contention Basis 5.3.6: Pilgrim has operated, and most likely will continue to operate with defective fuel.

Staff's Response to Contention Basis 5.3.6

Contention Basis 5.3.6 cannot support the admissibility of Proposed Contention 5, because it fails to present a genuine issue of law or fact with the Applicant (*See* 10 C.F.R. § 2.309(f)(1)(vi)), is outside of the scope of this proceeding (*See* 10 C.F.R. Part 51, Subpart A, Appendix B; 10 C.F.R. § 2.309(f)(1)(iii)), and lacks basis. *See* 10 C.F.R. § 2.309(f)(1)(v). Petitioner asserts that defective fuel at Pilgrim has led to some indeterminate exposure and in support, relies on a study asserting out of tolerance emissions in the 1970s, NRC correspondence and Commissioner statements. Petition at 89-90.

First, Petitioner does not cite any portion of the application and does not otherwise present a dispute of law or fact with the Applicant. *See* 10 C.F.R. § 2.309(f)(1)(vi). This fails the requirement that a contention alleging that an application is deficient must identify "each failure and the supporting reasons for the petitioner's belief.'" *Millstone*, CLI-01-24, 54 NRC at 363; *See* 10 C.F.R. § 2.309(f)(1)(vi).

Contention Basis 5.3.6 is also flawed because the radiological effects of purportedly defective fuel are primarily an occupational safety concern as supported by ALARA (See 10 C.F.R. Part 50, Appendix I), and, not a Category 2 issue within the meaning of the regulations. *See* 10 C.F.R. Part 51, Subpart A, Appendix B. This same point can be seen from the very transcript sited by Petitioner and the related NRC Staff presentation. *See* Petition at 89 (citing Briefing on Nuclear Fuel Performance, Transcript, p.4, (Feb. 24, 2005)).

Finally, Petitioner's reliance on a series of unconnected statements and correspondence are no more than "generalized suspicions" (*See Duke Energy Corp.,* CLI-03-17, 58 NRC at 424) in support of a "vague and unparticularized contention." *Millstone*, 54 NRC at 363. In sum, these statements do not support what seems to Petitioner's assertion here, that, defective fuel at Pilgrim constitutes a radiological hazard. *See* 10 C.F.R. § 2.309(f)(1)(v). For this, and the above reasons, Basis 5.3.6 cannot support the admissibility of Proposed Contention 5.

Contention Basis 5.3.7: Monitoring Radioactive Emission

Staff's Response to Contention Basis 5.3.7

Contention Basis 5.3.7 cannot support the admissibility of Proposed Contention 5 because it raises a Category I issue (*See* 10 C.F.R. Part 51, Subpart A, Appendix B) without providing new and significant information. *See* 10 C.F.R. § 51.53(c)(iv). It also fails to raise a genuine issue of law or fact (*See* 10 C.F.R. § 2.309(f)(1)(vi)) and lacks basis. *See* 10 C.F.R. § 2.309(f)(1)(v). Petitioner asserts that improved monitoring of radiological emissions in the vicinity of Pilgrim needs to be implemented if there is doubt regarding the purported link between alleged emissions from Pilgrim and alleged higher cancer rates in the vicinity. Petition at 90.

However, Petitioner presents no new and significant information in Basis 5.3.7. What is offered, is essentially a rehash of the *Southeastern Massachusetts Health Study* previously discussed. Petition at 90. In offering this study, Petitioner ignores the Commission's admonition that, "[r]adiation doses to members of the public from current operation of nuclear power plants have been examined from a variety of perspectives and the impacts were found to be well within design objectives and regulations in each instance." *Fla. Power & Light Co.*, CLI-01-17, 54 NRC at 17. As such, there is nothing new and significant raised by Petitioner in Basis 5.3.7 that changes this to a Category 2 issue. (*See* 10 C.F.R. Part 51, Subpart A, Appendix B).

Further, Petitioner presents no genuine dispute of law or fact with the Applicant and indeed, nowhere cites the LRA. *See* 10 C.F.R. § 2.309(f)(1)(vi). In this respect, Petitioner presents a false choice to the Applicant, either accept that the causal nexus exists, or, adopt a revised monitoring program. Petition at 90-91. As noted, Petitioner cites no basis in law or fact for this proffer that meets regulatory minimums. *See* 10 C.F.R. § 2.309(f)(1)(vi). In this regard, "any contention that seeks to impose stricter requirements than those set forth by regulations is inadmissible." *LES*, LBP-04-14, 60 NRC at 55.

Finally, Petitioner fails to present a basis in fact or expert opinion (*See* 10 C.F.R. § 2.309(f)(1)(v)) for the conclusory statement that "this aging plant does not use monitors which would allow state or federal authorities to confidently measure radiation releases." Petition at 91. Therefore, Basis 5.3.7 cannot support the admissibility of Proposed Contention 5.

Conclusion as to Contention 5

Based on the foregoing discussion, the Staff contends that Contention 5 is inadmissible.

Adoption of Proposed Contention Submitted by the Massachusetts Attorney General

On June 5, 2006, Petitioner filed a notice to adopt the contention proposed by the Massachusetts Attorney General (MassAG).[15] On June 15, 2006, the Staff replied to the notice, stating that it did not oppose the adoption so long as, *inter alia,* Petitioner was admitted to the proceeding based on the Board having found that it had independently submitted an admissible contention.[16] The Staff will respond to the MassAG's proposed contention as directed by the regulations or Board Order.[17] The Staff hereby incorporates its response to the MassAG's contention herein.

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[15] *See* Massachusetts Attorney General's Request for a Hearing and Petition to Intervene with Respect to Entergy Nuclear Operations, Inc.'s Application for Renewal of the Pilgrim Nuclear Power Plant Operating License and Petition for Backfit Order Requiring New Design Features to Protect Against Spent Fuel Pool Accidents (Petition), May 26, 2006.

[16] *See* NRC Staff Answer to Notice of Adoption of Contentions by Pilgrim Watch, June 15, 2006.

[17] There is a motion filed by the MassAG pending before the Licensing Board to extend the time for the Staff's response and for the MassAG's reply to the Staff's response.

CONCLUSION

For the reasons discussed above, Pilgrim Watch has established standing to intervene in this proceeding but has not proffered an admissible contention. Therefore, the Licensing Board should deny their Petition.

Respectfully submitted,

/RA/

Susan Uttal
Harry E. Wedewer
Counsel for NRC Staff

Dated at Rockville, Maryland
this 19th day of June, 2006

Exhibit No. NRC000005
Pilgrim LR Proceeding
50-293-LR, 06-848-02-LR

June 19, 2006

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
	)	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 the "NRC STAFF'S RESPONSE TO REQUEST FOR HEARING AND PETITION TO INTERVENE FILED BY PILGRIM WATCH" in the above-captioned proceeding have been served on the following by electronic mail and deposit in the U.S. Mail Service or by deposit in the U.S. Nuclear Regulatory Commission's internal mail system as indicated by a single asterisk(*), or by deposit in the U.S. mail system, as indicated by a double asterisk (**) this 19th day of June, 2006.

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