

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of)
)
ENTERGY NUCLEAR GENERATION)
COMPANY AND ENTERGY NUCLEAR) Docket No. 50-293-LR
OPERATIONS, INC.)
)
(Pilgrim Nuclear Generating Station))

NRC STAFF'S ANSWER TO PILGRIM WATCH'S REQUEST FOR REVIEW
OF THE LICENSING BOARD'S JULY 19, 2011 PARTIAL INITIAL DECISION (LBP-11-18)

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August 15, 2011

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INTRODUCTION

Pursuant to 10 C.F.R. § 2.341(b)(3), the staff of the U.S. Nuclear Regulatory Commission ("Staff") hereby responds to Pilgrim Watch's ("PW") Request for Review of the Partial Initial Decision (Rejecting Upon Remand, Pilgrim Watch's Challenge to Meteorological Modeling in SAMA Analysis in Entergy's License Renewal Application) July 19, 2011 ("PW's Request"). PW is requesting that the Commission review the Atomic Safety and Licensing Board's ("Board") decision on remanded Contention 3,¹ and related interlocutory orders.² PW's

¹ *Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station) LBP-11-18, 74 NRC ____ (July 19, 2011) (slip op.) ("Partial Initial Decision" or "LBP-11-18")

² The related interlocutory orders include the following Board orders: Order (Scheduling Telephone Conference) September 2, 2010; Order (Confirming Matters Addressed at September 15,

² The related interlocutory orders include the following Board orders: Order (Scheduling Telephone Conference) September 2, 2010; Order (Confirming Matters Addressed at September 15, 2010, Telephone Conference) September 23, 2010; Order (Questions from Board Majority Regarding the Mechanics of Computing "Mean Consequences" in SAMA Analyses) October 26, 2010; Separate Statement of Administrative Judge Ann Marshall Young, in the Matter of Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station) October 26, 2010; Order (Ruling on Timeliness of Mean Consequence Issue) November 23, 2010; Order (Addressing Joint Motion, Motion in Limine, Proposed Findings of Fact and Conclusions of Law/Concluding Statements of Position, and (continued. . .)

Request provides little information regarding its legal theory of error and leaves the Commission and other parties to search through the record to evaluate its unsupported assertions. For the reasons set forth herein, the Staff submits that the PW's Request should be denied, on the grounds that PW has not met the criteria for Commission review set forth in 10 C.F.R. § 2.341(b)(4)(i)-(v). Moreover, the Board's rulings and decisions are well reasoned, correct, and consistent with Commission precedent and previous rulings in this case.

PROCEDURAL BACKGROUND

Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc.'s ("Entergy" or "Applicant") submitted its license renewal application for the Pilgrim Nuclear Generating Station ("Pilgrim") on January 25, 2006.³ In response to a Federal Register notice of opportunity for hearing,⁴ Pilgrim Watch filed a petition to intervene in this matter on May 25, 2006, submitting five contentions for consideration.⁵

In LBP-06-23, the Board admitted two of Pilgrim Watch's proposed contentions.⁶ Relevant to the instant request, PW challenged the SAMA analysis in Entergy's Environmental Report.⁷ The contention, as originally admitted, stated:

(. . .continued)

Argument to be Held March 9, 2011) (Feb. 23, 2011); Memorandum And Order (Ruling on Timeliness of Mean Consequence Values Issue) (Mar. 3, 2011).

³ Entergy Nuclear Operations, Inc., License Renewal Application – Pilgrim Nuclear Power Station (January 25, 2006) (Agencywide Documents and Access Management System ("ADAMS") Accession No. ML060300028).

⁴ 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. 15,222 (Mar. 27, 2006).

⁵ Request for Hearing and Petition to Intervene by Pilgrim Watch (May 25, 2006).

⁶ *Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 348-49 (2006)

⁷ *Id.* at 341.

Applicant's SAMA analysis for the Pilgrim plant is deficient in that the input data concerning (1) evacuation times, (2) economic consequences, and (3) meteorological patterns are incorrect, resulting in incorrect conclusions about the costs versus benefits of possible mitigation alternatives, such that further analysis is called for.⁸

On October 30, 2007, a Board majority granted the motion for summary disposition of Contention 3.⁹ On March 26, 2010, in response to PW's Petition for Review of, *inter alia*, the summary disposition of PW's Contention 3, the Commission reversed the summary disposition of Contention 3 and remanded it to the Board for further proceedings as limited by the Commission's Order.¹⁰ Specifically, the Commission remanded the narrow issue of whether the meteorological patterns and atmospheric transport modeling issues are sufficiently large to alter the SAMA analysis conclusions.¹¹ In addition, the Commission remanded the economic costs and evacuation timing issues, but only to the extent that the Board's findings on the meteorology and atmospheric transport modeling would "materially call into question the relevant economic cost and evacuation timing conclusions in the Pilgrim SAMA analysis."¹² In remanding Contention 3, the Commission stated that "even assuming that the SAMA analysis does not entirely account for the sea breeze effect ... if the sea breeze effect essentially is limited to lower population areas within 10 miles of the plant and occurs only on a limited number of days per year, its overall impact on the SAMA cost benefit conclusions may be insignificant."¹³

⁸ *Id.*

⁹ *Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station)*, LBP-07-13, 66 NRC 131 (2007). Judge Young dissented from the Board's Order. *Id.* at 156.

¹⁰ *Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station)*, CLI-10-11, 71 NRC ____ (March 26, 2010) (slip op. at 39) ("Commission's Order").

¹¹ *Id.* at 26.

¹² *Id.* at 27.

¹³ *Id.* at 22.

After briefing by the parties, the Board set out the scope of the remanded contention, including specific issues for each party to address, in a September 23, 2010 Order,¹⁴ stating that remanded Contention 3's "primary and threshold issue [is] *whether the meteorological modeling in the Pilgrim SAMA analysis is adequate and reasonable to satisfy NEPA, and whether accounting for the meteorological patterns/issues of concern to Pilgrim Watch could, on its own, credibly alter the Pilgrim SAMA analysis conclusions on which SAMAs are cost-beneficial to implement.*"¹⁵ The Board also asked the parties to address a series of related questions regarding the impact of the sea breeze effect and hot spots on the SAMA.¹⁶

On January 3, 2011, the parties filed initial written presentations and testimony, and on February 1, 2011, they filed rebuttal presentations and testimony.¹⁷ Entergy filed a *motion in limine*, challenging the admissibility of Pilgrim Watch's pre-filed testimony as well as several of Pilgrim Watch's pre-filed exhibits.¹⁸ The Staff supported the motion.¹⁹ Pilgrim Watch opposed

¹⁴ Order (Confirming Matters Addressed at September 15, 2010, Telephone Conference) (September 23, 2010)(ADAMS Accession No. ML102660428).

¹⁵ *Id.* at 1 (emphasis added).

¹⁶ *Id.* at Appendix A (internal citations omitted). The Board bifurcated hearing on the remanded Contention 3. *Id.* at 1. During the first portion of the bifurcated hearing, the Board limited the issue to "whether the meteorological modeling in the Pilgrim SAMA analysis is adequate and reasonable to satisfy NEPA, and whether accounting for the meteorological patterns/issues of concern to Pilgrim Watch could, on its own, credibly alter the Pilgrim SAMA analysis conclusions on which SAMAs are cost-beneficial to implement" *Id.* If the Board found in favor of PW on the issue of alternative atmospheric transport modeling, the second portion of the bifurcated hearing would have addressed the issues of "evacuation and economic cost issues." *Id.* at 3.

¹⁷ Entergy Initial Statement of Position on Pilgrim Watch Contention 3 (January 3, 2011); Pilgrim Watch SAMA Remand Pre-Filed Testimony ("Pilgrim Watch's Initial Statement of Position") (Jan. 3, 2011); NRC Staff's Initial Statement of Position on Remanded Contention 3 (January 3, 2011).

¹⁸ See Entergy's Motion in Limine to Exclude from Evidence Pilgrim Watch's SAMA Remand Pre-Filed Testimony and Exhibits (Jan. 13, 2011); NRC Staff's Response in Support of Entergy's Motion in Limine (Jan. 24, 2011).

¹⁹ NRC Staff's Response in Support of Entergy's Motion in Limine (Jan. 24, 2011).

the motion, but conceded that its pre-filed testimony was not testimony, but rather a statement of position.²⁰

The parties filed a joint motion requesting that the Board decide this matter without an oral evidentiary hearing, based on the parties' pre-filed testimony on the atmospheric transport modeling and related meteorological issues, including the January 30, 2011 declaration of Dr. Bruce Egan, submitted by Pilgrim Watch.²¹ The Board held a telephone conference with all parties. The conference was memorialized in an order issued on February 22, 2011.²² The Board granted the joint motion and requested that the parties file proposed findings of fact and conclusions of law by March 4, 2011.²³ The Board also granted in part and denied in part Entergy's Motion in Limine, admitting Pilgrim Watch's pre-filed testimony as a statement of position only and admitting all of Pilgrim Watch's pre-filed exhibits.²⁴

On March 3, 2011, a Board majority held that PW had not timely raised a challenge to the use of mean consequence values.²⁵ On March 9, 2011, the Board heard closing arguments on the threshold issue of the remanded Contention 3. On July 29, 2011, the Board issued a partial initial decision finding in favor of the applicant on remanded contention 3.²⁶

²⁰ Pilgrim Watch Reply to Entergy's Motion in Limine to Exclude from Evidence Pilgrim Watch's SAMA Remand Pre-filed Testimony and Exhibits ("Motion in Limine") (Jan. 23, 2011).

²¹ Joint Motion Requesting Resolution of Contention 3 Meteorological Issues on Written Submissions (Feb. 16, 2011).

²² Order (Addressing Joint Motion, Motion in Limine, Proposed Findings of Fact and Conclusions of Law/Concluding Statements of Position, and Argument to be Held March 9, 2011) (Feb. 23, 2011).

²³ *Id.* at 2-3.

²⁴ *Id.* at 2.

²⁵ Memorandum And Order (Ruling on Timeliness of Mean Consequence Values Issue) (Mar. 3, 2011). The Board had previously notified the parties, in order to help them prepare their testimony, that it had decided that PW had not raised the issue of mean consequence values in a timely manner. See Order (Ruling on Timeliness of Mean Consequence Issue) November 23, 2010.

²⁶ See generally LBP-11-18.

ARGUMENT

Because the Board's decision in LBP-11-18 disposed of PW's sole remaining admitted contention, a petition for Commission review is authorized by 10 C.F.R. § 2.341(b). Section 2.341(b)(1) provides for *discretionary* Commission review of "a full or partial initial decision by a presiding officer." In deciding whether to grant review, the Commission considers whether the petition raises a substantial question with respect to the following standards:

- (1) a finding of fact is clearly erroneous;
- (2) a necessary legal conclusion is without precedent or conflicts with existing law;
- (3) the appeal raises a substantial and important question of law or policy;
- (4) the proceeding involved a prejudicial procedural error; or
- (5) any other consideration the Commission determines to be in the public interest.²⁷

The burden is on PW, the petitioner, to clearly identify the error in the Board's decision and thereby demonstrate that Commission review is warranted.²⁸

As explained more fully below, PW has failed to demonstrate that the Board's factual findings are clearly erroneous, that the Board's legal conclusions depart from or are contrary to established law, that the appeal raises a substantial and important question of law or policy, or that the Board's procedural rulings resulted in actual prejudice.²⁹ Therefore, PW does not meet its burden under 10 C.F.R. § 2.341(b)(4) and its request should be denied.

²⁷ 10 C.F.R. § 2.341(b)(4).

²⁸ See *Advanced Medical Systems, Inc.* (One Factory Row, Geneva, Ohio 40441), CLI-94-6, 39 NRC 285, 297-98 (1994).

²⁹ The Staff has not addressed the issue of a "substantial and important question of law or policy" or "other consideration the Commission determines to be in the public interest" because PW's Request has not raised or identified any issue related to those criteria.

I. Standard of Review

The Commission's standard regarding "clear error" is quite high, requiring a showing that the Board's findings are "not even plausible in light of the record viewed in its entirety."³⁰ The Commission defers to a licensing board's findings of fact as long as the "Licensing Board has issued a plausible decision that rests on carefully rendered findings of fact," and is particularly deferential to a board's determinations of witness credibility and the weight to be given to witness testimony.³¹ Thus, the Commission will reject or modify a Licensing Board's findings only if, after accounting for appropriate deference to the "primary fact finder," the Commission is "convinced that the record *compels* a different result."³² The Commission will not overturn a board's findings simply because it might have reached a different result or because the record could support a view sharply different from that of the Board.³³

With respect to a Board's conclusions of law, a petitioner must show an "error of law or abuse of discretion" by the Board.³⁴ The Commission will reverse a board's legal conclusions only "if they are a departure from or contrary to established law."³⁵

Another factor the Commission considers when deciding whether to grant review is whether the proceeding involves a prejudicial procedural error.³⁶ The Commission will grant

³⁰ *Private Fuel Storage, LLC* (Independent Spent Fuel Storage Installation), CLI-03-8, 58 NRC 11, 25-26 (2003) ("PFS") (citing *Anderson v. Bessemer City*, 470 U.S. 564, 573-76 (1985)).

³¹ *Id.*; *Union Electric Co.* (Callaway Plant, Unit 1), ALAB-740, 18 NRC 343, 368 (1983).

³² *General Public Utilities* (Three Mile Island Nuclear Station, Unit No. 1) ALAB-881, 26 NRC 465, 473 (1987)(emphasis added).

³³ See *Tennessee Valley Authority* (Watts Bar Nuclear Plant, Unit 1; Sequoyah Plants, Units 1 & 2; Browns Ferry Nuclear Plant, Units 1, 2 & 3), CLI-04-24, 60 NRC 160, 190 (2004) ("TVA"); *PFS*, CLI-03-8, 58 NRC at 27 (quoting *Kenneth G. Pierce* (Shorewood, Illinois), CLI-95-6, 41 NRC 381, 382 (1995)).

³⁴ *USEC, Inc.* (American Centrifuge Plant), CLI-06-9, 63 NRC 433, 439 n.32 (2006).

³⁵ *TVA*, CLI-04-24, 60 NRC 160,190 (2004) (internal quotations omitted).

relief for procedural errors that result in actual prejudice; i.e., if the petitioner demonstrates that the Board's procedural error had a substantial impact on the outcome of the proceeding.³⁷

II. The Board Did Not Err in LBP-11-18 and Related Interlocutory Decisions and Orders

PW suggests to the Commission that the Board committed a litany of errors that provided a fundamentally "unfair advantage to the [a]pplicant."³⁸ A careful review of the record shows that many of the Board's orders, which PW asks the Commission to review, were based on issues that PW agreed to, did not object to at the time, or decided to forgo on their own accord.³⁹ As such, these alleged errors are not sufficient to support a review of the Board's decision. Where PW points to other alleged errors, the allegations consist of vague generalities without any concrete support in the record or the law.⁴⁰ Finally, PW repeats here its previous argument regarding impact of alternative atmospheric transport models and particular localized

(. . .continued)

³⁶ See § 2.341(b)(4)(iv).

³⁷ *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-788, 20 NRC 1102, 1151 (1984) (citing *Louisiana Power & Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 NRC 1076, 1096 (1983)).

³⁸ PW's Request at 1.

³⁹ See, e.g., Hearing Transcript (March 9, 2011) at p. 892 ln. 9 – p. 896 ln. 14 (ADAMS Accession No. ML110740699)(discussing mathematical models); compare Ramsdell Testimony, Exh. NRC000015 at A. 36; Partial Initial Decision at 26-28. See also Order (Confirming Matters Addressed at September 15, 2010, Telephone Conference) September 23, 2010 (explaining that only the alternative meteorological modeling's impact on which SAMAs were cost-beneficial (economically cost-effective) was at issue); Teleconference Transcript September 15, 2010 at p 691 Ins. 10-21 (ADAMS Accession No. ML102650228) (asking for ruling on the issue of mean consequence values so that sufficient time would be available to prepare testimony without having to prematurely address issues that were ultimately determined to be untimely raised).

⁴⁰ See, e.g., *infra*, Section A.1. The Commission has already warned the parties that their requests for review should clearly identify the issues in the underlying record. *Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), CLI-09-11, 69 NRC 529, 534 (2009). The Commission should not be expected to "sift unaided through" earlier briefs or other documents filed before the Board "to piece together and discern" a party's argument and the grounds for its claims. *Id.* (citing *Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 46 (2001)).

weather patterns for the Pilgrim site (as it has repeatedly argued to the Board). However, PW conceded this issue in its Initial Statement of Position to the Board, saying that “[i]t is not possible for either [PW], or anyone else, to show that meteorology, *in and of itself*, would result in a significantly different SAMA analysis.”⁴¹ Thus, even without considering the merits of the errors alleged by PW, PW told the Board its contention is meritless.⁴² As PW’s Request does not discuss or explain its concession on the ultimate issue for remanded Contention 3, the alleged errors were harmless. Thus, PW’s Request should be denied.

A. PW’s Vague Allegations of Factual Errors are Meritless

A Board’s findings of fact will not be disturbed unless the findings are clearly erroneous;⁴³ that is: not plausible.⁴⁴ Although PW’s Request lacks clarity as to the legal theory it is advancing regarding the alleged Board errors, choosing to rely instead on general platitudes about fundamental fairness, the Staff has attempted to appropriately classify PW’s alleged errors in an attempt to address their merit.⁴⁵

⁴¹ Pilgrim Watch SAMA Remand Pre-Filed Testimony (Jan. 3, 2011) at 2 (emphasis in original). See also Pilgrim Watch’s Reply to Entergy’s and NRC Staff’s Initial Statement of Position on Pilgrim Watch Contention (February 1, 2011) at 24; Pilgrim Watch Memorandum Regarding SAMA Remand Hearing (December 2, 2011) at 1. See also LBP-11-18 at Separate Statement of J. Young at 1, wherein Judge Young found that PW had conceded Contention 3 in its Initial Statement of Position.

⁴² See, e.g., LBP-11-18 at Separate Statement of J. Young at 1. See generally Pilgrim Watch SAMA Remand Pre-Filed Testimony (Jan. 3, 2011) at 2 (emphasis in original). See also Pilgrim Watch’s Reply to Entergy’s and NRC Staff’s Initial Statement of Position on Pilgrim Watch Contention (February 1, 2011) at 24; Pilgrim Watch Memorandum Regarding SAMA Remand Hearing (December 2, 2011) at 1.

⁴³ PFS, CLI-03-8, 58 NRC at 25-26 (citing *Anderson v. Bessemer City*, 470 U.S. 564, 573-76 (1985)).

⁴⁴ *Id.*

⁴⁵ See PW’s Request at 2-7. PW loosely identified eleven perceived errors in the Board’s decision including: (1) bifurcating the hearing, (2) excluding averaging, (3) relying on inadmissible or irrelevant evidence, (4) taking testimony at the hearing, (5) utilizing mathematics, (6) limiting the local meteorological patterns to sea breezes and hot spots, (7) misapplying the National Environmental Policy Act [CITE] (“NEPA”), (8) failing to consider events relating to the Fukushima Daiichi, (9) excluding PW’s expert’s evidence, (10) using incorrect assumptions, methodology, and application of evidence, and (11) failing to set forth the bases of the decision. *Id.* The Staff has divided those issues into procedural errors (bifurcating the hearing, admission and exclusion of evidence from the parties (errors 3, 4, 9), and setting (continued. . .)

1. *The Board's Reliance on Mathematics Was Not an Error*

PW, in its litany of asserted Board errors,⁴⁶ states that the “Board based its Decision on simplistic, elementary math in an effort to reduce the imponderable uncertainties to a number, substituting arithmetic (sic) for judgment or common sense.”⁴⁷ Other than PW’s initial list of alleged errors, PW mentions mathematics only one other time in a footnote. In footnote 12, PW states that the “Board’s arithmetic (sic) ... is rife with unsupported, incorrect, and outdated assumptions (sic), as are other arithmetic (sic) examples throughout the decision.”⁴⁸ No other information about this alleged error is offered. PW’s Request, contrary to the Commission’s order in CLI-09-11, leaves the search for the alleged mathematical error to the Commission and the other parties.⁴⁹ The allegations also seem to contradict PW’s discussion during the hearing with Judge Abramson.⁵⁰ During that discussion, PW agreed that an algebraic equation could be used to analyze the necessary change to the atmospheric transport modeling that would result in a material change to the SAMA analysis conclusions with a caveat that all the admitted issues regarding the modeling would need to be included in the analysis.⁵¹

(. . .continued)

forth the bases of its decision), legal errors (excluding averaging, limiting the local meteorological patterns, misapplying NEPA, and failing to consider Fukushima), and factual errors (utilizing mathematics and incorrect assumptions, methodology, and application of evidence).

⁴⁶ PW’s Request at 5.

⁴⁷ *Id.*

⁴⁸ *Id.* at 15 (internal quotation and citations omitted).

⁴⁹ See *Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), CLI-09-11, 69 NRC 529, 534 (2009).

⁵⁰ Hearing Transcript (March 9, 2011) at p. 892 ln. 9 – p. 896 ln. 14.

⁵¹ *Id.*

These vague unparticularized claims of mathematical errors do not meet the clear error standard necessary to disturb the Board's findings.⁵² Although the Board chose to use a simplified analysis to provide some bounds to the type of changes necessary for alternative atmospheric transport models that would result in a material change to the SAMA analysis' conclusions, the method was well supported in the testimony of the Staff's expert, Mr. Ramsdell, and uncontroverted by other evidence.⁵³ The Board utilized this particular bounding analysis as an alternative method to examine the underlying merit of the claim. It is but one of many reasons the Board found the issue regarding alternative atmospheric transport modeling to be meritless.⁵⁴ PW has presented no evidence that the Board's use of mathematical techniques to help evaluate the merits of PW's contention was inappropriate or otherwise incorrect. Thus, PW's Request should be denied.

2. PW's Request Provided No Evidence that the Board Used Outdated or Incorrect Information

PW's second alleged factual error asserts that the Board used "incorrect and out-dated assumptions that the methodology used by Entergy and approved by the NRC fail[s] to provide reasonable assurance."⁵⁵ PW also asserts that the Decision is based on "incomplete and incorrect readings of the evidence."⁵⁶ Again, as with PW's unparticularized claims regarding mathematical errors, PW's Request remains silent as to any incorrect or outdated assumption or incorrect reading of the evidence. Because PW presented no evidence of incorrect or outdated

⁵² PFS, CLI-03-8, 58 NRC at 25-26 (citing *Anderson v. Bessemer City*, 470 U.S. 564, 573-76 (1985)).

⁵³ Ramsdell Testimony, Exh. NRC000015 at A. 36 (ADAMS Accession No. ML110330543).

⁵⁴ See Partial Initial Decision at 26-28; *Compare Id.* at 22-24.

⁵⁵ PW's Request at 6. PW's reference to reasonable assurance appears to be a mistake as the issue of Pilgrim's SAMA analysis litigated under the requirements of NEPA, which is discussed more fully in Section C.2, *infra*.

⁵⁶ *Id.*

assumptions and no evidence that the Board incorrectly read the evidence, PW's request should be dismissed.

B. The Alleged Procedural Errors Were Not Prejudicial

As discussed previously, PW's alleged procedural errors were not prejudicial because PW conceded the ultimate issue. PW admitted that it was impossible to show that alternative meteorological models would result in a different SAMA analysis.⁵⁷ However, setting aside PW's failure to show prejudice, PW's alleged procedural errors are no more than a continuation of PW's perceived belief that the Board is biased against its positions and arguments.

1. *The Board Applied the Same Standard to All the Parties*

First, PW argues that a different standard was applied to its experts and evidence than that applied to Staff's and Applicant's experts and evidence. PW attempts to provide evidence of this "double standard" through the Board's use of the SAMA analysis' conclusions to evaluate the impact of alternative atmospheric transport models, the questioning of experts at the hearing, and exclusion of PW's evidence.

a. *PW Knew That the Board Might Have Clarifying Questions for the Parties' Experts*

PW complains that the Board "took testimony [at the hearing] and placed PW at an unfair advantage (sic)."⁵⁸ PW continues in this vein, stating that it decided not to bring its expert(s) because the Board said there would be "no oral evidentiary hearing."⁵⁹ PW suggests that it was relying on the Board's order when it chose to leave its witnesses behind, but PW fails

⁵⁷ Pilgrim Watch SAMA Remand Pre-Filed Testimony (Jan. 3, 2011) at 2 (emphasis in original). See also Pilgrim Watch's Reply to Entergy's and NRC Staff's Initial Statement of Position on Pilgrim Watch Contention (February 1, 2011) at 24; Pilgrim Watch Memorandum Regarding SAMA Remand Hearing (December 2, 2011) at 1.

⁵⁸ PW's Request at 4-5.

⁵⁹ *Id.* at 15.

to disclose that during a pre-hearing conference discussing the procedures for the hearing, the Board clearly noted the possibility that it might have questions for each party's experts.⁶⁰ During the pre-hearing conference, PW was told that "any party may, if they wish, bring witnesses just to answer any Board clarification questions that might arise [regarding remanded contention 3]."⁶¹ In light of this discussion, PW cannot fairly claim that it was misled. Further, PW had already informed the Board that it would not present any new evidence at the SAMA Remand Hearing.⁶² PW stated that "[it] will rely solely on what is presently of record."⁶³ Thus, PW's claim of prejudicial procedural error is unsupported by the facts. PW did not object to the process. Thus, PW's Request should be denied.

b. The Board's Decision Makes No Use of the Oral Response Provided By Entergy's Experts or the Staff's Expert at the Hearing

PW claims that the Board improperly relied on evidence gathered from the Staff's witnesses and Entergy's witnesses during the hearing.⁶⁴ However, PW does not point to any part of the Board's Decision that relied on this evidence. A careful examination of the Board's decision shows that all the evidence it relied on originated in the pre-filed testimony of the parties.⁶⁵ Since the Board's decision made no use of the oral response elicited from the Staff's or Entergy's experts during the hearing, PW's allegation of procedural error is unsupported by the facts and should be denied.

⁶⁰ Prehearing Transcript (February 18, 2011) p. 771 In. 18 – p. 772 In. 4 (ADAMS Accession No. ML110550139).

⁶¹ *Id.* at p. 779 Ins. 18-20.

⁶² Pilgrim Watch Memorandum Regarding SAMA Remand Hearing (December 2, 2010) at 1.

⁶³ *Id.*

⁶⁴ PW's request at 15.

⁶⁵ *See, e.g.*, Partial Initial Decision at 13 n. 63-65 (citing the pre-filed testimony of Dr. Okula and Mr. Ramsdell.)

c. The Parties' Experts and Conclusions Were Fairly Evaluated Based on the Analysis Presented and their Expertise

PW's Request suggests that its experts and their evidence were excluded because a different, more rigorous standard was applied to its experts and evidence. Specifically, PW states that the "Board improperly excluded meteorological evidence presented by PW's experts ..." (e.g. Dr. Beyea).⁶⁶ Then, PW suggests that the Board failed to consider all of their exhibits which, in PW's opinion, were uncontroverted.⁶⁷ PW essentially argues that the Board excluded Dr. Beyea's paper based on a lack of expertise as a meteorologist, when it admitted expert testimony and evidence from Entergy's and the Staff's witnesses who were not meteorologists.⁶⁸ Contrary to PW's assertion, the Board evaluated Dr. Beyea's paper regarding hot spots and found it lacking "any explanation or technical support."⁶⁹ The Board went on to evaluate whether Dr. Beyea's qualifications might support his concern. Since the Board determined this to be a meteorological issue, Dr. Beyea's expertise in nuclear physics was determined not to supply the necessary expertise to support an otherwise bare assertion regarding meteorology. PW's Request suggests that the Board then turned to Entergy and Staff experts that also lacked expertise to evaluate the merits of this bare issue.⁷⁰ The Board's decision is clear that the testimony of Dr. Hanna and Mr. Ramsdell, both meteorologists, was

⁶⁶ PW's Request at 6.

⁶⁷ *Id.*

⁶⁸ PW's Request at 17-18.

⁶⁹ Partial Initial Decision at 29.

⁷⁰ PW's Request at 18.

used to evaluate the issue of hot spots.⁷¹ More importantly, Dr. Hanna and Mr. Ramsdell provided a detailed explanation and technical support for their evaluations of hot spots.⁷²

PW's Request also states that it "provided expert testimony from Wayne Angevine and Dr. Egan, that is ignored"⁷³ Again, the record does not support this claim. PW submitted no testimony or qualifications from Mr. Angevine to the Board. PW merely submitted as an exhibit a paper Mr. Angevine wrote and published in 2006, which was not testimony and not supported by any testimony. Although he did provide a declaration to the Board, Dr. Egan's declaration did not address Mr. Ramsdell's testimony regarding the insubstantial impact hot spots would have.⁷⁴ As such, the Board fully considered the evidence presented by the parties including PW, weighed the reliability of that evidence, and determined that PW's contention as it related to hot spots was not meritorious. Thus, PW's Request should be denied.

2. The Board Appropriately Considered the Impact of Alternative Atmospheric Transport Models on the SAMA Analysis' Conclusions

PW's Request argues that the Board's decision was based on evidence that should have been excluded from the first part of the bifurcated hearing.⁷⁵ PW suggests that all economic discussions were to be excluded from the first part of the bifurcated hearing.⁷⁶ PW appears to have misunderstood the scope of the hearing. The Board's order was very clear as to the issue to be decided during the hearing. The Board, as instructed by the Commission, accepted evidence from all parties as to "whether accounting for the meteorological patterns/issues of

⁷¹ Partial Initial Decision at 29-32.

⁷² *Id.*

⁷³ PW's Request at 18.

⁷⁴ Ramsdell Testimony, Exh. NRC000015 at at A42-A48.

⁷⁵ PW's Request at 14.

⁷⁶ *Id.*

concern to [PW] could, on its own, credibly alter the SAMA analysis conclusions on SAMA[s] are cost-beneficial to implement.”⁷⁷ Thus, the Board properly considered change to the cost-benefit analysis resulting from altering the model to account for PW’s meteorological issues. The Board clearly and repeatedly explained to PW that its dispute with the economic inputs was not proper for the initial hearing and would be reserved for a second hearing if PW was successful on the meteorological issue.⁷⁸ PW never objected, moved to strike, or filed a *motion in limine* regarding any of the evidence presented in Entergy’s or the Staff’s pre-filed testimony or exhibits. Having remained silent before the Board, PW has waived any objections to evidence presented by Entergy or the Staff.⁷⁹ Thus, PW’s Request is without merit and should be denied.

3. *The Board Appropriately Set Forth the Basis of Its Decision in Its Order*

The last procedural error PW alleges is that the Board failed to sufficiently set forth the bases for its decision.⁸⁰ PW relies on unspecified generalities that the Board did not address certain issues or explain its decision fully.⁸¹ PW’s Request points to no specific issue that the Board failed to address sufficiently.⁸² It appears that PW simply disagrees with the Board’s incorporation by reference of Entergy’s and the Staff’s findings of facts and conclusions of law, which were not specifically addressed in the Board’s decision.⁸³ PW points to sections 4-7, of

⁷⁷ Order (Confirming Matters Addressed at September 15, 2010, Telephone Conference) September 23, 2010.

⁷⁸ See, e.g., *id.*

⁷⁹ *Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), CLI-10-14, 71 NRC ___ (June 17, 2010) (slip op. at 26) (*citing Duke Power Co. (Catawba Nuclear Station, Units 1 & 2)*, ALAB-355, 4 NRC 397, 411 & n.46 (1976)) (failing to raise objections at hearing constitutes waiver of the objection on appeal).

⁸⁰ PW’s Request at 23.

⁸¹ *Id.*

⁸² *Id.*

⁸³ *Id.*

PW's Request as support that the Board's decision was particularly egregious.⁸⁴ But Sections 4-7 consist mainly of PW's unparticularized complaints about the Board's accepting evidence regarding the cost-benefits of particular SAMAs under PW's alternative atmospheric transport models (Section 4), the Board's evaluation of PW's experts and exhibits (Section 6), and the Board's application of NEPA (Section 7). Section 5, like a part of Section 7, is a complaint that the Board failed to address certain meteorological phenomena and the events of Fukushima.⁸⁵ These issues are addressed below in sections C.2 and C.3. As discussed, the Board's decision appropriately provided a full and complete discussion of each of the PW's allegedly missing issues. Ultimately, as discussed *infra*, PW conceded that its contention lacked merit. Thus, PW's Request should be denied.

C. PW's Complaints of Legal Error Are Baseless

PW's litany of alleged legal errors include: the Board's decision to exclude averaging from the contention, PW's perceived limitation on the meteorological patterns at issue, and the application of NEPA. Here, again, the claims are unparticularized, vague, and unsupported by facts or legal authority.

1. *The Board Correctly Determined that PW Failed to Raise "Averaging" in a Timely Manner*

The Board properly excluded PW's challenge to the use of mean consequence values as not timely raised.⁸⁶ PW takes issue with the substantive finding by the Board that PW had

⁸⁴ *Id.*

⁸⁵ *Id.* at 16-17, 20-23. The underlying complaint regarding the exclusion of these issues addressed, *supra*.

⁸⁶ PW seems to take issue with the initial decision on mean consequence values being issued on November 23, 2011, informing the parties that the use of mean consequence values would not need to be addressed in the pre-filed testimony and the full opinion not being issued until 6 days prior to the hearing. PW's Request at 10. Although the Board's initial decision on averaging was issued two months after the briefs were submitted by the parties and the Board's memorandum in support of that decision was issued just prior to the remand hearing, PW seems to forget that this approach was, in fact, encouraged by PW's (continued. . .)

not timely raised issue of mean consequences.⁸⁷ PW tries to demonstrate that the Board, Entergy, and the Staff were put on notice that PW meant to dispute the SAMA analysis use of mean consequences values (its output) because the various pleadings and orders used derivatives of the term when describing the SAMA analysis conclusions.⁸⁸ As the majority decision found and Judge Young, in her separate statement recognized,

a challenge to the input and models used to compute the individual scenario consequences is a completely different challenge than a challenge to the selection of which consequences should be used as the representative cost in the SAMA cost-benefit analysis. None of the experts suggest or provide support for the proposition that, when Pilgrim Watch challenged the input relating to meteorology, economic costs, or evacuation time, it is reasonably inferable that it challenged the use of the statistical mean value.⁸⁹

(. . .continued)

desire to have sufficient time to prepare testimony on the issues that were properly before the Board. Transcript September 15, 2011 at p 691 Ins. 10-21. As a result, PW's procedural complaint should be ignored.

⁸⁷ PW's Request at 10.

⁸⁸ *Id.* at 10-11. The Board, correctly, determined that PW's assertion that the Staff and Entergy were put on notice as PW claims was improper. The Board stated that

We also do not agree with Pilgrim Watch's characterization that all the parties recognized that Contention 3 included the "averaging issue" sufficient to put the parties on notice as to what they would have to defend against. See PW Timeliness Brief at 5. Moreover, to the extent that Pilgrim Watch argues that party notice is relevant to defining the scope of an admitted contention or setting forth an admissible contention, we disagree. The Commission has stressed that "NRC contention standards do not allow for general 'notice pleading[s], with details to be filled in later.'" CLI-10-15, 71 NRC __, __ (slip op. at 6 n.23) (June 17, 2010) (quoting Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 363 (2001)).

Memorandum And Order (Ruling on Timeliness of Mean Consequence Values Issue) (Mar. 3, 2011) at 10 n. 47.

⁸⁹ *Id.* at 10. See *Id.* at 3-4 (J. Young Separate Statement).

The sole support PW advanced to the Board is that their original contention, and contention as admitted, contained the phrase “input parameters.”⁹⁰ The Board determined that PW’s conflation on input parameters and input data has no overlap with the NRC’s use of “the mean as a representative consequence value.”⁹¹ The Board explicitly found that PW first raised the issue of mean consequence values nearly four years after the beginning of the proceeding in motion for reconsideration to the Commission.⁹² Because the issue of mean consequence values was not new and was available at the beginning of the proceeding in Entergy’s Environmental Report and remains the long standing NRC practice, PW should have raised the issue in its initial contentions.⁹³ The Board addressed whether PW raised the issue of mean consequence values under the Commission’s timeliness standards. First, the Board found that PW’s failure to address the timeliness standards under either 10 C.F.R. § 2.309(c) or § 2.309(f)(2) was sufficient to dismiss PW’s late-filed contention on the mean consequence values. Second, the Board determined that PW could not demonstrate that good cause existed for its untimely filing in light of the issue being apparent from the beginning of the proceeding.⁹⁴

⁹⁰ PW argued that everyone knew that parameters meant averaging, although the arguments never did address how mean consequences values, an output of the MACCS2 code, could also be an input into the MACCS2 code. See, e.g., Pilgrim Watch’s Brief: Petitioner Timely Raised Issue of NRC’s Practice to Use Mean Consequence Values in SAMA Analyses (Oct. 1, 2010) at 3-5.

⁹¹ Memorandum And Order (Ruling on Timeliness of Mean Consequence Values Issue) (Mar. 3, 2011) at 11. See also *id.* at 14 (citing Pilgrim Watch Reply to Entergy’s and NRC Staff’s Briefs Regarding Timeliness of Pilgrim Watch’s Raising Averaging Practice Concerns (Oct. 8, 2010) at 2) (finding that PW conceded that they did not raise a challenge to the mean consequence values in the original contention 3).

⁹² *Id.* at 16-17.

⁹³ *Id.* at 17.

⁹⁴ *Id.* at 20.

The majority of the Board correctly determined that PW had not timely raised the issue of averaging.⁹⁵

2. The Board's Order Did Not Ignore Meteorological Patterns When It Determined PW's Contention Lacked Merit

PW complains that the Board did not consider important meteorological patterns beyond sea breezes and hot spots. PW insists that the Board did not give appropriate consideration to Massachusetts' susceptibility to high wind from "hurricanes and tropical storms, tornados, and Nor'easters."⁹⁶ PW also asserts that the Board did not consider the complex topography's effect on the performance of the MACSS2 code or the temporal and spatial variation of the wind in the area.⁹⁷ The arguments asserted by PW do not stand up to a careful examination of the record. The Board received testimony from the Staff's experts and Entergy's experts that the meteorological information used by the MACCS2 code was site-specific and included information about all the weather patterns experienced by Pilgrim.⁹⁸ This would include weather patterns like tornados, hurricanes, tropical storms, Nor'easters, blizzards or any other weather pattern Pilgrim experiences.⁹⁹ The Board based its findings of fact on this information.¹⁰⁰ Similarly, the Board had extensive evidence regarding the suitability of the MACCS2 code for the Pilgrim site and surrounding area and how little impact the use of Gaussian plume model

⁹⁵ *Id.* at 1. Even Judge Young, in her dissent, determined that PW had not identified any information related to the mean consequence values until Entergy's motion for summary disposition. *Id.* at 3-4.

⁹⁶ PW's Request at 16.

⁹⁷ *Id.*

⁹⁸ See Ramsdell Testimony, Exh. NRC000015 at A.10.

⁹⁹ See *Id.*

¹⁰⁰ *Id.*

has on the SAMA analysis conclusions over results from more complex models, both generally and at the Pilgrim site.¹⁰¹ The Board fully explained those findings.¹⁰²

3. *The Board's Order Complied with NEPA*

Finally, PW complains that the Board improperly excluded the Fukushima Daiichi accident from its NEPA analysis and misapplied NEPA's rule of reason. With respect to NEPA, PW, along with many other petitioners, have already requested that the Commission suspend all reactor licensing decisions pending a complete analysis of the Fukushima Daiichi event.¹⁰³ That petition remains pending before the Commission. Here, PW has not shown that, in light of the Fukushima event, the NRC's environmental review is inadequate under the National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4331. Under NEPA, the NRC must "ensure that the [environmental impact] statement contains sufficient discussion of the relevant issues and opposing viewpoints to enable the decisionmaker to take a 'hard look' at environmental factors, and to make a reasoned decision." *Natural Resources Defense Council, Inc. v. Hodel*, 865 F.2d 288, 294 (D.C. Cir.1988). As the Commission has stated with respect to the required analysis, "while there 'will always be more data that could be gathered,' agencies 'must have some discretion to draw the line and move forward with decisionmaking.'" *Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC __ (March 26, 2010) (slip op. at 37) (ADAMS Accession No. ML100880136) (quoting *Hells Canyon Alliance v. United States Forest Serv.*, 227 F.3d 1170, 1185 (9th Cir.2000)). The vast majority of the NRC's environmental review considers impacts from normal

¹⁰¹ Partial Initial Decision at 22-24

¹⁰² *Id.*

¹⁰³ See, e.g., Emergency Petition to Suspend All Pending Reactor Licensing Decisions and Related Rulemaking Decisions Pending Investigation of Lessons Learned From Fukushima Daiichi Nuclear Power Station, April 14, 2011.

operations and facility construction. See, e.g., 10 C.F.R. Part 51, Subpt. A, App. B, Table B-1 (identifying 92 environmental issues related to license renewal, one of which addresses severe accidents); 10 C.F.R. §§ 51.45(c), 51.75(d). PW has not discussed how its concerns would materially impact these issues.

PW speculates that the information contained in late-filed contentions still pending before the Board including: Massachusetts' late-filed contention (increased core damage frequency)¹⁰⁴ and PW's late-filed contention (longer duration contamination release)¹⁰⁵ should be used to reverse the decision on remanded Contention 3. However, those issues are not ripe for review by the Commission absent a decision by the Board. As to the meteorological variability at coastal sites, all the parties provided extensive briefing, testimony and exhibits on the variability of meteorological conditions for the Pilgrim site. Further, the Board found that based on the testimony of the parties and the exhibits that the use of more complex atmospheric transport modeling would not result in a change to the SAMA analysis conclusions.¹⁰⁶ As such, PW's Request should be dismissed.

PW also argues that use of the straight-line Gaussian plume is unreasonable. PW appears to base this claim on a belief that there are "readily-available, site-appropriate, variable plume model" severe accident analysis codes.¹⁰⁷ PW has never identified these codes.¹⁰⁸ The

¹⁰⁴ Commonwealth of Massachusetts' Contention Regarding New And Significant Information Revealed By The Fukushima Radiological Accident, June 2, 2011.

¹⁰⁵ Pilgrim Watch Request for Hearing on Post Fukushima SAMA Contention, May 12, 2011.

¹⁰⁶ Partial Initial Decision at 22-24

¹⁰⁷ PW's Request at 20.

¹⁰⁸ PW seems to base this bare assertion on two atmospheric transport codes (CALPUFF and AERMOD). The Staff's experts, Dr. Bixler and Mr. Ramsdell, explained that these codes would be unreasonable to use in a SAMA analysis because they lacked the ability to perform radioactive decay and ingrowth in reliable manner. See e.g. Ramsdell Testimony, Exh. NRC000015 at A. 27; Bixler/Ghosh Testimony, Exh. NRC000014 at A35 – A36 (ADAMS Accession No. ML110330544). Dr. Hanna, Entergy's expert, and the Staff's experts showed that the use of variable plume models would have no (continued. . .)

Board found PW's arguments to be unconvincing, which was confirmed by PW's concession on this issue.¹⁰⁹ Thus, PW's Request should be denied.

CONCLUSION

For the reasons well articulated in the Board's decision and PW's admission that alternative atmospheric transport modeling could not result in changes to the SAMA analysis conclusions, the Commission should deny Pilgrim Watch's Petition for Review of LBP-11-18, and the Board's other interlocutory decisions in this proceeding.

Respectfully submitted,

/Electronically signed/

Brian G. Harris

Counsel for NRC Staff

Dated at Rockville, Maryland
This 15th day of August, 2010

(. . .continued)

material impact on the SAMA analysis conclusions. See e.g. Ramsdell Testimony, Exh. NRC000015 at A. 27; Bixler/Ghosh Testimony, Exh. NRC000014 at A35 – A36.

¹⁰⁹ Pilgrim Watch SAMA Remand Pre-Filed Testimony (Jan. 3, 2011) at 2 (emphasis in original). See also Pilgrim Watch's Reply to Entergy's and NRC Staff's Initial Statement of Position on Pilgrim Watch Contention (February 1, 2011) at 24; Pilgrim Watch Memorandum Regarding SAMA Remand Hearing (December 2, 2011) at 1.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of)
)
ENTERGY NUCLEAR GENERATION)
COMPANY AND ENTERGY NUCLEAR) Docket No. 50-293-LR
OPERATIONS, INC.)
)
(Pilgrim Nuclear Generating Station))

CERTIFICATE OF SERVICE

I hereby certify that copies of the "NRC STAFF'S ANSWER TO PILGRIM WATCH'S REQUEST FOR REVIEW OF THE JULY 19, 2011 PARTIAL INITIAL DECISION (LBP-11-18)" have been served upon the following by the Electronic Information Exchange this 15th day of August, 2011:

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