

December 1, 2008 12:15 pm

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )  
)  
Entergy Nuclear Generation Co. and )  
Entergy Nuclear Operations, Inc. )  
)  
)  
(Pilgrim Nuclear Power Station) )

Docket No. 50-293-LR

ASLBP No. 06-848-02-LR

PILGRIM WATCH REPLY TO ENTERGY'S ANSWER OPPOSING PILGRIM  
WATCH'S PETITION FOR REVIEW

Mary Lampert  
Pilgrim Watch, pro se  
148 Washington Street  
Duxbury, MA 02332

December 1, 2008

Temp = SECH-041

DS03

## PILGRIM WATCH REPLY TO ENTERGY'S ANSWER OPPOSING PILGRIM WATCH'S PETITION FOR REVIEW

Pursuant to 10 C.F.R. § 2.341, Pilgrim Watch (PW) hereby replies to Entergy's Answer Opposing Pilgrim Watch's Petition for Review ("Entergy Op").<sup>1</sup>

**1. Compliance with the CLB:** The fundamental dispute is what activities required by the CLB, must be considered in a renewal proceeding. 10 CFR §54.4 says what components are within scope, and §§ 54.29 requires that these components must perform their "activities" in compliance with the CLB, during the renewal period. Entergy, and NRC Staff incorrectly argue that license renewal is concerned only with the "functions" listed in §54.4. If only §54.4 functions were important, there would have been no point for much of 10 CFR §54.29.

10 C.F.R. §54.29 says that a renewed license can only be issued if Entergy "manage[es] the effects of aging... on the functionality of [in-scope] structures" "such that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the CLB." Nothing in §54.29 limits the "activities" of in-scope buried pipes and tanks, or "the effects of aging ... on the functionality," to what is specified in §54.4.

Pilgrim's buried, aging metal pipes are in-scope, and the Commission has said that "the regulatory process is adequate" "with the exception of age-related degradation unique to license renewal ... (56 Fed. Reg. at 64,946, underlining added).<sup>2</sup> Whether age-related leakage could compromise the ability of Pilgrim's buried pipes to retain radioactive liquid "in accordance with the CLB" – and thus preclude the Commission from issuing a renewal license - should not have

---

<sup>1</sup> Entergy's opposition (Cited herein as "Entergy Op.") and the Staff's Opposition (cited herein as "Staff Op.") make similar arguments, but the arguments vary in length and detail. PW's responses to the two oppositions should be considered together, as PW has sought to avoid unnecessary redundancy.

<sup>2</sup> The NRC Groundwater Contamination (Tritium) at Nuclear Plants Task Force Final Report, Sept. 1, 2006 agreed that "under the existing regulatory requirements the potential exists for unplanned and unmonitored releases of radioactive liquids to migrate offsite into the public domain undetected."

been excluded from the hearing. Particularly important, for example, is whether the AMPs provide reasonable assurance that the following regulations will be met: 10 C.F.R. § 20.1302; 10 C.F.R. § 50 Appendix A: *Criterion 60; Criterion 64*; 10 C.F.R § 50 Appendix B,

**2. Reasonable Assurance:** The fundamental dispute is whether reasonable assurance has been shown when the standard for “reasonable assurance” has not been defined. Entergy referred to cases saying that reasonable assurance is “sound technical judgment applied on a case-by-case basis” and “compliance with Commission regulations.” However, what assurance must that “sound technical judgment” prove? “Sound technical judgment” that there is a 51% chance that the Minneapolis bridge won’t collapse during the next rush hour would not provide “reasonable assurance.” “Sound technical judgment,” that there is less than a 5% likelihood of the bridge collapsing, or of Pilgrim’s buried pipes leaking during the license renewal term, might do so, if supported by a clear preponderance of the evidence. And as Judge Young said, the preponderance of the evidence does not define what level of assurance is “reasonable.” (Concurring Opinion, LBP-06-848-02,p.55) “Sound technical judgment” must be related to a defined level of assurance and backed up with verification – a clear preponderance of facts that the defined level of assurance will be met. PW does not disagree that reasonable assurance “is not susceptible to a formalistic quantification or mechanistic application.” But the potential consequences of a nuclear power plant failure are severe, and the Board did not define what level of assurance of on-going compliance with the CLB is required for that “assurance” to be considered “reasonable.”

**3. Excluding Evidence:** The fundamental dispute is whether the Board improperly excluded evidence that PW presented on May 15, 2008. Entergy, like the Staff, argues that the “record ... had been effectively closed as of the end of the April 15 hearing.” (Entergy Op., 10) In doing so,

it overlooks the Board's statements, in its May 12, 2008 Order, that the hearing was not then closed. (ALBP 06-048-02 at 3-4). The record closed on June 4, 2008 (ALBP-06-848, at 3).

4. **Petition for Review of LBP-07-13:** The fundamental dispute is whether disputed material facts made summary disposition improper.<sup>3</sup> The Board majority misunderstood (or ignored) important material disputed facts, improperly weighed evidence in violation of summary judgment rules and failed to review evidence presented in light most favorable to PW.

PW's admitted contention raised "relevant and significant questions about the input data ...regarding (1) evacuation time estimates, (2) the meteorological data that govern movement of the plume and (3) the economic data" (Memorandum and Order, October 16, 2006, ASLBP No. 06-848-02-LR, 101-2). The evidence presented by PW raised material factual disputes whether additional SAMAs would have been justified if the proper input data regarding meteorological data governing the plume, evacuation time estimates and economic data inputs were used.

The applicant used a straight line Gaussian plume model to select inputs. PW presented meteorological evidence, supported by declarations, that inputs using a variable trajectory plume should have been used and that, had they been used, the area affected by, and the consequences of, an accident would be far greater than assumed by the applicant. Entergy's subsequent sensitivity analyses all assumed the Gaussian plume model that is at the heart of the dispute. PW's evidence (including that of two meteorological experts and the fact that the EPA has not authorized the use of a straight line steady state Gaussian plume model beyond 31 miles) showed, or at the very least raised an important issue of material fact whether, meteorological inputs limiting plume movement and behavior to a straight line Gaussian plume are wrong. The

---

<sup>3</sup> Contrary to the Board's fundamental misunderstanding and to both Entergy's and the Staff's repeated assertions, PW does *not* challenge the use of probabilistic modeling. What it does challenge is the inputs that produced the scenarios on which Entergy's probabilistic modeling was based. Had the proper inputs been used, the results of what Entergy calls "sensitivity analyses" would have been far different and "probabilistic modeling" would have shown that additional SAMAs were cost effective.

issue was never whether Entergy input a reasonable balance of wet versus dry days or still versus blustery winds. Rather, the disputed issue is whether inputs that took into consideration what PW's experts demonstrated - the variability of winds, sea breeze effects, the behavior of plumes over water, and re-suspension of contaminants - could lead to a different conclusion as to where a plume from this particular site would travel, significantly increase the affected area, and bring more SAMAs into play. This material dispute warrants a hearing.<sup>4</sup>

A second material dispute (that exists even under Entergy's limited distance, straight-line plume assumption) is what costs must be taken into account. Entergy underestimated some costs and simply ignored others, such as unemployment insurance, job retraining, litigation costs, medical and other health-related expenses. These are costs that must be considered when balancing the cost and benefit of a particular SAMA. The Board majority improperly ignored them in deciding, as a matter of "undisputed" fact, that no additional SAMAs were justified.

Entergy says that "the SAMA closest to becoming potentially cost-effective had a baseline benefit of approximately \$2.5 million." (Entergy Op., 13).<sup>5</sup> Entergy ignores its own estimates of per person costs and the total potentially effected population.<sup>6</sup> Using Entergy's own estimates, "baseline benefit" using a variable trajectory severe accident plume will be far more than \$2.5 million: within only the 0-10 mile SSW sector, the potential cost could exceed \$3 Billion, and the potential cost to those within 50 miles could be over \$1 trillion. The Staff also ignores Sandia National Laboratory's 1982 (\$81.8 Billion, based on 1980 dollars) estimate of the

---

<sup>4</sup> Entergy's analyses inputting different travel times (while still assuming that only those within the straight line plume would evacuate) similarly did not address material factual disputes: how many would be likely attempt to evacuate; the effects of shadow evacuation and peak travel times.

<sup>5</sup> This figure is, of course, based on Entergy's use of straight line Gaussian plume model inputs.

<sup>6</sup> Entergy's 1<sup>st</sup> and 2<sup>nd</sup> sensitivity per person costs were \$135,187.77 and \$189,041. Entergy said the total populations within, e.g., 10 and 50 miles, were 165,236 and 7,489,767, and that the 0-10 mile population within particular sectors ranged from 0 (N) to 23,695 (S, SSW, SW and WSW). See PW Ans., 41-43, 87-90.

cost of a Pilgrim core melt, and Dr. Beyea's more recent study for Mass AG estimating the cost from a C-137 Spent Fuel Pool Fire at PNPS at \$105-488 Billion (PW Ans. at 43 and 88).

Contrary to the Board's conclusion, "there are facts at issue which can effect whether or not a particular SAMA is cost effective."

Entergy's motion should have been denied.

5. Admissibility of Contention 4: The dispute is whether spent fuel pool fires are "categorically excluded" from SAMA analyses. PW did not petition the Commission for a waiver or rule change; we simply asked the Board to apply the existing rules.

Neither *Turkey Point* nor Section 6 of the GEIS (on which the Board, Entergy and the Staff rely) categorically excludes spent fuel pool fires from a SAMA analyses. The pertinent portion of the GEIS, Section 5, deals specifically with severe accidents. Nothing in it excludes the spent fuel pool that has the largest inventory of radioactive material and hence the potential for the most severe consequences. Severe accidents are defined in Section 5 because of their severe consequences, and are "severe" whether regardless of whether they originate from the core or the spent fuel pool.

Entergy's reliance on the GEIS statement that "the likelihood of a fuel-cladding fire is highly remote" (Entergy Op., 23) reinforces PW's basic point: Section 6 of the GEIS deals with normal operations. Severe accidents are not part of normal operations

"Accidental releases or noncompliance with the standards could conceivably result in releases that would cause moderate or radiological impacts. Such conditions are beyond the scope of regulations controlling normal operations..." GEIS, Sec. 6.1

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Mary Lampert". The signature is fluid and cursive, with a large, sweeping initial "M".

Mary Lampert - Pilgrim Watch, pro se

**UNITED STATES OF AMERICA**  
**NUCLEAR REGULATORY COMMISSION**  
**BEFORE THE ATOMIC SAFETY AND LICENSING BOARD**

In the Matter of

Docket # 50-293-LR

Entergy Corporation

Pilgrim Nuclear Power Station

License Renewal Application

December 1, 2008

**CERTIFICATE OF SERVICE [CORRECTED COPY]**

I hereby certify that the following was served December 1, 2008, Pilgrim Watch Reply to Entergy's Answer Opposing Pilgrim Watch's Petition for Review

Secretary of the Commission  
Attn: Rulemakings and Adjudications  
Staff  
Mail Stop 0-16 C1  
United States Nuclear Regulatory  
Commission [2 copies]

Hon. Dale E. Kline  
Chairman  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Hon. Gregory B. Jaczko  
Commissioner  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Hon. Peter B. Lyons  
Commissioner  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Hon. Kristine L. Svinicki  
Commissioner  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Administrative Judge  
Ann Marshall Young, Chair  
Atomic Safety and Licensing Board  
Mail Stop – T-3 F23  
US NRC  
Washington, DC 20555-0001

Administrative Judge  
Paul B. Abramson  
Atomic Safety and Licensing Board  
Mail Stop T-3 F23  
US NRC  
Washington, DC 20555-0001

Administrative Judge  
Richard F. Cole  
Atomic Safety and Licensing Board  
Mail Stop -T-3-F23  
US NRC  
Washington, DC 20555-0001

Office of Commission Appellate  
Adjudication  
Mail Stop 0-16 C1  
United States Nuclear Regulatory  
Commission  
Washington, DC 20555-0001

Atomic Safety and Licensing Board  
Mail Stop T-3 F23  
United States Nuclear Regulatory  
Commission  
Washington, DC 20555-0001

Susan L. Uttal, Esq.  
James E. Adler, Esq.  
Marcia Simon, Esq.  
Andrea Jones, Esq.  
United States Nuclear Regulatory  
Commission  
Washington, DC 20555-0001

Office of General Counsel  
Mail Stop - O-15 D21  
United States Nuclear Regulatory  
Commission  
Washington, DC 20555-0001

Paul A. Gaukler, Esq.  
David R. Lewis, Esq.  
Pillsbury, Winthrop, Shaw, Pittman,  
LLP  
2300 N Street, N.W.  
Washington, DC 20037-1138

Martha Coakley, Attorney General  
Matthew Brock, Assistant Attorney  
General Commonwealth of  
Massachusetts  
Office of Attorney General  
One Ashburton Place  
Boston, MA 02108

Mr. Mark Sylvia  
Town Manager, Town of Plymouth  
11 Lincoln Street  
Plymouth MA 02360

Sheila Slocum Hollis, Esq.  
Town of Plymouth MA  
Duane Morris, LLP  
505 9<sup>th</sup> Street, N.W. 1000  
Washington D.C. 20004-2166

Richard R. MacDonald  
Town Manager, Town of Duxbury  
878 Tremont Street  
Duxbury, MA 02332

Fire Chief & Director DEMA,  
Town of Duxbury  
688 Tremont Street  
P.O. Box 2824  
Duxbury, MA 02331



Mary Lampert  
Pilgrim Watch, pro se  
148 Washington St.  
Duxbury, MA 023332

December 1, 2008



**UNITED STATES OF AMERICA**  
**NUCLEAR REGULATORY COMMISSION**  
**BEFORE THE ATOMIC SAFETY AND LICENSING BOARD**

In the Matter of

Docket # 50-293-LR

Entergy Corporation

Pilgrim Nuclear Power Station

License Renewal Application

December 1, 2008

**CERTIFICATE OF SERVICE**

I hereby certify that the following was served December 1, 2008, Pilgrim Watch Reply to Entergy's Answer Opposing Pilgrim Watch's Petition for Review

Secretary of the Commission  
Attn: Rulemakings and Adjudications  
Staff  
Mail Stop 0-16 C1  
United States Nuclear Regulatory  
Commission [2 copies]

Administrative Judge  
Richard F. Cole  
Atomic Safety and Licensing Board  
Mail Stop -T-3-F23  
US NRC  
Washington, DC 20555-0001

Administrative Judge  
Ann Marshall Young, Chair  
Atomic Safety and Licensing Board  
Mail Stop - T-3 F23  
US NRC  
Washington, DC 20555-0001

Office of Commission Appellate  
Adjudication  
Mail Stop 0-16 C1  
United States Nuclear Regulatory  
Commission  
Washington, DC 20555-0001

Administrative Judge  
Paul B. Abramson  
Atomic Safety and Licensing Board  
Mail Stop T-3 F23  
US NRC  
Washington, DC 20555-0001

Atomic Safety and Licensing Board  
Mail Stop T-3 F23  
United States Nuclear Regulatory  
Commission  
Washington, DC 20555-0001

Susan L. Uttal, Esq.  
James E. Adler, Esq.  
Marcia Simon, Esq.  
Andrea Jones, Esq.  
United States Nuclear Regulatory  
Commission  
Washington, DC 20555-0001

Office of General Counsel  
Mail Stop – O-15 D21  
United States Nuclear Regulatory  
Commission  
Washington, DC 20555-0001

Paul A. Gaukler, Esq.  
David R. Lewis, Esq.  
Pillsbury, Winthrop, Shaw, Pittman,  
LLP  
2300 N Street, N.W.  
Washington, DC 20037-1138

Martha Coakley, Attorney General  
Matthew Brock, Assistant Attorney  
General  
Commonwealth of  
Massachusetts  
Office of Attorney General  
One Ashburton Place  
Boston, MA 02108

Mr. Mark Sylvia  
Town Manager, Town of Plymouth  
11 Lincoln Street  
Plymouth MA 02360

Sheila Slocum Hollis, Esq.  
Town of Plymouth MA  
Duane Morris, LLP  
505 9<sup>th</sup> Street, N.W. 1000  
Washington D.C. 20004-2166

Richard R. MacDonald  
Town Manager, Town of Duxbury  
878 Tremont Street  
Duxbury, MA 02332

Fire Chief & Director DEMA,  
Town of Duxbury  
688 Tremont Street  
P.O. Box 2824  
Duxbury, MA 02331



Mary Lampert  
Pilgrim Watch, pro se  
148 Washington St.  
Duxbury, MA 02332

December 1, 2008