



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 4, 2016

Pine duBois, Executive Director
Jones River Watershed Association
Jones River Landing
55 Landing Rd.
Kingston, MA 02364

Dear Ms. duBois:

I am responding to your letters dated January 18, 2016,¹ and February 29, 2016,² to the U.S Nuclear Regulatory Commission (NRC), regarding the Pilgrim Nuclear Power Station (Pilgrim). Specifically, your letters commented on the AREVA flooding hazard reevaluation report (FHRR) dated March 12, 2015,³ submitted by Entergy Nuclear Operations, Inc. (Entergy, the licensee) in response to the NRC's letter dated March 12, 2012.⁴ You expressed concerns regarding Pilgrim's rainfall and sea level rise estimates provided in an analysis performed by AREVA on behalf of the licensee. In the letters, you urged Pilgrim to be decontaminated and decommissioned within a decade of closure, as opposed to up to 60 years under long-term "SAFSTOR." You also inquired about Pilgrim's plans to ship nuclear waste offsite, including the timing and destination, as a result of your above concerns. In the February 29, 2016, letter, you provided updated Pilgrim site maps created by Northeastern Geospatial Research Professionals (NGRP), which you noted are based on more current LiDAR information.

You noted that, based on the Coastal Risk Consulting (CRC) findings, the FHRR underestimated and omitted important risk factors, used outdated data, and did not consider future risk estimates for rainfall and sea level rise. More specifically, you stated concerns regarding the consideration of local intense precipitation hazards; projected sea-level rises over the next 50 years; groundwater, subsidence, and erosion impacts; and the future risk due to climate-change.

The NRC staff's review of the Pilgrim FHRR is on-going. The staff's review encompasses hydraulic and hydrologic modeling, which incorporates site characteristics (e.g., LiDAR data). The NGRP maps provided by you were forwarded to the appropriate NRC technical staff for incorporation into the staff's review of the FHRR. As noted in the 10 CFR 50.54(f) letter, based

¹ LTR-16-0030 - Pine duBois, Executive Director, Jones River Watershed Association, E-mail/Letter re: Analysis of AREVA Flood Hazard Re-Evaluation Report for Pilgrim Nuclear Power Station, Agencywide Documents Access and Management System (ADAMS) Accession No. ML16019A355.

² LTR-16-0110 - Pine duBois, Executive Director, Jones River Watershed Association, E-mail/Letter re: Updated Northeastern Geospatial Research Professionals Site Maps for Pilgrim Nuclear Power Station, ADAMS Accession No. ML16062A393.

³ Entergy letter dated March 12, 2015, "Entergy's Required Response of the Near-Term Task Force Recommendation 2.1: Flooding-Hazard Reevaluation Report," (ADAMS Accession No. ML15075A082).

⁴ NRC letter to All Power Reactor Licensees and Holders of Construction Permits in Active or Deferred Status, dated March 12, 2012, "Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.54(f) Regarding Recommendations 2.1, 2.3 and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident." (ADAMS Accession No. ML12073A348).

upon the results of the review of the responses and other available information, the staff may impose additional requirements to protect against the reevaluated flood hazard.

You also raised a concern that the CRC findings illustrate the need for Pilgrim to be decontaminated and decommissioned within a decade of closure. Specifically, you are concerned with the length of the decommissioning process and the possible deferred decommissioning of the site.

By regulation, power reactor licensees have up to 60 years to complete decommissioning. Scientific studies concluded that 50 years was the optimal timeframe for radioactive decay which would result in radiation dose rates to workers being reduced to 1 to 2 percent of the original rates and radioactive waste volumes being reduced to about 10 percent of the original waste volumes when the plant shutdown. Sixty years was determined to be appropriate based on 50 years to allow radioactive decay and 10 years to complete the decommissioning.

At the Commission's direction, the NRC staff has initiated rulemaking to evaluate possible regulatory improvements for power reactors transitioning to decommissioning. As part of that activity, the Commission will revisit the appropriateness of the existing decommissioning guidance options, including the SAFSTOR option and requirements including the up to 60-year timeframe for decommissioning. Information related to the NRC's rulemaking activities can be found on the NRC public website at <http://www.nrc.gov/about-nrc/regulatory/rulemaking.html>.

In your letter, you also raised a concern regarding the storage of Pilgrim's dry storage casks near the Cape Cod Bay. The NRC staff performed an evaluation of independent spent fuel storage installations (ISFSIs) that is documented in SECY-15-0081, "Staff Evaluation of Applicability of Lessons Learned from the Fukushima Dai-ichi Accident to Facilities Other Than Operating Power Reactors," dated June 9, 2015 (ADAMS Accession No. ML15050A066). The ISFSI evaluation looked at several natural hazards including scenarios such as a storage system fully submerged in water, partial flooding around storage systems and blockage of overpack vents for canister-based systems with natural convection cooling vented overpacks (like those currently in use at Pilgrim). The results of the steady-state thermal analysis using conservative assumptions indicate that a release from the confinement is not expected to occur. The evaluation found in SECY-15-0081 concluded that because of existing regulatory processes and the additional evaluations performed by the staff that no additional regulatory action or study is needed relating to extreme flooding conditions at ISFSIs.

You also requested information about any plans for shipping Pilgrim's nuclear waste offsite and the associated timing and destination. While there are currently no plans for shipping nuclear waste offsite, the nuclear waste storage systems are required to operate safely in accordance with NRC requirements and are verified through on-going on-site inspections.

P. duBois

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I appreciate your input on this matter. As always, the safety of the operating plants is of paramount importance. If you need additional information, please contact Booma Venkataraman, Project Manager, at (301) 415-2934.

Sincerely,

A handwritten signature in black ink, appearing to read "Anne T. Boland", written in a cursive style.

Anne T. Boland, Director
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

P. duBois

- 3 -

I appreciate your input on this matter. As always, the safety of the operating plants is of paramount importance. If you need additional information, please contact Booma Venkataraman, Project Manager, at (301) 415-2934.

Sincerely,

/RA/

Anne T. Boland, Director
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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ADAMS Accession Nos.: PKG ML16062A393 Incoming: ML16019A353 and ML16062A393
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