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

ENERGY NORTHWEST NEW NUCLEAR, LLC. – U.S. NUCLEAR REGULATORY COMMISSION STAFF'S FEEDBACK REGARDING THE WHITE PAPER, "ACCEPTABILITY OF HISTORICAL INFORMATION - VOLCANIC" (EPID: L-2025-LRM-0111)

SPONSOR INFORMATION

Sponsor: Energy Northwest New Nuclear, LLC.

Sponsor Address: 345 Hills Street
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Docket/Project No.: 99902130

DOCUMENT INFORMATION

Submittal Date: January 15, 2026

Submittal Agencywide Documents Access and Management System (ADAMS) Accession No.: ML26015A527.

Purpose of the white paper: Energy Northwest New Nuclear, LLC. (ENNN) stated that the purpose of this white paper (WP) is to provide ENNN's basis for using existing historical volcanic hazard analyses for the proposed ENNN Construction Permit Application (CPA) for the Cascade Advanced Energy Facility (Cascade). The historical analyses referenced in this WP were originally developed for the Columbia Generating Station (Columbia) operating license and for the design of selected Department of Energy facilities on the Hanford Site. These studies, which were conducted by the U.S. Geological Survey (USGS) and other experts, provide foundational assessments of volcanic hazards relevant to the Cascade site.

This WP addresses the appropriateness of using volcanic hazard analyses applicable to the Cascade site but does not evaluate the Cascade design. The Cascade design features relied upon to mitigate the hazards of volcanic activity will be documented in the Cascade Preliminary Safety Analysis Report (PSAR).

Action Requested: ENNN requested that the U.S. Nuclear Regulatory Commission (NRC) staff review the subject white paper and provide feedback on ENNN's evaluation of the acceptability of applying the historical information mentioned to the volcanic hazard evaluations necessary for the proposed Cascade license application.

FEEDBACK AND OBSERVATIONS

Background:

Regulatory Guide (RG) 4.26, “Volcanic Hazards Assessment for Proposed Nuclear Power Reactor Sites,” states that the presence of Quaternary volcanic sources within 200 miles of the Cascade facility requires the consideration of volcanic hazards (i.e., ashfall, debris flow, and other proximal hazards) in the design of structures, systems, and components (SSCs) to ensure the protection of the health and safety of the public (ML23167A078). ENNN applied six evaluative criteria to determine the acceptability of relying on historical volcanic hazard analyses:

1. Regulatory changes
2. Analysis methodology
3. Scope of analysis
4. Site changes
5. Quality assurance
6. Copy of record

ENNN provided technical bases supporting the use of historical analysis despite differences identified for some of the evaluative criteria. Based on the acceptability evaluation for the volcanic hazard analyses, ENNN concluded that the historical analyses performed during the original licensing phase for Columbia and other studies of volcanic hazards at the Hanford site are valid for the proposed Cascade site. ENNN plans to document, in the Cascade PSAR, specific justifications for using historical analyses along with planned actions to confirm that the historical analyses are applicable to the Cascade site.

The NRC Staff’s Review and Observations:

The NRC staff reviewed the ENNN WP to determine the applicability of historical information to characterize volcanic hazards for the proposed site. The review considered ENNN’s justification that these historical evaluations are applicable due to the proximity of the Cascade site to Columbia within the Hanford Site and the distance from the site to the volcanic sources to the west. The NRC staff also noted that ENNN demonstrated the consistency of the available volcanic hazard analyses with the NRC guidance regarding the performance of volcanic hazards analysis provided in RG 4.26.

Upon completion of the review, the NRC staff shares the following observations:

- The volcanic hazards at the Cascade site are unlikely to be substantially different from those determined at the Columbia Generating Station or the broader Hanford site due to the distance of the volcanic sources over 100 miles away.

- Availability of the existing analyses, specifically TM-1250, “Volcanic Ash Study,” December 1981 and GO2-82-825, “Volcanic Ashfall Protection,” October 1982, in the electronic reading room will facilitate the NRC staff’s review.

Note: The observations reflected in this document do not contain any regulatory commitment or final regulatory decision of the NRC staff.

REFERENCES

1. Regulatory Guide 4.26, Revision 1, “Volcanic Hazards Assessment for Proposed Nuclear Power Reactor Sites,” Revision 1, August 2023, ML23167A078.

2. TM-1250, “Volcanic Ash Study,” December 1981.

3. GO2-82-825, “Volcanic Ashfall Protection,” October 1982.

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