



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

September 16, 2015

Mr. Mark E. Reddemann
Chief Executive Officer
Energy Northwest
MD 1023
76 North Power Plant Loop
P.O. Box 968
Richland, WA 99352

SUBJECT: COLUMBIA GENERATING STATION - REQUEST FOR ADDITIONAL
INFORMATION ASSOCIATED WITH NEAR-TERM TASK FORCE
RECOMMENDATION 2.1, SEISMIC REEVALUATIONS (TAC NO. MF5274)

Dear Mr. Reddemann:

By letter dated March 12, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15078A243), to the U. S. Nuclear Regulatory Commission (NRC), Energy Northwest, submitted for NRC review its Seismic Hazard and Screening Report, Pursuant to Title 10 of the *Code of Federal Regulations* Part 50, Section 50.54(f), Response for Information Regarding Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident (ADAMS Accession No. ML12053A340) for Columbia Generating Station (Columbia).

The NRC staff has reviewed the information provided for Columbia and has determined that additional information is required to complete its review. Enclosed is a request for additional information (RAI) related to the seismic source characterization and site response evaluation performed for the Columbia site. As discussed with your staff on September 9, 2015, it was agreed that a response to the RAI would be provided no later than 30 days from the date of this letter.

M. Reddemann

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If you have any questions related to the enclosed RAIs or the requested submission date, please contact me at 301-415-2871 or via e-mail at Michael.Marshall@nrc.gov.

Sincerely,

A handwritten signature in black ink that reads "Michael L. Marshall, Jr." in a cursive style.

Michael L. Marshall, Jr., Senior Project Manager
Hazards Management Branch
Japan Lessons-Learned Division
Office of Nuclear Reactor Regulation

Docket No. 50-397

Enclosure:
Request for Additional Information

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION
NEAR-TERM TASK FORCE RECOMMENDATION 2.1
SEISMIC HAZARD AND SCREENING REPORT
FOR COLUMBIA GENERATING STATION

By letter dated March 12, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15078A243), to the U.S. Nuclear Regulatory Commission (NRC), Energy Northwest (the licensee), submitted for NRC review its Seismic Hazard and Screening Report, Pursuant to Title 10 of the *Code of Federal Regulations* Part 50, Section 50.54(f), Response for Information Regarding Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident (ADAMS Accession No.) for the Columbia Generating Station.

In the course of its review, the NRC staff has determined that additional information is required to complete its evaluation. By letter dated August 18, 2015 (ADAMS Accession No. ML15215A043), the NRC sent a request for additional information (RAI) to the licensee for response, which contained question numbers 1 through 4.

RAI #5

Section 7.5 of the Hanford Senior Seismic Hazard Analysis Committee (SSHAC) report describes Q models for Washington and California noting that “the effect of Q is small for distances less than 50 to 100 km, but becomes important at greater distances.” Section 7.5.2 provides two Figures from the Phillips et al. (2014) study and concludes with the following:

A cursory examination of these maps suggests that the values of Q are moderately higher (i.e., more efficient wave propagation) in the Hanford region than in coastal California, and become much higher northeast of Hanford.

In addition, the Hearn and Phillips study on Q for the Pacific Northwest, presented at SSHAC Workshop 1 for the Hanford seismic source characterization, lists the Columbia Plateau as one of the High-Q areas of the Western United States.

Section 9 of the Hanford SSHAC report describes the epistemic uncertainty added to the backbone ground motion prediction equation model to account for differences in site kappa and crustal velocities (V_s -kappa correction) and differences in median stress drop between the host and target regions. However, differences in attenuation between the two regions, as described in Section 7.5 and Workshop 1, are not addressed. Given the fact that Q values vary between the two regions and the seismic sources that the probabilistic seismic hazard analysis model uses distances that extend beyond 100 km, justify why seismic propagation effects are not considered between the host and target regions for crustal earthquakes.

M. Reddemann

-2-

If you have any questions related to the enclosed RAIs or the requested submission date, please contact me at 301-415-2871 or via e-mail at Michael.Marshall@nrc.gov.

Sincerely,

/RA/

Michael L. Marshall, Jr., Senior Project Manager
Hazards Management Branch
Japan Lessons-Learned Division
Office of Nuclear Reactor Regulation

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***via email**

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| DATE | 09/15/15 | 09/15/15 | 09/11/15 | 09/16/15 |

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