

Joyce L. Connery, Chairman  
Jessie H. Roberson, Vice Chairman  
Sean Sullivan  
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**DEFENSE NUCLEAR FACILITIES  
SAFETY BOARD**

Washington, DC 20004-2901



August 31, 2015

Mr. Matthew Moury  
Associate Under Secretary for Environment, Health, Safety and Security  
U.S. Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585-1000

Dear Associate Under Secretary Moury:

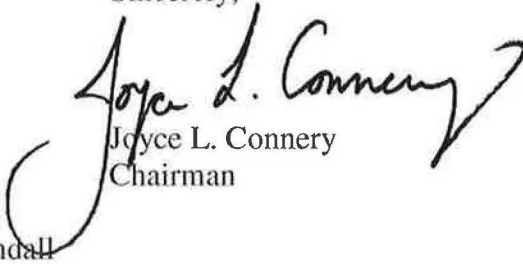
The approach being used to evaluate the need to update the Idaho National Laboratory (INL) Probabilistic Seismic Hazard Analysis (PSHA) is not well-defined and may not be technically defensible. A PSHA provides the necessary input for evaluation of the seismic response of structures, systems, and components. Department of Energy (DOE) Order 420.1C, *Facility Safety*, requires that each site PSHA be reviewed at least every 10 years for significant changes in data, criteria, and assessment methods that would warrant updating the PSHA. INL is planning to perform this evaluation with a “risk-informed” approach that relies on a preliminary seismic hazard analysis not rigorous enough to be used in the evaluation or design of certain high-hazard nuclear facilities at INL. This “risk-informed” approach is not defined in DOE directives, and we are concerned that INL is completing work without first defining how the results will be objectively evaluated.

Pursuant to 42 U.S.C. § 2286b(d), the Board requests a report within 90 days of the issuance of this letter outlining the technical basis for the planned risk assessment approach. This report should include:

- 1) The criteria used to assess whether a PSHA update is necessary at INL.
- 2) The technical definition of a “significant” increase in expected ground motions predicted by the preliminary seismic hazard analysis as it is compared against the Uniform Hazard Response Spectrum from the previous PSHA and the response spectra used to design or evaluate the Fuel Manufacturing Facility (FMF) and the Integrated Waste Treatment Unit (IWTU).
- 3) The basis for DOE’s position on why the preliminary seismic hazard analysis mentioned above will provide values of calculated risk accurate enough to use in regulatory decision making.

- 4) How a probabilistic risk assessment and/or seismic margin assessment will be applied at FMF and IWTU, and how the results will be used to assess whether a PSHA update is necessary.
- 5) The procedure for evaluating site-wide risk, because the PSHA characterizes a site-wide hazard.

Sincerely,



Joyce L. Connery  
Chairman

c: The Honorable Elizabeth Sherwood-Randall  
Mr. Joe Olencz