Bernie White

From: Adkins, Harold E <Harold.Adkins@pnnl.gov>
Sent: Monday, February 20, 2023 5:00 PM
To: Bernie White; Schilthelm, Steve W; Shargots, Scott J; jeff.waksman@sco.mil; justin.coleman@inl.gov
Cc: Coles, Garill A; Short, Steve M; Lowry, Peter P (PNNL); Maheras, Steven J; Condon, Caitlin A; Phillips, Jon R; Hay, Laura M; Freeman, Trenton; Mendenhall, John (contr-sco); hkhalil@anl.gov; Emington, David (contr-sco)
Subject: [External_Sender] RE: Proposed risk-based transportation licensing methodology report.
Attachments: Distribution Statement A - Project Pele Transportation PRA - PNNL-XXXXX (Draft) (20230219).pdf

Dear Addressed,

Attached you will find a copy of the risk-informed licensing methodology report that had been cleared for public release. The report is being supplied as a draft for now as indicated by the superficial document number and lack of formal compliance to customary PNNL document format requirements. This draft representation was selected to expedite provision to NRC and BWXT, and primarily includes focus on the base evaluation case to illustrate pathway and process for development of the transportation PRA methodology. This report provides a demonstration implementation of the plan previously provided to NRC (PNNL-33524 - Plan for Development and Application of Risk Assessment Approach for Transportation Package Approval of an MNPP for Domestic Highway Shipment) for a hypothetical one-time ground surface shipment by truck of the Project Pele microreactor with irradiated fuel. Note that this report does not currently include the sensitivity evaluations as these supporting evaluations are dependent on vendor specific system information that has not yet been made available to PNNL staff and SMEs.

The TNPP PRA model discussed in this report is envisioned to be an in-process model that is updated as the Project Pele microreactor design matures and as refined information (e.g., release fractions) becomes available. Further detailed design and safety analysis information that will be forthcoming in Phase II of the Project Pele is needed to better inform the TNPP transportation PRA study. However, to the extent that the information was available in Phase IB, it is reflected in the TNPP transportation PRA study presented in this draft report.

As previously discussed, this demonstration implementation, once complete, is intended to be used as a guide or template for the development of a hypothetical risk-informed exemption request to the NRC by the Project Pele microreactor vendor for a one-time ground surface shipment by truck. As also discussed, PNNL staff and SMEs plan to follow up with a revised report, with the help and inclusion of vendor input, by May 31, 2023 that the vendor can then use as a template to populate and finalize an application containing a hypothetical risk-informed exemption request.

Bernie, I did not include any NRC participants other than yourself as I only have a fraction of the participating NRC staff email addresses. As such, could you please distribute the report to the NRC staff that were previously identified on the participant list (also placed on NRC Box account) as well as any other NRC staff you deem prudent to socialize the information with.

Please direct any questions related to this methodology that you or other staff may have to me as the central point of contact and I will work with supporting staff and SMEs to provide answers.

Thanks again.

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