

Evaluation of representative accident scenarios provides a standardized safety analysis that can be referenced in future revisions to existing Nuclear, Hazard Category 2 and 3 (HC-2, HC-3) waste management facility Authorization Basis (AB) documents as well as during the development of new HC-2 or HC-3 facility AB documents. The safety analysis in this NSTR provides (1) standardized accident scenario descriptions, progressions, and initial condition assumptions; (2) consistent selection, application, and bases of modeling parameters such as scenario type, material-at-risk (MAR), damage ratio (DR), airborne release fraction (ARF), dose conversion factor (DCF), and respirable fraction (RF); (3) a logical identification of controls that can be credited to reduce accident scenario frequencies and/or consequences; and (4) discussion of control set vulnerability.

It is intended that new and existing facility-specific AB documents will reference the NSTR to the fullest extent possible, noting only those analysis differences that change the results provided in the NSTR. Facility-specific AB documents can utilize this NSTR to (1) select applicable representative accident scenarios that will become the "bounding scenarios" for the subject facility; (2) identify facility-specific differences that affect NSTR analysis results (e.g., MOI distance, waste storage quantity and configuration, facility layout and construction, etc.); (3) determine accident frequencies, consequences, and risk classes based on the facility-specific differences; (4) select applicable control requirements; (5) determine and evaluate "risk dominant" accident scenarios; and (6) discuss facility-specific control set vulnerabilities.

With respect to the attachments provided with this letter, the following is noted:

- Every effort has been made in the NSTR to assure consistency and adequacy in the application of accident analysis methods and assumptions per established K-H and DOE/RFFO Site-wide practice. To assure consistency, the most recent approved RMRS Waste Facility AB documents and revisions have been used as benchmarks for comparison, specifically the Building 569 BIO, 750/904 Pads FSAR, Building 991 FSAR, and Building 440 Preliminary Safety Analysis Report (PSAR). The Safety Analysis and Risk Assessment Handbook (SARAH) also has been consulted and used where appropriate. In addition, recent and past K-H and DOE/RFFO technical direction received on RMRS and other RFETS AB documents, especially the Appendix C-2 direction from DOE/RFFO AB Review Reports, has been reviewed and followed where applicable.
- The attached table to this letter provides a comparison between the accident analysis approaches used in the NSTR relative to applicable SARAH update tasks and related DOE technical direction, and other related accident analysis topics. This comparison has been expanded from that previously provided in Reference (b).
- This version of the NSTR is written to support completion of the Building 440 Final Safety Analysis Report (FSAR) and Building 906 FSAR (conversion to TRU waste storage) as part of the Phase 1 approach outlined in Reference (a). The activity modules evaluated in the NSTR include storage and handling, repackaging and treatment, and routine activities. The activity modules not included at this time are waste characterization and waste generation. Accident scenarios arising from these latter activities (e.g., nuclear criticality accidents) will be included in a subsequent update to the NSTR to support future AB document updates for Buildings 569, 664, and 991.

- Consistent with DOE/RFFO direction to the Site, this version of the NSTR is predicated on having no wooden waste crates in waste management facilities. This approach supports completion of the Building 440 and 906 FSARs as these facilities do not plan to store or stage wooden waste crates with TRU waste operations. Consequently, the NSTR does not include any wood crate fire scenarios or fire induced structural collapse scenarios. Subsequent revisions to the NSTR will be made to address any deviations from this policy for other waste management facilities should the need arise (e.g., Building 569 and 664).
- The following topics are not included in the NSTR, but will be included in future individual facility ABs submittals based on the NSTR: (1) detailed facility and system descriptions, (2) hazard classification evaluations, (3) risk dominant accident scenario discussions, (4) discussion and evaluation of safety structures, systems, and components (SSCs), and (5) Safety Management Program (SMP) descriptions.
- The attached consolidated TSRs are submitted at this time for information only. This copy is intended to convey the basic structure and format of the TSRs and illustrate, by example, how the Limiting Conditions for Operation (LCO) and administrative controls will be rolled up from the NSTR and applied on an individual facility basis. The TSR Bases are not included, LCOs do not represent a complete set, and the applicability and content of each control has yet to be balanced against risk and funding. The first version of the completed TSRs will be submitted as part of the Building 440 FSAR submittal.

The next Phase 1 deliverable to be provided to Kaiser-Hill is the Building 440 FSAR, which is due to be submitted to DOE/RFFO by November 30, 1999. A complete version of the consolidated TSRs will be provided with this FSAR. Also, it is anticipated that the NSTR may require modification to assure consistency and compatibility with the FSAR, as well as incorporation of any NSTR comments received from DOE/RFFO. Necessary NSTR revisions will also be provided with the submittal of the Building 440 FSAR and TSRs as required.

RESPONSE REQUIREMENTS

Please forward the attached to DOE/RFFO. Expedited DOE/RFFO approval of the NSTR is crucial to support timely completion of the Building 440 FSAR. If you have any questions regarding this transmittal, please contact Don Swanson at extension 7009 or pager 212-5654.



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DRS:slu

Attachments: (3)
As Stated

cc:
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