

Success Strategies Utilized for Development of Hanford's Spent Nuclear Fuel Project Authorization Basis

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OBJECTIVE:

This paper was prepared to share important safety analysis success strategies identified during parallel design and authorization basis (AB) development in support of the Hanford Spent Nuclear Fuel (SNF) Project.

SUMMARY:

The DOE Hanford site has approximately 2,100 metric tons of SNF stored underwater in basins directly adjacent to the Columbia River. Continued long term storage of this fuel in the current configuration provides high risk (i.e., proximity to the river, amount of fuel, condition of the fuel, and aging storage facilities). The SNF Project was established to perform the task of moving the fuel away from the Columbia River, processing it, and providing safe interim storage until a final disposal option is chosen. An aggressive schedule was established to reduce risk in a timely manner. As a result, facility designs were performed in parallel with safety analysis and authorization bases (AB) development. Authorization bases were developed for the K Basins facilities, the Cold Vacuum Drying Facility (CVDF) (where the fuel canisters are vacuum dried for storage), and the Canister Storage Building (CSB) (where the fuel canisters are stored until final disposition) and for the container used at each of the facilities to hold the fuel and its transport cask. The K Basins are existing facilities, while the CVDF and CSB are new facilities. This paper documents the important safety analysis and document development strategies utilized during the production of the SNF Project AB: