

March 5, 2003

MEMORANDUM TO: John Greeves, Director
Division of Waste Management

FROM: Larry Camper, Chief
Decommissioning Branch */RA/*

SUBJ: Review of Stakeholder Report Entitled "Robust Storage of Spent Nuclear Fuel: A Neglected Issue of Homeland Security" (DWM Ticket D-2003-0007)

My staff has reviewed the subject report as requested in the attached ticket. The report has minimal implications for NMSS/DWM only insofar as DCB deals with spent fuel storage issues at decommissioning reactor spent fuel pools and ISFSIs. Yucca mountain policies are mentioned, but Yucca mountain is not the focus of this report. The issues raised in this report would more appropriately fall under the responsibility of SFPO; NSIR; NRR; and RES.

The primary positions taken by the author in the report are:

- 1) Spent fuel pool storage should go back to using low-density packing with open racks, as opposed to the mostly high-density racks used at most operating reactors;
- 2) Dry cask storage ISFSIs should be further protected from terrorist threats by placing the storage systems within a secondary concrete and steel vault with soil and earth mounded up around the vault structure; and
- 3) ISFSIs storage casks should be separated (dispersed) by a minimum distance of 25 meters

The author addresses various scenarios of terrorists targeting spent fuel storage (either pools or ISFSIs) resulting in large off-site radioactive material releases. The author postulates that these releases may result in significant latent cancer deaths. In addition, the author also notes that considerable land condemnations may occur. The staff believes that the spent fuel storage risks identified in this report are remote and speculative, even if initiated as acts of radiological sabotage, and notes that these concerns have been subject to NRC consideration for many years.

The report states that one way to protect nuclear plants against the destructive acts of malice and insanity would be to permanently shut them down or operate reactors at a reduced power. The report also presents arguments as to why an away-from reactor interim ISFSI storage site (i.e., Private Fuel Storage at the Goshute Indian Reservation) is undesirable.

The report presents the author's idea of what should be included in the design basis terrorist threat and goes so far as to suggest that spent fuel storage should be able to withstand (to a limited extent) the blast from a 10 kiloton nuclear bomb.

My recommendation would be to take no further action on the report, as none appears warranted.

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Ticket #: D-2003-0007
Distribution: DCB R/F DWM R/F C.W. Reamer

ADAMS ACCESSION NUMBER: *see previous concurrence
 S:\dwm\dcblwch\spent fuel storage rpt Review R1.wpd

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