

February 20, 1998

FOR: The Commissioners

FROM: L. Joseph Callan /s/
Executive Director for Operations

SUBJECT: THE COSTS OF NUCLEAR REGULATORY COMMISSION INVOLVEMENT IN SUPPORT OF PHASE I OF THE DEPARTMENT OF ENERGY HANFORD TANK WASTE REMEDIATION SYSTEM PRIVATIZATION ACTIVITIES

PURPOSE:

To inform the Commission, on an interim basis, of the estimated and actual costs of Nuclear Regulatory Commission involvement in the demonstration phase (Phase I) of the Department of Energy (DOE) Hanford Tank Waste Remediation System (TWRS) Privatization Activities, in accordance with the "Memorandum of Understanding (MOU) between the Nuclear Regulatory Commission and the Department of Energy for Cooperation and Support for Demonstration Phase (Phase I) of DOE Hanford Tank Waste Remediation System Privatization Activities" (SECY-97-002, January 2, 1997).

BACKGROUND:

In SECY-96-027, "Evaluation of Issues Necessary to Determine the Feasibility of Licensing, and Level of Involvement in the DOE's Proposed High-Level Waste Solidification Systems," the staff discussed four major issues that could affect NRC's role in the Hanford TWRS privatization activities and recommended a proposed strategy of interaction and an accompanying estimate of resource commitment. In SECY-97-002, the staff presented the MOU between NRC and DOE, "Cooperation and Support for Demonstration Phase (Phase I) of DOE Hanford Tank Waste Remediation System Privatization Activities," to the Commission for approval. The resulting Staff Requirements Memorandum (January 28, 1997) provided Commission approval of the MOU and instructed the staff to "...report to the Commission, as soon as it is feasible, the estimated and actual costs of carrying out Phase I under this MOU."

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The estimate of resources required for Phase I given in SECY-96-027 included a staff buildup to 13 full-time equivalents (FTEs) in FY 1997; an increase to 15 FTEs in FY 1998; and maintenance of the 15-FTE level of effort until the start of Phase II (operations with radioactive waste) in FY 2002 when the FTE requirement for Phase I was expected to drop to 6 FTEs per year and remain constant until the end of Phase I, approximately 10 years from now. The remaining 9 FTEs were expected to be used for initial Phase II work. Contract support as technical assistance was projected to remain constant at \$2 million per year (in 1997 dollars).

The current budget estimate for Hanford is less than that identified in SECY-96-027 due to budget reductions (-\$2 million in FY 1998 and -\$1.5 million in FY 1999). The reduction to the

FY 1998 budget eliminated contract support funding and prompted rescheduling of Phase I activities planned for FY 1997 and FY 1998 so that a more stable program could be carried out. As a result, the FY 1997 staffing allocation was reduced from 13 FTEs to 11.2 FTEs, and FY 1997 technical assistance funding was reduced from \$2 million to approximately \$750,000 thereby making unexpended FY 1997 resources available for use in FY 1998. The staffing level is expected to remain constant at 15 FTEs beginning in FY 1998. Resource requirements for technical assistance and travel are expected to remain relatively stable at \$1.1 million through FY 2001. This is reduced from the SECY-96-027 estimate of \$2 million per year. To maintain a stable program through FY 2001, the current program of Hanford activities will require an average of approximately \$2.5 million each year. This work will be funded by an appropriation of approximately \$1.9 million each year during FY 1998 through FY 2000, supplemented with carryover funds that have been specifically appropriated for NRC's Hanford activities (approximately \$1.9 million total carryover). Because carryover will be exhausted by the end of FY 2000, the appropriation for Hanford activities will need to be increased to approximately \$2.7 million in FY 2001 to cover the anticipated cost of the FY 2001 program.

The two major assumptions that supported the SECY-96-027 estimates of FTEs and technical assistance costs are still valid and applicable. These assumptions are:

1. Existing and/or proposed regulations will provide a sufficient regulatory framework to license the facilities; and
2. The technology used in the facilities will not be radically different from the various vitrification technologies used elsewhere in the United States and other countries.

Work is in progress to finalize the proposed revisions to 10 CFR Part 70. Staff is working to assure that the revised Part 70 and associated guidance are sufficient to provide a regulatory basis for ensuring safety of the TWRS facilities. A Standard Review Plan specific to TWRS will be developed. The technologies proposed by the DOE TWRS contractors represent vitrification technologies used elsewhere in the United States and internationally.

The TWRS Section staffing plan was developed to ensure that the expertise necessary for technical review of all areas of the pilot solidification facility was acquired. Since vitrification is

presently the only solidification technology being proposed, the existing staffing level should be appropriate. If a second solidification technology, such as

molten metal, is proposed, additional staff and technical assistance resources would be needed. Additional technical assistance would also be needed in the future if unanticipated technical issues are encountered.

DISCUSSION:

FY 1997 expenditure of FTEs fell short of the estimates contained in SECY-96-027. Approximately 8.2 FTEs were expended (11.2 FTEs were projected) and approximately \$750,000 was spent on technical assistance (\$750,000 was allocated). The travel expenditure for FY 1997 was approximately \$81,000. Reduced expenditures of FTEs during FY 1997 occurred because of two developments:

1. Program staffing took longer than expected because of the need to recruit individuals with specialized technical skills. Although in-house selections and appointments were completed in early FY 1997, the recruitment and appointment of three staff members from outside NRC with skills not available in NRC were not completed until late FY 1997. The appointment of an onsite representative, who is stationed at Hanford, also did not occur until late FY 1997 because of the difficulty in finding an appropriately qualified NRC employee interested in the position.
2. The submittal by Lockheed Martin Advanced Environmental System of the Standards Approval Package (SAP) was delayed by 5 months (March 1997 to August 1997), and the submittal of the British Nuclear Fuels Limited SAP was delayed by 1 month (September 1997 to October 1997) beyond the original dates used for planning purposes. During this delay period, relatively little assistance from NRC staff outside of the TWRS Section was required.

Following the reduction to the NRC TWRS budget for FY 1998, the technical assistance program with the NRC federally funded research center, the Center for Nuclear Waste Regulatory Analyses (CNWRA) was modified. The reduction to the FY 1999 budget required a further modification to the technical assistance program with CNWRA. This modification and other impacts were discussed in the Chief Financial Officer's December 24, 1997, memorandum to the Commission.

Even with present and projected reduced funding levels, NRC is expected to have sufficient resources to continue interactions with DOE and to complete technical reviews in FY 1999 of DOE's privatization contractor's Preliminary Safety Analysis Reports (PSARs) and other significant technical submittals, thus ensuring that safety issues are identified and that the consistency with NRC's regulatory approach is maintained. The staff will continue to emphasize regulatory compatibility reviews during DOE's regulatory oversight of facilities in Phase I, to preclude the construction of facilities for Phase I that incorporate technologies and design attributes that potentially could not meet NRC regulatory requirements in Phase II. However, as discussed above, the appropriation for Hanford activities will need to be increased to approximately \$2.7 million in FY 2001 to cover the anticipated cost of the FY 2001 program.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objection. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections.

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