DECOMMISSIONING PROGRAM ACTIVITIES

The fiscal year (FY) 99 - 01 Operating Plan divides the decommissioning program activities into three main areas: (1) Reactor Decommissioning; (2) Material and Fuel Cycle Decommissioning; and (3) Environmental Task Force. The activities associated with each program area are provided below. However, since development of guidance and regulations is an activity common to all three program areas, it will be discussed in terms of the overall program.

1.0 DEVELOPMENT OF GUIDANCE AND REGULATIONS

On July 21, 1997, the U.S. Nuclear Regulatory Commission (NRC) published the final rule on "Radiological Criteria for License Termination" (the License Termination Rule) as Subpart E to 10 CFR Part 20. NRC regulations require that materials licensees submit decommissioning plans (DPs), to support the decommissioning of their facility, if such is required by license condition, or if the procedures and activities necessary to carry out the decommissioning have not been approved by NRC and these procedures could increase the potential health and safety impacts on the workers or the public. NRC regulations also require that reactor licensees submit Post-shutdown Decommissioning Activities Reports (PSDARs) and License Termination Plans (LTPs) to support the decommissioning of nuclear power facilities. The NRC staff is currently developing guidance for staff to use in reviewing and evaluating plans and information submitted by licensees to support the decommissioning of nuclear facilities. A complete listing of the guidance developed is presented in Attachment 15 of this paper.

2.0 REACTOR DECOMMISSIONING

Reactor decommissioning activities include: (1) Office of Nuclear Material Safety and Safeguards (NMSS) project management and technical review responsibility for decommissioning of two power reactors; (2) Office of Nuclear Reactor Regulation (NRR) project management and licensing oversight for 17 decommissioning reactor facilities; (3) implementation of the plan developed in response to Commission direction in direction setting initiative (DSI) 24; (4) development of standardized technical specifications for decommissioning; (5) conduct of core inspections; and (6) project management for all licensed non-power reactors.

- NMSS has project management and technical review responsibility for Fermi 1 and Peach Bottom Unit 1 power reactors. Status summaries for these reactors are contained in Attachment 11 of this paper. In addition, NMSS is currently reviewing LTPs for Trojan, Maine Yankee, and Saxton.

- NRR has project management and licensing oversight for 17 power plants that have either submitted DPs (or equivalent) or PSDARs (see Attachments 11 and 14).

3.0 MATERIALS AND FUEL CYCLE DECOMMISSIONING

Material and Fuel Cycle Decommissioning activities include: (1) regulatory oversight of Site Decommissioning Management Plan (SDMP) sites and other complex decommissioning sites; (2) implementing the Commission's direction under DSI-9 by initiating a pilot study for performing decommissioning without submittal of a DP; (3) undertaking license termination file reviews; (4) undertaking financial assurance reviews; (5) undertaking reviews of disposals

under 10 CFR Part 20.2002; (6) providing West Valley oversight; (7) interacting with EPA and ISCORS; (8) inspecting SDMP and other complex decommissioning sites; (9) maintaining the Computerized Risk Assessment and Data Analysis Lab (CRADAL); and (10) Office of Nuclear Regulatory Research (RES) providing data and models to support performance assessments.

- Activities associated with the SDMP and complex site decommissioning program include: (1) review of site characterization plans; (2) review and approval of DPs; (3) technical assistance and review of the licensee's quality assurance and decommissioning activities; (4) review of licensee final status survey reports and conduct of confirmatory surveys; (5) preparation of environmental assessments (EAs) and environmental impact statements (EISs); and (6) review of former burials of radioactive material under 10 CFR 20.302 and 10 CFR 20.2002.

- The staff continues to implement the Commission's direction under DSI-9. Three facilities are taking part in the pilot study to perform decommissioning without the submittal of a DP.

- In 1990, the NRC decided to undertake a review of terminated materials licenses to assure that facilities were properly decontaminated and posed no threat to public health and safety. Oak Ridge National Laboratory (ORNL) was contracted to review all materials licenses terminated by the NRC or its predecessor agencies, from inception of material regulation, to (1) identify sites with potential for meaningful residual contamination, based on information in the license documentation; and (2) to identify sealed sources with incomplete or no accounting that could represent a public hazard. ORNL identified approximately 675 loose material licenses and 564 sealed source licenses that required further review by the Regions. Regional staff review ORNL identified sites in accordance with Temporary Instruction 2800/026, "Follow-up Inspection of Formerly Licensed Sites Identified as Potentially Contaminated," dated April 15, 1998. Regional staff continue to review terminated license files and conduct follow-up, as appropriate, within existing resources. The following table revised December 15, 1999, shows the number of licensed sites yet to be reviewed by the Regions.

(Revised 12/15/99)

	Region I	Region II	Region III	Region IV	**Total**
Number of loose material sites pending site review (non-Agreement State sites)	6	11	2	18	**37**
Number of sealed source sites pending review (non-Agreement State sites)	50	7	6	50	**113**
Total	**56**	**18**	**8**	**68**	

- Staff routinely reviews financial assurance submittals for materials and fuel facilities, and maintains a financial instrument security program. Between 40 and 60 financial assurance submittals are reviewed each year.

- Staff reviews former 10 CFR Part 20.302 and 20.304 burials, and licensee requests for disposal under 10 CFR Part 20.2002.

- NRC's decommissioning responsibilities at the West Valley Demonstration Project (WVDP) and West Valley site are specified under the WVDP Act. Presently this includes: prescribing decontamination and decommissioning criteria; reviewing draft portions of the EIS for decommissioning and closure of the site; reviewing safety analysis reports; and performing periodic onsite monitoring of project activities and records, to assure radiological health and safety. The Commission's draft policy statement regarding decommissioning criteria for the WVDP and West Valley site was issued in December 1999 for public comment. The draft policy statement specified NRC's License Termination Rule as the decommissioning criteria. NRC's final decommissioning criteria will be a significant component of an EIS for decommissioning and closure of the site.

- The staff continues to work with the EPA and ISCORS to resolve issues related to the regulation of radionuclides. This interaction is necessary to avoid unnecessary duplication of regulatory requirements, including risk harmonization, mixed waste, recycle, decommissioning/cleanup, and sewer reconcentration.

- Staff continue to implement the Integrated Licensing and Inspection Plan (ILIP) developed in 1998. The primary objective of the ILIP for decommissioning projects is to ensure that appropriate coordination, planning, documentation, and scheduling of key decommissioning inspection and licensing activities take place. The ILIP is used to track and coordinate pending licensing actions and inspections. The ILIP helps keep management and staff focused on decommissioning activities that in many cases are unique events. Because many decommissioning activities are unique events, and occur on schedules established by licensees/responsible parties, it is important for the NRC staff (project managers and inspectors) to be aware of pending decommissioning activities and licensee schedules, to effectively plan and conduct inspections.

- CRADAL provides the staff with a high-performance computing capability that includes a platform to conduct intensive numerical calculations and parallel computing in support of licensing activities.

- RES continues to provide data and models to NMSS to support assessments of public exposure to environmental releases of radioactive material from site decommissioning. RES will provide NMSS with: (1) data on radionuclide solubilities that will be used to assess releases from ore-processing slags; (2) data on degradation of archeological slags that will be used as the basis for assessing long-term performance of slags as a source of radioactive contamination; (3) guidance on characterization of decommissioning sites containing mineral slags from ore processing; (4) documentation of unsaturated zone-monitoring strategies for use in review of monitoring proposals for licensing actions concerning decommissioning and waste disposal facilities in

unsaturated media; (5) a technical basis to support selection of site-specific parameter values for estimating flux and transport in dose-assessment codes, (6) probabilistic version of RESRAD; and (7) a modification of the Sandia Environmental Decision Support System to allow multi-dimensional groundwater pathways.

4.0 ENVIRONMENTAL TASK FORCE[1]

Environmental Task Force activities include: (1) Preparation and review of EIS'; and (2) review of EAs. Presently, it is estimated that the Environmental Task Force will be required to prepare EIS' for the following SDMP and complex decommissioning sites: (1) U.S. Department of Army - Jefferson Proving Ground; (2) Dow Chemical Company; (3) SCA Services; (4) Michigan Department of Natural Resources; (5) Mallinckrodt Chemical Inc.; (6) Shieldalloy Metallurgical Corp.; (7) Fansteel Inc.; (8) Kaiser Aluminum; (9) Sequoyah Fuels Corp.; (10) Babcock & Wilcox-Shallow Land Disposal Area; (11) Molycorp Inc. - Washington; and (12) Whittaker Corp. The Task Force will also prepare an EIS for the West Valley site. EAs must be prepared for all licensing actions, including approval of DPs for SDMP and complex decommissioning sites. The Environmental Task Force will review all EAs.

[1]On or about June 1, 2000, NMSS will implement a reorganization. The Environmental Task Force will be subsumed by the Environmental and Performance Assessment Branch, Environmental and LLW Projects Section.