

DECOMMISSIONING PROGRAM ACTIVITIES

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1.0 BACKGROUND

In a staff requirements memorandum (SRM) dated October 16, 2001, the Commission directed the staff to expand the "Annual Update on the Status of the Decommissioning Program" to include discussions on all aspects of decommissioning activities. As a result, this update now includes summaries of decommissioning activities for: (1) material facilities; (2) fuel cycle facilities; (3) power reactors, and research and test reactors; and (4) uranium recovery facilities. A summary of some of the more significant activities associated with each program area is provided below. Since development of guidance and regulations is an activity common to all program areas, it will be discussed in terms of the overall program.

2.0 DEVELOPMENT OF GUIDANCE AND REGULATIONS

On March 23, 2000, the staff provided the Commission with a paper (SECY-00-070) that provided recommendations on issues concerning the control of solid materials at licensed facilities. In an SRM dated August 18, 2000, the Commission decided to defer a final decision on whether to proceed with rulemaking and directed the staff to proceed with a National Academy of Sciences (NAS) study on possible alternatives for control of solid materials, and to continue the development of a technical information base to support a Commission policy decision in this area. In March 2002, the U. S. Nuclear Regulatory Commission (NRC) received a report, from the NAS, that reviewed the technical bases, policies, and precedents for controlling the release of solid materials. The staff has reviewed the report recommendations and has factored them into its recommendations to the Commission. In July 2002, the staff provided the Commission with recommendations (SECY-02-0133) on options for proceeding with rulemaking concerning the control of solid materials at licensed facilities. Based on its review of a National Academies report on possible alternatives and of SECY-02-0133, the Commission, on October 25, 2002, directed the staff to proceed with an enhanced participatory rulemaking to develop specific requirements for control of solid materials. On January 8, 2003, the staff provided the Commission with a rulemaking plan and proposed schedule for a rulemaking effort, and on January 27, 2003, the Commission approved the plan and schedule for the rulemaking. In February 2003, the staff published a Federal Register notice soliciting public comments on the potential rulemaking and the scope of the environmental impact statement (EIS) to support the rulemaking effort. NRC held a workshop on May 21-22, 2003, to solicit new input, with a focus on the feasibility of alternatives identified in the Federal Register. Over 2600 comments were received by the end of the public comment period, on June 30, 2003, which will be characterized in a scoping report that is planned for publication in Fall 2003. The staff plans to submit a draft rulemaking package to the Commission in July 2004, and publish it for public comment in September 2004.

The staff prepared a rulemaking plan to standardize the process for allowing the partial site release of a reactor facility or site before approval of the license termination plan (LTP). The Commission approved the plan on April 26, 2000. The proposed rule was submitted to the Commission for approval on May 9, 2001, and published for comment in the Federal Register on September 4, 2001. The staff issued the final rule in April 2003.

In an SRM dated June 6, 2001, the Commission also directed the staff to develop a rulemaking to amend the financial assurance requirements for materials licensees in 10 CFR Parts 30, 40, and 70. The staff had notified the Commission of its intent to amend the financial assurance requirements in SECY-01-0084, "Rulemaking Plan: Financial Assurance Amendments for Materials Licensees." The changes proposed are in four areas: (1) large sealed source licensees--large irradiators--would no longer be able to use the \$75,000

certification amount as a basis for financial assurance, based on site-specific decommissioning cost estimates, and would have to base their financial assurance on a site-specific decommissioning cost estimate; (2) all waste broker licensees would have to provide financial assurance and would not be permitted to use the certification amounts; (3) the certification amounts for all licensees would be increased by 50 percent; and (4) licensees using a decommissioning cost estimate would have to update it at least every 3 years. The proposed rule was published in the *Federal Register* on October 7, 2002 and the comment period closed on December 23, 2002. SECY-03-0090, requesting authorization to publish the final rule for financial assurance amendments, was sent to the Commission on June 3, 2003.

In support of the Office of Nuclear Material Safety and Safeguards (NMSS) performance goals in the Strategic Plan, NMSS continued its efforts to consolidate, risk-inform, and performance-base the policies and guidance for its decommissioning program. The project involves reviewing, updating, and consolidating existing NMSS decommissioning guidance documents, decommissioning technical assistance requests, decommissioning licensing conditions, and all decommissioning generic communications issued over the past several years. The project is being conducted using Business Process Re-engineering (BPR) techniques. The BPR approach is being implemented to develop the product and manage the review and concurrence process, using self-managed teams consisting of NRC staff from Headquarters and regional offices, and representatives from Agreement States. The goal is to produce consolidated NMSS decommissioning guidance that allows the NRC staff to evaluate information submitted by licensees in a timely, efficient, and consistent manner that protects public health and safety. The end result will be a three-volume NUREG series (NUREG-1757, Consolidated NMSS Decommissioning Guidance") of reports grouped into decommissioning functional categories. Further ease of use will be realized by making the reports available on the internet. The project team published drafts for public comment of Volume 1, "Decommissioning Process for Materials Licensees," in January 2002; Volume 2, "Characterization, Survey and Determination of Radiological Criteria," in September 2002; and Volume 3, "Financial Assurance, Recordkeeping, and Timeliness," in January 2003. The final version of Volume 1 was published in September 2002. The overall project is on schedule to be completed by the end of fiscal year (FY) 2003. The updated, consolidated guidance will be provided to all users, both NRC and licensees, in hard-copy and/or electronic media. Since each group will have access to the same guidance, the expected results are more complete license documents that will expedite the approval process for both applicants and reviewers. As a result, it is expected that this project will serve to improve the overall decommissioning process. A complete listing of guidance developed during the past year is presented in Attachment 13.

RES provides data and models to NMSS to support assessments of public exposure to environmental releases of radioactive material from site decommissioning. Since SECY-02-0169 was published, RES has provided the Division of Waste Management with: (1) a report, to NRC on the condition assessment of concrete structures, which identified important characteristics and relevant parameters that must be measured, modeled, and monitored, to assure performance of an entombed structure as designed; (2) an advanced methodology for using geobaysian approaches to design 2-dimensional (D) and 3-D sampling programs, to more accurately and more efficiently assess volumetric contamination; (3) a report on techniques for determining the appropriate level of abstraction to be used in modeling specific aspects of a natural system; (4) a final report describing a systematic approach for building conceptual models of natural systems and accounting for the uncertainty associated with alternative system descriptions; (5) an assessment of the status of documentation and support for parameter values and assumptions used in pathway models of frequently used dose codes;

(6) the final report for a field demonstration project assessing conventional and surface complexation approaches to simulating sorption processes at a chemically complex site; (7) final values for solubilities of key radionuclides in soils from actual decommissioning sites; (8) a report on pore volume estimation techniques for use in financial assurance determinations for in-situ leach mine; (9) a report on using advanced monitoring and modeling techniques to evaluate uncertainties in ground-water recharge estimates; and (10) final NUREG-1640, "Radiological Assessments for Clearance of Materials from Nuclear Facilities," which provides evaluations of doses to the critical group from various scenarios (including transportation and handling for reuse, recycle and disposal) for releasing solid materials from regulatory control.

Two of the research efforts mentioned above deserve to be singled out. First, the work to finalize NUREG-1640 and to develop geobaysian approaches for more efficient assessment of volumetric contamination, are only a part of the overall support being provided for the clearance rulemaking. Other products which are being used directly in the rulemaking effort include the development of collective doses, assessment of doses from multiple sources, and the analysis of clearance of contaminated soils. These efforts constitute about one third of the current resources budgeted for research in this program. Second, the work on parameter and conceptual model uncertainty pursued through contracts, and in cooperation with other federal agencies (through the Working Group on Uncertainty of the MOU on Multimedia Environmental Modeling) is establishing a sound basis for handling these very complex issues in the course of environmental reviews at decommissioning and other sites.¹

During the past year RES also continued: (1) support for the Multi-Agency Radiation Survey and Site Investigation Manual and Multi-Agency Radiation Laboratory Analytical Protocols, efforts to establish a common approach to radiological measurements and surveys; (2) participation in activities of the Interagency Steering Committee on Radiation Standards (ISCORS), including the subcommittees on Clearance and Sewage Sludge; and (3) participation in working groups of the Interagency Steering Committee on Multimedia Environmental Models. Major activities in 2003-2004 will include: (1) completion of the technical basis work to support rulemaking on the control of solid materials; (2) continuation of work to assess the basis for parameter values and assumptions in dose models; (3) completion of a Beta-test version of FRAMES environmental modeling platform linked to the Corps of Engineers' ground-water modeling system; and (4) cooperation with the U.S. Department of Energy (DOE) on development of RESRAD-OFFSITE and RESRAD-BIOTA.

3.0 MATERIAL FACILITIES DECOMMISSIONING

Material facilities decommissioning activities include: (1) regulatory oversight of Site Decommissioning Management Plan (SDMP) sites and other complex decommissioning sites; (2) completing license termination file reviews; (3) undertaking financial assurance reviews; (4) providing West Valley oversight; (5) examining issues and funding options to facilitate remediation of sites in non-Agreement States; (6) interacting with the U.S. Environmental Protection Agency (EPA) and ISCORS; (7) inspecting SDMP and other complex

¹ University of Arizona (completed this year with the publication of a final strategy for assessing conceptual model uncertainty and selecting appropriate models), the Agricultural Research Service (developing a systematic process to choose the appropriate level of abstraction for a system model), and Pacific Northwest National Laboratory (combining approaches to handle both parameter and conceptual model uncertainty)

decommissioning sites; (8) maintaining the Computerized Risk Assessment and Data Analysis Lab (CRADAL); (9) evaluating Agreement State implementation of the license termination rule (LTR); (10) public outreach; (11) participating in International decommissioning activities; and (12) conducting a program evaluation.

- Activities associated with the SDMP and complex site decommissioning program include: (1) review and approval of decommissioning plans (DPs); (2) conduct of pre-DP development meetings with licensees; (3) review of licensee final status survey reports and conduct of confirmatory surveys; (4) conduct of in-process inspections; and (5) preparation of environmental assessments (EAs) and safety evaluation reports (SERs). Since publication of SECY-02-0169, the staff has prepared the EA and SER for Kaiser Aluminum and approved its DP.
- Staff routinely reviews financial assurance submittals for materials and fuel facilities, and maintains a financial instrument security program. Approximately 50 financial assurance submittals were reviewed in FY 2003.

March 2003 marked the first time that NMSS staff received status reports of the trust funds used by decommissioning reactor licensees as financial assurance. NMSS staff will coordinate its assessment of the decommissioning reactor trust fund reports with the Office of Nuclear Reactor Regulation's (NRR's) assessment of operating reactor trust fund reports.

- Until 1980, NRC licensed the reprocessing operation at the West Valley site under License CSF-1. In 1981, NRC put the license in abeyance to allow DOE to carry out the West Valley Demonstration Project (WVDP). The West Valley site property is owned by the New York State Energy Research and Department Authority.

NRC has a number of regulatory responsibilities for decommissioning the West Valley site, delineated by statute, regulation, policy statement, and agreements with DOE and other agencies. These responsibilities include: (1) prescribing requirements for decommissioning; (2) providing review and consultation to DOE on the project; (3) reviewing and providing guidance for the decommissioning EIS; (4) reviewing safety analysis reports; and (5) monitoring the activities under the project for the purpose of assuring the public health and safety.

The Commission's final policy statement on decommissioning criteria for the WVDP was issued on February 1, 2002. The policy statement prescribed the LTR as the decommissioning criteria for the WVDP, reflecting the fact that the applicable goal for the entire NRC-licensed site is compliance with the requirements of the LTR. The staff is implementing the policy statement and has developed and issued an implementation plan to guide staff activities.

In June 2001, the General Accounting Office (GAO) issued a report (GAO-01-314) that included several recommendations. Specifically, GAO recommended that NRC and EPA, in coordination with New York State, agree on how their different cleanup criteria should apply to the site. NRC has worked with involved Federal and State regulators in the development of a Regulators Communication Plan, to enhance communication and coordination on the decommission of the West Valley site. The plan, which is publicly

available, identifies the roles and responsibilities of involved regulatory agencies, and applicable cleanup requirements and expectations.

- As noted in the 2000 Annual Update (SECY-02-0169), the Commission directed the staff, in a June 2002 SRM for SECY-01-0194, to conduct an analysis of LTR issues, emphasizing resolution of the institutional control issues--and with the goal of making the LTR provision for restricted release and alternate criteria more available for licensee use. This Commission direction was in response to both the continuing uncertainty about potential transfer of sites to DOE for long-term control under the Nuclear Waste Policy Act, Section 151(b), and the potential need for restricting site use at the AAR Manufacturing Group Inc. (AAR) site. The SRM also identified other important LTR implementation issues impacting the decommissioning of sites.

On October 1, 2002, the staff provided the Commission with an initial analysis that described the scope of each issue and the staff's plans for evaluation (SECY-02-0177). The results of the staff's analysis of LTR issues were provided on May 2, 2003, in SECY-03-0069. Particular emphasis was given to recommendations to resolve the restricted release and alternate-criteria issue, and an update to DOE's changes to its long-term stewardship policy and management. The staff also evaluated other LTR implementation issues dealing with the relationship of the LTR release limits to other release limits, realistic exposure scenarios, measures to prevent future legacy sites, and a new issue on intentional mixing. The staff recommended a variety of actions for Commission consideration, to address these issues, including: 1) a rulemaking, for measures to prevent future legacy sites; 2) revised guidance to support the rulemaking and to clarify restricted release, on-site burials, and realistic exposure scenarios; 3) revised inspection procedures and enforcement guidance to enhance monitoring, reporting, and remediation, to prevent future legacy sites; and 4) a Regulatory Issue Summary to inform a wide range of stakeholders about the LTR analysis of each issue, Commission direction, and actions planned to resolve each issue. For the new issue on intentional mixing, only planned evaluations were given. The results of these evaluations will be provided to the Commission in September 2003.

In summary, the outcomes of the staff's recommendations affect both existing and future decommissioning sites. For existing decommissioning sites, particularly the complex sites with long-lived radionuclides, many recommendations should facilitate decommissioning by addressing key challenges that these sites must address. Consistent use of more realistic exposure scenarios could result in more economical decommissioning, while maintaining safety. Furthermore, this recommendation could also result in fewer sites that might need to use the restricted release or alternate criteria. However, for those few sites that might still need to use the restricted-release or alternate criteria provisions of the LTR, viable options for restricting use are recommended. For future decommissioning sites, specific measures are recommended for financial assurance, licensee operations and reporting, and on-site disposal, that should reduce or mitigate the potential for future "legacy" sites that may not have the financial ability to complete decommissioning. Together, these measures contribute to the Commission's preference for license termination, with unrestricted release, which results in the greatest opportunity to return the site to productive use.

- The Commission also tentatively approved SRM-SECY-00-0180, the staff's recommendation to request authorization and appropriations for State-directed remediation at formerly licensed sites in non-Agreement States where there is insufficient funding available. The Commission requested that the staff better define the number of sites, potential costs for remediation, and willingness of the States to direct remediation with appropriated funds. Similarly, the Commission also requested the staff to provide further information about currently licensed sites undergoing decommissioning that might have insufficient funds to decommission the facility. Staff analyzed the non-Agreement State sites that were formerly licensed or are currently licensed and in the process of decommissioning, with regard to: (1) the potential remediation costs; (2) the amount of financial assurance; (3) the financial capability of the responsible party to fund cleanup from assets outside of financial assurance; and (4) the possibility of another agency directing remediation if NRC decides to pursue Congressional funding. In May 2002, the staff reported its findings in SECY-02-0079. The Commission approved (SRM-SECY-02-0079) the staff's recommendation to proceed with the aggressive regulatory posture and requested the staff to prepare a summary report on the outcomes and any recommendations resulting from the implementation process. Progress has been made through a more aggressive interaction with the sites. The staff is currently summarizing progress made and evaluating current conditions in determining if any changes to our approach are needed. The staff will report its findings to the Commission in the fall of 2003.
- The staff continues to work with other Federal agencies, including EPA and DOE, through ISCORS, to address issues related to the radiation protection. ISCORS is nearing completion of its assessment of the origin, nature, and risk associated with radionuclides in sewage sludge from publicly owned treatment works. The study has found that naturally occurring radionuclides are the primary contributor to radiation exposures. ISCORS is developing a web site that will be a catalog of parameters (such as inhalation and ingestion rates) used in dose modeling by different agencies and codes, to foster harmonization and consistency in the selection of parameters. ISCORS is also a forum for Federal agencies to discuss the wide range of radiation protection issues in decommissioning, including standards for cleanup (EPA's "Federal Guidance for the General Public"); use of institutional controls; cleanup criteria for radioactive dispersal device events; disposition of solid materials; and international initiatives related to protection of biota from ionizing radiation.
- 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.
- All Agreement States were expected to adopt dose criteria equivalent to, or more restrictive than, the LTR, by August 20, 2000. Of the 33 Agreement State Programs, 27 State Programs have adopted dose criteria equivalent to, or more restrictive than, the LTR, and six have yet to adopt dose criteria.
- Decommissioning staff interacts with the public in several ways. In March 2001, the staff completed development of a Communication Plan for Regulation of Decommissioning. The goals of NRC's decommissioning communications activities are to increase public confidence in NRC's commitment and ability to carry out licensing and

regulatory responsibilities for the decommissioning of nuclear facilities, and increase the efficiency, effectiveness, and realism of analyses supporting license termination decisions. The Plan provides guidance for developing individual Communication Plans for specific activities associated with the regulation of radiological decommissioning. These include, but are not limited to, the decommissioning of commercial nuclear power reactors, fuel cycle and materials licensees, and sites on the SDMP. Since publication of SECY-02-0169, the staff has prepared and begun implementation of site-specific communication plans for the 13 reactors transferred from NRR to NMSS. The staff continues to implement communication plans for all SDMP and complex sites. Site-specific communication plans are useful tools to help ensure that the appropriate stakeholders are identified and contacted and focuses the staff on messages NRC wants to convey. One of the activities identified in the Communication Plans for each site is participation in public meetings to inform the public about major licensing actions. During the past year the staff participated in public meetings regarding the WVDP site, the B & W Parks Shallow Land Disposal Area, the Cabot Performance Materials Inc. Site, the Combustion Engineering Hematite Site, and the Combustion Engineering Windsor Site. The staff also held a public meeting in Charlevoix, Michigan, to discuss the Big Rock Point License Termination Plan.

In 2003, the staff completed an effort with the Nuclear Energy Institute (NEI) to develop a shared view of acceptable generic approaches for dealing with several license termination issues while ensuring that the requirements of the LTR were met. This shared view provided opportunities for standardized approaches of developing, reviewing, approving, and implementing LTPs. In an effort to clarify existing guidance associated with the LTR (10 CFR Part 20, Subpart E), NRC and NEI adopted an approach whereby the NEI License Termination Task Force generated questions and answers (Q&As), and submitted them to NRC for review. The submittal was placed on NRC's web site for the public. NRC reviewed the Q&As, and provided comments to NEI. NRC's response to NEI was also placed on the web site. NEI could address disapproved Q&As and resubmit them, or withdraw them. Approved Q&As would be incorporated into the consolidated draft decommissioning guidance. The draft guidance, including Q&As, is released for public comment, and posted on NRC's web site. The NRC writing and review teams developing the consolidated guidance (discussed above) addressed the public comments on the Q&As. Final Q&As are included in the final consolidated guidance, released to the public, and posted on NRC's web site.

- Decommissioning staff has also taken significant steps in enhancing public participation in the decommissioning process. Under an interagency agreement with NRC, the U.S. Institute for Environmental Conflict Resolution (USIECR) has completed a project for NRC on effective public involvement in facility decommissioning. NRC hosted a workshop in September 2002, to discuss the results of the project – best practices for public involvement in general, with specific application to restricted-use decommissioning of NRC-licensed facilities (per 10 CFR 20.1403). The workshop was designed for, and attended by, licensees, as well as by NRC and Agreement State regulators.

NRC has concluded that the development of “best practices” for meeting the performance objectives of its public involvement regulations is useful. USIECR has

prepared a guidance document for NRC entitled, "Best Practices for Effective Public Involvement in Restricted-Use Decommissioning of NRC-Licensed Facilities." The guidance is based, in part, on information obtained from stakeholders, at NRC licensed sites, that have experience with public involvement concerning radioactive contamination and long-term management of contaminated sites.

The staff also participated in a number of industry conferences and workshops. Examples of conferences and workshops attended by the staff during the past year include Waste Management '03, American Nuclear Society conferences, and Health Physics Society meetings.

- Decommissioning staff take part in a variety of international decommissioning activities such as: (1) technical assistance to the international community; (2) participation in international regulatory organizations; (3) hosting foreign assignees; (4) bilateral technical exchanges; and (5) participation in international symposia.
- The Strategic Plan for FY 2000-2005 identified a program evaluation entitled *Changes to the Decommissioning Process*. This program evaluation focuses on the decommissioning of material and fuel cycle facilities and those power reactors that NMSS had responsibility for during FY 2001 and FY 2002. Evaluations will be made of the program over the 3-year period from FY 2001 through FY 2003. The effectiveness of the overall program and the effectiveness of specific changes to the program will be evaluated, using a variety of tools. For overall program effectiveness, the staff will use: 1) documented agency operating plan performance data; 2) an analysis of the LTR implementation issues; 3) a business process improvement assessment of the licensing process; 4) the Office of Management and Budget's Program Assessment Rating Tool; and 5) independent reviews by the Commission, the Advisory Committee on Nuclear Waste, and stakeholders. Evaluations of 18 specific changes to the program will include how the outputs and outcomes from each change contributed to meeting the agencies' performance goals and strategies. Information will be obtained from agency documents and staff interviews. Finally, based on the results of these evaluations, challenges to the program will be identified and corresponding recommendations will be made to address the challenges. The staff plans on completing this program evaluation in fall 2003.

4.0 FUEL CYCLE FACILITIES DECOMMISSIONING

The Division of Fuel Cycle Safety and Safeguards (FCSS) regulates facilities that mill and enrich uranium and fabricate it into fuel for use in nuclear reactors, and facilities that fabricate nuclear fuel that is a combination of uranium and plutonium oxides. Several types of fuel cycle facilities are licensed for the mining and milling of uranium through its enrichment and fabrication into nuclear fuel used for nuclear power plants. These include: uranium fuel fabrication facilities, uranium hexafluoride production (conversion) facility, gaseous diffusion enrichment facilities, and uranium milling facilities. Regulation of fuel cycle facilities is accomplished through a combination of regulatory requirements; licensing; safety oversight, including inspection, assessment of performance, and enforcement; operational experience evaluation; and regulatory support activities. The following is a status of current decommissioning activities at fuel cycle facilities:

Conversion Facilities:

Honeywell - This facility is located in Metropolis, IL, and is the only operational conversion facility in the United States. There are two CaF₂ settling ponds on this site. In calendar year (CY) 2001, NRC determined that the material in the ponds could be treated as exempt material, as defined in 10 CFR 40.13(a), and should be disposed of accordingly. In CY 2003, the licensee will continue to remediate these ponds and dispose of material at an appropriate disposal facility.

Fuel Manufacturers:

BWX Technologies - This facility is located in Lynchburg, VA. This facility has decommissioned several landfills that were used for disposal of facility waste. The landfills were supposed to be nonradioactive, but contained small amounts of contamination. In CY 2001, remediation of two of the three remaining landfills were completed in accordance with an NRC-approved DP. The DP for the remaining landfill is under review and is anticipated to be approved in CY 2003.

Nuclear Fuel Services - This facility is located in Erwin, TN. There are currently four decommissioning projects on the site: Pu Building; 200 Complex; North-site burial ground; and Southwest burial trenches'. The Southwest burial trenches remediation was completed in CY 2001, but the licensee has not yet demonstrated that the decommissioning criteria were met. This issue will need to be addressed at the time of license termination. Under the existing license, the licensee will continue to decommission the Pu and the 200 complex buildings in CY 2003. The North-site decommissioning activities are continuing under the approved DP.

Framatome Richland - This facility, located in Richland, WA, has five lagoons, which were used as part of the waste-water treatment process. The State of Washington has ordered the licensee to drain the lagoons and begin decommissioning by 2004. During the past year, the licensee met with the NRC staff to discuss scheduling and cleanup criteria, and began to decommission the lagoons. Decommissioning will continue in CY 2003.

General Atomics - This facility is located in San Diego, CA. It was licensed to fabricate low-enriched light-water reactor fuel. The site is undergoing site-wide decommissioning, under an NRC and State-of-California-approved site-wide DP.

Enrichment Facilities

There are currently two enrichment (gaseous diffusion) facilities in the United States, located in Portsmouth, OH, and Paducah, KY. NRC has certified these facilities, and according to the lease agreement between the United States Enrichment Corporation and DOE, at the end of plant life, DOE will resume ownership of the facilities and is responsible for future decommissioning activities on these sites.

5.0 REACTOR DECOMMISSIONING

Reactor decommissioning activities include: (1) NMSS project management and technical review responsibility for licensee submittals in support of decommissioning; (2) NRR project management and licensing oversight for two decommissioning reactor facilities; (3) conduct of

core inspections; (4) project management for 15 licensed research and test reactors; and (5) supporting development of rulemaking and guidance.

- The transfer of project management responsibilities for decommissioning power reactors was completed in January 2003. NMSS currently has regulatory project management responsibility for 15 decommissioning power reactors. NRR retained project management responsibility for two decommissioning reactors (Indian Point - Unit 1, Millstone - Unit 1) because extensive stakeholder interest in these sites makes it more efficient for NRR to retain, as a single point of contact, project management responsibilities for the permanently shutdown units. In addition, project management for three early demonstration reactors in decommissioning—Vallecitos, Nuclear Ship Savannah, and Saxton remains with NRR. Plant status summaries for all decommissioning reactors are provided in Attachment 9. During the past year NMSS completed review and approval of the LTPs for Maine Yankee, Saxton, and Connecticut Yankee. The staff is currently reviewing the LTP for Big Rock Point, that was submitted in April 2003. Attachment 10 provides a schedule for reactor decommissioning activities.
- NRR retained project management and inspection responsibilities for research and test reactors. Currently, 11 research and test reactors have decommissioning orders or amendments. Additionally, four research and test reactors are in “possession-only” status, either waiting for shutdown of another research or test reactor at the site, or for removal of the fuel from the site by DOE. Further, four of the 11 test and research reactors with decommissioning orders or amendments, and one of the four test and research reactors in possession-only status still have fuel in storage at the reactor. Plant status summaries for research and test reactors under NRR project management are provided in Attachment 11.

6.0 URANIUM RECOVERY FACILITIES DECOMMISSIONING

Uranium recovery decommissioning activities in FCSS include: (1) regulatory oversight of decommissioning uranium recovery (milling) sites; (2) review of site characterization plans and data; (3) review and approval of DPs; (4) preparation of EAs; (5) conduct decommissioning inspections, including confirmatory surveys; (6) decommissioning cost estimate reviews (including annual surety updates); and (7) oversight of license termination. The staff also reviews the DOE ground-water corrective-action plans and Long-Term Surveillance Plans for the Title I remediated mill sites and assists the Office of State and Tribal Programs with review of Agreement-State uranium recovery site completion reports and inspections.

- Staff activities associated with decommissioning involves evaluation of plans and accomplishments for soil, structures, and ground water. Reclamation evaluations include stabilization of the tailings pile (engineered cover design, construction, and function, and surface water diversion) at mills, and restoration of the land surface (re-contouring and seeding).
- Staff worked with DOE and Wyoming concerning the issue of State mineral rights on land to be transferred to DOE at Title II sites that have completed decommissioning.

- The staff has improved decommissioning guidance by revising two standard review plans (SRPs) that address: evaluation of reclamation and DPs and associated cost estimates; disposal of non-11e.(2) byproduct material; applications for alternate concentration limits; and requests for license termination. These final SRPs have been published as NUREG-1620, (mills) and NUREG-1569 (in-situ leach facilities).
- The annual public meeting with staff and the National Mining Association was held in Denver, Colorado, on June 10 and 11, 2003. Presentations included topics on NRC's inspection program, land-transfer issues, SRPs, and surety issues.
- DPs for Shootaring and Quivira-Ambrosia Lake (mills previously on stand-by status) were received, and are under review. EAs are being written for these licensing actions.
- Meetings in November 2002 with EPA and New Mexico included discussion of ground-water background values (to support future alternate-concentration limits application) and de-listing the Homestake mill site, a Superfund site.
- The license for the Green Mountain Ion-exchange facility was terminated on March 30, 2003. License termination activities continue for three sites (Petrotomics Shirley Basin, Bear Creek, and L-Bar).
- One mill site (Pathfinder Lucky Mc) was authorized to use alternate concentration limits for ground-water, and thus allowed to stop corrective actions. The licensee demonstrated by modeling that the proposed criteria would still keep constituent values within the range of background at the point of exposure for 1000 years. By ending the pumping and evaporation of ground water, the site will be able to complete decommissioning.
- In response to an SRM, the staff wrote a Commission Memorandum concerning the proposal to accept institutional controls at the Split Rock mill site to address ground water contamination and thus allow cessation of corrective action so that the license can be terminated.
- Staff assisted with a Commission Paper concerning the decommissioning of Sequoyah Fuels Corporation (SFC) in July 2002. After the Commission decision, the site license was transferred to FCSS for decommissioning of the 11e.(2) byproduct material.
- Issues related to ground-water corrective action continue at Homestake, Split Rock, Petrotomics Shirley Basin, Quivira, Lisbon, and Churchrock.