

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. The activities associated with each program area are 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

In SRMs dated July 20, 2000, and September 5, 2000, the Commission directed the staff to develop a Rulemaking Plan to address the entombment option for power reactors. On June 1, 2001, the staff forwarded SECY-01-0099, “Rulemaking Plan and Advance Notice of Proposed Rulemaking: Entombment for Power Reactors,” which contained three options for proceeding with entombment. The first option is to continue with the current approach and handle entombment requests on a case-by-case basis. The second option is to conduct rulemaking, to add flexibility to 10 CFR 50.82 to amend the 60-year time frame for completion of decommissioning, and to clarify the use of engineered barriers for reactor entombments. The third option is to conduct rulemaking to establish performance objectives and licensing requirements for an entombed facility. On October 16, 2001, the staff published an “Advance Notice of Proposed Rulemaking” in the Federal Register, to invite input from affected parties and the public. The comment period expired on December 31, 2001. Comments were received from 19 parties. The staff will present a preferred option to the Commission later this year.

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. It submitted a paper to the Commission, on this subject, entitled, “Control of Solid Materials: Options and Recommendations for Proceeding,” in July 2002 (SECY-02-0133).

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 is currently resolving public comment issues, including comments on site boundary definition, and applicability of the U.S. Environmental Protection Agency (EPA) 40 CFR Part 190 to released material.

On January 16, 2002, the staff published, “NRC Regulatory Issue Summary 2002-02: Lessons Learned Related to Recently Submitted Decommissioning Plans and License Termination

Plans,” to inform licensees of lessons learned from reviews of recently submitted decommissioning plans (DPs) and LTPs. The staff believes that this regulatory issue summary will enable licensees to develop more complete DPs and LTPs, which should result in more effective and efficient use of licensees’ and NRC’s resources. The staff has provided several presentations on the content of the regulatory issue summary at industry meetings and workshops to reinforce the lessons learned.

In an SRM dated May 29, 2001, the Commission directed the staff to develop guidance documents to implement Commission direction set forth in the SRMs for SECY 99-012, 99-013, and 99-277. In January 2002, the staff published two standard review plans (SRPs), revised as directed. The revised information included the new NRC policy (Regulatory Issue Summary 2000 - 23) of exclusive authority over the non-radiological, as well as radiological, hazards of 11e.(2) byproduct material, and thus State approval of clean-up of these constituents is no longer required, although the staff will work with the State to try to resolve differences.

In support of the Office of Nuclear Material Safety and Safeguards (NMSS) performance goals in the Strategic Plan, NMSS implemented a project to consolidate, risk-inform and performance orient 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 of reports grouped into decommissioning functional categories. Further ease of use will be realized by making this a web-based document. The project team published Vol. 1 of NUREG-1757, “Decommissioning Process,” for public comment in January 2002, with the goal to complete drafts of Vols. 2 and 3 by the end of fiscal year (FY) 2002. The overall project is on schedule to be completed by the end of 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 15.

The Office of Nuclear Regulatory Research (RES) provides data and models to NMSS to support assessments of public exposure to environmental releases of radioactive material from site decommissioning. Since SECY-01-0156 was published, RES has provided the Division of Waste Management with: (1) a NAS National Research Council report on alternative strategies for the control of slightly contaminated materials; (2) the results of a comprehensive literature search, for publications on human interactions with soil, that will be used to establish reasonable scenarios for estimating the effects of alternative policies on the control of slightly contaminated soils; (3) a probabilistic version of the RESRAD-BUILD computer code that will be used to assess LTPs where licensees propose to leave structures in place; (4) data on the stability, absorption, and transport potential of chelating agent complexed radionuclides from

resins in low-level waste that identifies conditions where movement is more likely to occur; (5) data on solubility and leaching of radionuclides in slags that will be used to assess DPs for sites with contaminated slags; (6) data on the release of radionuclides and chelating agents from ion-exchange resins used in the full system decontamination of a nuclear power plant; (7) fundamental calculations of molecular dynamics of sorption on basal surfaces of clay minerals for RES' use in establishing more realistic approaches for modeling sorption processes at decommissioning sites; (8) an assessment of the effect of hydrologic uncertainty assessments on performance predictions, using complex and simplified models; and (9) analyses of the effects of different sorption parameter values on predictions of uranium migration at a field site, which emphasize the potential significance of both sorption parameter values and related site conditions. In addition, RES continued technology transfer activities that included training courses on the strategy for assessing conceptual model uncertainty, and for use of the Army Corps of Engineers Groundwater Modeling System (GMS)[a powerful tool, for analyzing groundwater systems, that has been made available through an RES interagency agreement with the Corps]. Major RES activities to be completed in 2002-2003 include: (1) the revision of NUREG-1640 to provide individual dose estimates for scenarios for the re-use of slightly contaminated materials; (2) the completion of collective dose calculations associated with these re-use scenarios; and (3) data on radionuclide solubilities that will be used in assessments of sites with contaminated soils. RES also completed, after extensive coordination with NMSS, the "Research Plan for Radionuclide Transport in the Environment," which provides a systematic plan for addressing significant sources of uncertainty in analyses of license termination activities.

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 the Commission's direction under DSI-9, by conducting a pilot study for performing decommissioning without the submittal of a DP; (3) completing license termination file reviews; (4) undertaking financial assurance reviews; (5) providing West Valley oversight; (6) examining issues and funding options to facilitate remediation of sites in non-Agreement States, including working with the U.S. Department of Energy (DOE) to facilitate the long-term control of sites with long-lived radionuclides; (7) interacting with the EPA and the Interagency Steering Committee on Radiation Standards (ISCORS); (8) inspecting SDMP and other complex decommissioning sites; (9) maintaining the Computerized Risk Assessment and Data Analysis Lab (CRADAL); (10) evaluating Agreement State implementation of the license termination rule (LTR); (11) public outreach; (12) participating in International decommissioning activities; and (13) conducting a program evaluation.

! Activities associated with the SDMP and complex site decommissioning program include: (1) review of site characterization plans; (2) review and approval of DPs; (3) implementation of a streamlined licensing approach by conducting pre-DP development meetings with licensees; (4) review of licensee final status survey reports and conduct of confirmatory surveys; and (5) preparation of environmental assessments (EAs) and environmental impact statements (EIS). Since publication of SECY-01-0156, the staff has approved two DPs, reviewed four final status survey reports, conducted two confirmatory surveys, and prepared one EA.

In June 2002, the staff prepared SECY-02-0095, entitled, "Applicability of Section 11e.(2) of the Atomic Energy Act to Material at the Sequoyah Fuels Corporation Uranium Conversion Facility," to request Commission approval that certain SFC waste can be classified as AEA Section 11e.(2) byproduct material. In a subsequent SRM, the Commission approved the staff's proposal. Under this option, SFC could dispose of the 11e.(2) material in a 10 CFR Part 40, Appendix A, tailings impoundment at the site. At completion of remediation, ownership of the 11e.(2) material cell would be transferred to DOE under Title II of UMTRCA.

! Three facilities (Westinghouse Cheswick Pump Repair Facility, Viacom/CBS Forest Hill Laboratory, Phillips Petroleum Radiation Laboratory) participated in the pilot study to perform decommissioning without DP submittal. All three facilities have completed decommissioning. In December 2001, the staff prepared SECY-01-0229, to inform the Commission of the final status of the pilot program.

! In 1990, 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 NRC, or its predecessor agencies, from the inception of materials regulation, to: (1) identify sites with potential for meaningful residual contamination, based on information in the license documentation; and (2) 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 reviewed 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. Approximately 140 loose material licenses and 90 sealed source licenses were transferred to Agreement States for review. Of these, approximately 80 loose material and 20 sealed source licenses that are currently being reviewed by Agreement States under the NRC grant program. Since publication of SECY-01-0156, the staff has completed the Terminated License Review Project. On September 26, 2001, the staff published the "Final Report on Results of Terminated License Reviews."

! 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. The staff has identified a number of steps that could be taken to improve the financial assurance process and plans to communicate with the Commission in the future on this issue.

! 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 Development Authority (NYSERDA).

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 decontamination, decommissioning, and waste disposal; (2) providing review and

consultation to DOE on the project; (3) reviewing and providing guidance for the decommissioning EIS; (4) reviewing safety analysis reports; (5) monitoring the activities under the project for the purpose of assuring the public health and safety; (6) determining whether DOE's preferred alternative in the decommissioning EIS meets NRC's decommissioning criteria; and (7) interface with stakeholders.

The Commission's final policy statement was issued on February 1, 2002. The NRC staff is in the process of implementing the final policy statement. The final policy statement specified the LTR as the decommissioning criterion. The final policy statement also specified that DOE and NYSERDA will be developing the decommissioning EIS. On April 16-17, 2002, the NRC staff participated in a series of public meetings regarding the Commission's Final Policy Statement and the draft Regulators Communication Plan in West Valley, New York. The Regulators Communication Plan is a document developed by the NRC staff and the regulatory agencies involved in the decommissioning process, to discuss the clean-up criteria and the roles and responsibilities of each agency at the West Valley site, thus addressing concerns set forth in Government Accounting Office (GAO) Report No. GAO-01-314. The regulators, DOE, and NYSERDA agreed to participate in future meetings to follow up on the West Valley site decommissioning process and the EIS.

- ! In August 2000, the staff provided the Commission with an analysis of issues to facilitate remediation of decommissioning sites in non-Agreement States. The analysis considered both formerly licensed sites and currently licensed sites where future funding of decommissioning might be difficult. The staff also provided options to address these difficulties, and the Commission directed the staff to pursue some of the recommended options.

One of the principal options the Commission approved was for the staff to pursue an agreement with DOE to accept ownership and provide long-term control, for a limited number of SDMP and complex sites, using the restricted-release option under Part 20, as authorized under Section 151(b) of NWPA. DOE and NRC had made some progress on a Memorandum of Understanding (MOU) by which sites would be selected for DOE control under its long-term stewardship program, which is documented in SECY-02-008. Subsequently, however, DOE recommended, in a January 24, 2002, letter, from Undersecretary Card, that DOE and NRC work together with the appropriate Federal land management agencies, such as the Department of Interior (DOI), as well as the Office of Management and Budget, to seek a viable solution to this issue. DOE's proposed policy change is to transfer lands and long-term stewardship responsibilities to DOI. This proposal has resulted in DOE stopping work on the MOU. The staff continues to monitor DOE efforts on this proposal; however, little progress has been made to date. As a result, the Commission directed the staff, in the July 17, 2002, SRM for SECY-01-0194, to conduct an analysis of the restricted-release provisions and alternate criteria provisions of the LTR, to determine how to make these provisions more available for licensee 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 the staff to 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. In summary, staff did not recommend that the Commission seek an appropriation for any sites at this time. Staff recommended a new aggressive regulatory posture, for selected sites, that will afford NRC the best opportunity to bring financially suspect sites to closure without Federal funding. For the most significant site--Safety Light Corporation--the staff recommended enhanced interaction with EPA. The financial status of the sites in SECY-02-0079 has not changed since May 2002, and in future annual updates of this paper, staff will apprise the Commission of the status of these sites. Staff is currently examining the steps necessary to provide this information, while protecting its proprietary nature.

- ! The staff continues to work with 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. Publication of a draft final guidance document entitled "Guidance on Radioactive Materials in Sewage Sludge and Ash at Publicly Owned Treatment Works" is scheduled for calendar year 2002.
- ! Staff continues using 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. It 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.
- ! In December 2000, NRC issued a request for technical information, to all Agreement States, regarding their LTR status. Of the 32 Agreement State Programs, 21 State Programs have adopted dose criteria equivalent to the LTR, four States have adopted criteria more restrictive than the LTR, and seven have yet to adopt dose criteria. All Agreement States were expected to adopt dose criteria equivalent to, or more restrictive than, the LTR by August 20, 2000. In May 2002, the Office of State and Tribal Programs issued a request to all Agreement States to update and confirm the results of

the 2000 survey. As of June 2002, 14 programs have confirmed their State data. Agreement State Implementation of decommissioning criteria is again a proposed agenda item for the annual Organization of Agreement States Meeting, in October 2002.

- ! 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-01-0156, the staff has prepared and implemented site-specific communication plans for all SDMP and complex sites. Site-specific communication plans are useful tools to help us ensure that we are identifying and reaching the appropriate stakeholders and to help staff focus on messages NRC wants to convey. Communication Plans for each site include: (1) history and background of the site; (2) list of stakeholders; and (3) planned communication activities and schedules.

In 2001, the staff began 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 will be met. This shared view should provide 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 have adopted an approach whereby the NEI License Termination Task Force generates questions and answers (Q&As), and submits them to NRC for review. The submittal is placed on NRC's web site for the public. NRC reviews the Q&As, provides comments to NEI, and either approves or disapproves the answer as an acceptable approach to the question. NRC's response to NEI is also placed on the web site. NEI can 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 published with the final consolidated guidance, released to the public, and posted on NRC's web site. NRC evaluates the need for further updating of the guidance (and Q&As) every 3 years, based on internal review and external public comments.

- ! Decommissioning staff have also taken significant steps in enhancing public participation in the decommissioning process. Under an interagency agreement with the NRC, the U.S. Institute for Environmental Conflict Resolution (USIECR) has just completed a project for NRC on effective public involvement in facility decommissioning. The NRC will host a workshop in early 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

Part 20.1403). The workshop is designed for licensees as well as both NRC and Agreement State regulators.

Cleanup of sites contaminated with radioactive material can be extremely controversial in the community where the site is located. Such controversy is exacerbated when a licensee proposes restricted use decommissioning rather than cleaning the site to meet unrestricted use guidelines. Public knowledge of the issues and involvement in decision-making is crucial for restricted use proposals, but achieving efficient and effective public involvement is often difficult. NRC acknowledges the need for public involvement in the decommissioning process and has promulgated relevant regulations (10 CFR Part 20.1403).

NRC has concluded that the development of "best practices" for meeting the performance objectives of its public involvement regulations would be useful. Under an interagency agreement, USIECR has prepared a guidance document for NRC. The guidance is based, in part, on information obtained from stakeholders, at NRC licensed sites, who have experience with public involvement concerning radioactive contamination and long-term management of contaminated sites.

- ! Decommissioning staff takes 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.
- ! NRC's Strategic Plan for FY 2000-2005 identifies the objective, scope, and general schedule for the program evaluation, entitled *Changes to the Decommissioning Process*. This program evaluation will consist of a number of evaluations. First, the overall effectiveness of NMSS's Decommissioning Program will be evaluated, including materials decommissioning and the portion of reactor decommissioning for which NMSS is responsible. In addition, evaluations will be conducted of the effectiveness of 15 specific changes to the decommissioning program. The results of these evaluations will be used to recommend further changes to the program as well as the existing goals, strategies, and measures/metrics for the decommissioning program. The program will be evaluated over a 2 year period, from FY 2001 to 2003. The staff completed a "Work Plan" in FY 2001, and will complete "Procedures and Criteria" in FY 2002, in preparation for conducting and reporting on the evaluation during FY 2003.

4.0 FUEL CYCLE FACILITIES DECOMMISSIONING

The following is a status of current and future 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 unimportant quantities of source material, as defined in 10 CFR 40.13(a), and should be disposed of accordingly. In CY 2002, the licensee will continue to remediate these ponds and dispose of material at an appropriate disposal facility.

Navy Fuel Manufacturers:

BWX Technologies (BWXT) - This facility is located in Lynchburg, VA. It is a Category I facility, which is authorized to fabricate and assemble nuclear fuel components for the U.S. Naval Reactors Program. 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, remediations of two of the three remaining landfills were completed in accordance with an NRC-approved DP. The DP for the remaining landfill is expected to be submitted to NRC in CY 2002.

Nuclear Fuel Services (NFS) - This facility is located in Erwin, TN. It is a Category I facility, which produces nuclear fuel for the U.S. Naval Reactor Program. 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 2002. The North-site decommissioning activities are continuing under the NRC-approved DP.

Commercial Fuel Manufacturers:

Framatome Richland - This facility 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. The licensee plans to initiate dialog with the NRC staff, in CY 2002, regarding scheduling and cleanup criteria.

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.

Westinghouse Hematite - This site, located in Hematite, MO, ceased principal activities in June 2001. It will submit a site DP in April 2004. In CY 2002, the licensee will continue to characterize the site and will meet with NRC staff to begin discussions regarding scheduling and cleanup criteria.

ABB Windsor - This site, located in Windsor, CT, ceased principal activities in January 2002. The licensee submitted a license amendment request to allow decontamination and dismantlement of building complexes. In CY 2002, the licensee continued to characterize the site. It has met with NRC staff to discuss scheduling and cleanup criteria.

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 decommissioning of two power reactors; (2) Office of Nuclear Reactor Regulation (NRR) project management and licensing oversight for 18 decommissioning reactor facilities; (3) conduct of core inspections; (4) project management for all licensed research and test reactors; (5) supporting development of rulemaking on entombment; (6) development of rulemaking and guidance on partial site release; and (7) development of guidance on changing LTPs without requiring a license amendment.

- ! NMSS has project management and technical review responsibility for the Fermi 1 and Peach Bottom Unit 1 power reactors. Status summaries for these reactors are contained in Attachment 11 of the preceding Commission Paper. In addition, NMSS is currently reviewing LTPs for Maine Yankee, Connecticut Yankee, and Saxton and expects to receive the LTP for Big Rock Point in January 2003. NRC approved the LTP for Trojan on February 12, 2001.
- ! NRR has project management and licensing oversight for 18 power reactors that have either submitted DPs (or equivalent) or PSDARs (see Attachments 10 and 12 of the preceding Commission Paper).

6.0 URANIUM MILL TAILINGS FACILITIES DECOMMISSIONING

Uranium recovery decommissioning activities in the Division of Fuel Cycle Safety and Safeguards 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 of decommissioning inspections, including confirmatory surveys; (6) decommissioning cost estimate reviews; and (7) oversight of license termination. The staff also reviews DOE ground water corrective action plans and changes to 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 provides concurrence with license termination for these sites.

- ! Staff activities associated with decommissioning involve 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) at all the sites.
- ! The impact of the Regulatory Issue Summary 2000-23, issued November 30, 2000, on uranium recovery policy changes, has been pronounced. The criteria for disposal of non-11e.(2) byproduct material allowed Umetco to take pre-1978 uranium tailings from a formerly NRC-licensed site that was decommissioned by the Wyoming Abandoned Mine Lands Program. Also, the policy that NRC regulates non-radioactive constituents, in groundwater, raised issues with applications for alternate concentration limits for groundwater constituents in Wyoming and New Mexico, because the States continue to regulate these constituents.

- ! Staff worked with DOE, the Bureau of Land Management, and the Corp of Engineers on procedures and a schedule for eventual land transfers to DOE at Title II sites that have completed decommissioning.
- ! Staff has improved decommissioning guidance recently by revising SRPs on evaluation of reclamation/DPs and associated cost estimates; disposal of non-11e.(2) byproduct material; applications for alternate concentration limits; NRC regulation of the non-hazardous constituents of 11e.(2) byproduct material, and license termination. These SRPs were issued for public comment in January 2002, as NUREG-1620, Rev.1 (mills) and NUREG-1569, Rev.1 (in-situ leach facilities). A Commission paper transmitting the SRPs for Commission approval will be submitted in October 2002. Also, a revised procedure for inspection of decommissioning uranium recovery sites (IP 87654) was available in March 2002 and two regulatory guides on mill surveys and occupational exposures were revised after obtaining public input, and published in May 2002.
- ! In March 2001, staff completed the Uranium Recovery Program Communication Plan to guide communications with the public, other agencies, and licensees. The staff continued to implement the plan this FY which included contacts with stakeholders on decommissioning issues (e.g., dual jurisdiction with EPA on underground injection and DOE long-term surveillance of mill tailings sites).
- ! In October 2001, the staff completed an administrative rulemaking to add a reference to Part 40, Appendix A, Criterion 6, to 10 CFR 40.42 (j)(2) and (k)(3), so the section would clearly include the decommissioning of uranium recovery sites. Prior to CY 2002, 10 CFR 40.42 only indicated decommissioning to subpart E criteria, and uranium recovery facilities subject to Appendix A of Part 40 are exempt from subpart E of Part 20.
- ! DPs for two sites were approved in 2002, and EAs were written for these licensing actions. License termination activities were initiated for two other sites (Bear Creek and L-Bar).
- ! One mill site 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.
- ! Staff is preparing a Commission Paper concerning the acceptance of 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.
- ! Issues related to groundwater corrective action continue at Homestake, Split Rock, Petrotoomics Shirley Basin, Ambrosia Lake, Lucky Mc, Lisbon, and Churchrock.