POLICY ISSUE
INFORMATION

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FOR: The Commissioners

FROM: William D. Travers
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SUBJECT: 2001 ANNUAL UPDATE - STATUS OF DECOMMISSIONING PROGRAM

PURPOSE:

To provide the Commission with an annual comprehensive overview of decommissioning activities, including the decommissioning of Site Decommissioning Management Plan (SDMP) sites and other complex decommissioning sites, and commercial reactor decommissioning. Although this report is a stand-alone document, it also provides a status update on the decommissioning activities presented in SECY-00-0094.

SUMMARY:

This paper provides a comprehensive overview of the decommissioning program. Consistent with Commission direction, the staff has provided a stand-alone document that presents a combined overview of the decommissioning activities within the Office of Nuclear Material Safety and Safeguards (NMSS), Office of Nuclear Regulatory Research (RES), and the Office of Nuclear Reactor Regulation (NRR). Using SECY-00-0094 as a baseline, progress made in each of the program areas during the past year is described in this paper.

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BACKGROUND:

The Commission issued a Staff Requirements Memorandum (SRM) (M990729B) dated August 26, 1999, requesting that the staff provide: (1) the status of the remaining active SDMP sites, including plans and schedules for each site; and (2) a summary report on all sites currently in the SDMP. In addition, SRM M990317C, dated June 23, 1999, directed the staff to provide a single coordinated annual report on all decommissioning activities instead of annual reports from separate offices. On April 25, 2000, the staff provided the Commission with SECY-00-0094, which was the first comprehensive, combined overview of the decommissioning activities within NMSS and NRR. This paper provides a similar comprehensive overview, and in addition, highlights the progress made in the decommissioning program during the past year.

The Commission has expressed interest in continuing the annual reporting process embodied in SECY-00-0094, highlighting significant accomplishments and changes. Further, the Commission expressed its desire to make the annual report a comprehensive, stand-alone, report, available for dissemination to all parties interested in the decommissioning program.

DISCUSSION:

1. Summary of Decommissioning Program

The function of the decommissioning program is to regulate the decontamination and decommissioning of materials and fuel cycle facilities, and power and non-power reactors, with the ultimate goal of license termination. A broad spectrum of activities associated with these program functions is discussed in Attachment 1. Principal program areas pertaining to licensing casework and the status of sites undergoing decommissioning, are discussed below.

Approximately 300 materials licenses are terminated each year. Most of these license terminations are routine, and the sites require little, if any, remediation to meet the U.S. Nuclear Regulatory Commission's (NRC's) unrestricted release criteria. The decommissioning program is responsible for the termination of licenses that are not routine because the sites require more complex decommissioning activities. Currently, there are 19 nuclear power reactors undergoing routine decommissioning, and 27 materials facilities undergoing non-routine decommissioning. Details on these sites are presented in Section 2, below.

NMSS, NRR, and RES have responsibility for decommissioning program activities. NRR has project management responsibility for all stages of non-power reactor decommissioning and oversight of the initial stages of power reactor decommissioning; NMSS regulates the decommissioning of nuclear material facilities and has oversight of power reactors once the spent fuel is no longer stored in the spent fuel pool; and RES provides technical support through the development of guidance and dose-modeling techniques. The staff has taken steps to ensure that integration of decommissioning activities within the Agency occurs. First, the Agency Operating Plan is being used to track and manage major decommissioning tasks. NMSS and RES mutually track decommissioning activities in the Agency Operating Plan. Second, the Decommissioning Management Board (hereafter the Board) meets bi-weekly to provide management input on decommissioning activities and issues. The Board, composed of managers from NMSS, RES, NRR, and the Regions, along with Office of the General Counsel

(OGC), serves as an effective mechanism for integrating inter-Office and regional program activities and issue resolution. The Decommissioning Management Board was cited as one mechanism by which staff could enhance intra-agency communication and ensure that NRC's regulatory processes are integrated (OIG Management Challenge 5 & 6).

2. Decommissioning Activities

a. SDMP and Other Complex Site Decommissioning

NMSS initially presented the SDMP to the Commission in SECY-90-121, dated March 29, 1990. The SDMP was created in response to SRMs dated August 22, 1989, and January 31, 1990, which directed the staff to develop a comprehensive strategy for achieving closure of decommissioning issues in a timely manner, and to develop a list of contaminated sites, in order of cleanup priority. Attachment 2 provides the criteria for placing a site on the SDMP.

The License Termination Rule (LTR) (10 CFR Part 20, Subpart E) authorizes two different sets of cleanup criteria--the SDMP Action Plan criteria, and dose-based criteria. Under the provisions of 10 CFR 20.1401(b), any licensee that submitted its Decommissioning Plan (DP) before August 20, 1998, and received NRC approval of that DP before August 20, 1999, could use the SDMP Action Plan criteria for site remediation. In the SRM on SECY-99-195, the Commission granted an extension of the DP approval deadline for 12 sites, to August 20, 2000. In September 2000, the staff notified the Commission that all 12 DPs were approved by the deadline. All other sites must use the dose-based criteria of the LTR. In addition, Agreement States were expected to adopt equivalent dose criteria by September 20, 2000.

There are currently 24 SDMP sites and three additional complex decommissioning sites undergoing decommissioning (see Attachment 3). Twenty-two sites have been removed from the SDMP after successful remediation (see Attachment 4). In addition, 11 sites have been removed from the SDMP by transfer to an Agreement State or the U.S. Environmental Protection Agency (EPA) (see Attachment 5). NRC is currently committed to removing one site from the SDMP in fiscal year 2001 (FY2001) and FY2002. Historically, the goal has been to remove three sites from the SDMP each year. However, since the remaining sites are rather complex decommissioning cases and dose modeling required under the LTR places more demands on licensees; in FY2001 the goal was reduced to one site annually.

In the FY2000 Operating Plan, three sites -- Pesses Co. (METCOA); Minnesota Mining and Manufacturing (3M); and Watertown Mall -- were scheduled for removal from the SDMP. Pesses Co. (METCOA) was removed from the SDMP in September 1999. 3M and Watertown Mall were removed from the SDMP in September 2000. SECY-00-0172, which authorized the staff to remove 3M from the SDMP, requested that the staff include a thorough discussion of the technical basis for recommending removal of SDMP sites in the future. Future staff recommendations will include summaries of the licensees' dose assessments and the staff's confirmatory dose assessments. In SECY-00-0173, the Commission approved removal of the Watertown Mall site from the SDMP. The Commission also requested that the staff inform it of ongoing discussions regarding whether the Watertown GSA property should be added to the existing Watertown Mall license. To date, the staff has not licensed the Watertown GSA site

and does not plan to pursue licensing, if the U.S. Army Corps of Engineers can complete remediation in accordance with its proposed schedule.

In addition to regulating the cleanup of SDMP and complex decommissioning sites, the decommissioning program is responsible for overseeing the cleanup of contaminated sites identified under the Oak Ridge National Laboratory (ORNL) Terminated License Review Project. Since release of SECY-00-0094, the staff has added one additional site -- Department of Army (Frankford Arsenal, Philadelphia, PA) to the list of contaminated sites, because the Army is not able to remediate the site in a timely manner. As a result of the ORNL review, and subsequent follow-up by the Regions, 39 formerly licensed sites were found to have residual contamination levels, exceeding NRC's criteria for unrestricted release, that could require additional staff attention to ensure timely remediation (see Attachment 6). Eighteen sites have been re-released after successful remediation, and 11 have been closed by transfer to Agreement States or a Federal entity. One site, Atlantic Research Corporation, was re-released in 2000. Ten sites remain open pending remediation. Two of the formerly licensed sites were added to the SDMP because these sites will require non-routine decommissioning activities. The remaining sites are considered to be non-complex and, therefore, do not warrant placement on the SDMP at this time. However, it is possible that these sites may be added to the SDMP if site conditions change. The staff continues to work toward review of all remaining ORNL-identified sites (43 sites), with each Region budgeted at 0.1 full-time equivalents (FTEs), in FY2001 for this purpose. The Regions expect to complete all reviews by the end of FY2001.

In calendar year 2000, the Division of Waste Management (DWM) staff continued implementation of the rebaselining initiative that began in September 1999. The objective of rebaselining is to develop and implement a comprehensive integrated plan for successfully bringing SDMP and complex decommissioning sites to closure. Site status summaries are maintained, and updated monthly, for each SDMP and complex decommissioning site (see Attachment 7). These summaries describe the status of each site and identify the technical and regulatory issues impacting removal of the site from the SDMP or completion of decommissioning. The staff also developed and maintains Gantt charts for each site, which are updated quarterly, to guide the management of decommissioning activities. The Gantt charts identify all major decommissioning activities and schedules for completion. For those licensees that have submitted a DP, the schedules are based on the staff's assessment of the complexity of the DP review. For those licensees that have not submitted a DP, the schedules are based on other information available to the staff and the decommissioning approach anticipated by the staff. An example of a site Gantt chart is presented in Attachment 8.

As part of the rebaselining process, the staff is also implementing streamlining objectives such as: (a) assuming a more proactive role in interacting with licensees undergoing decommissioning; (b) expanding the acceptance review process, to include a limited technical review, to reduce the need for additional rounds of questions; (c) ensuring that institutional controls and financial assurance requirements are adequate before a technical review of the DP; (d) implementing other procedures to reduce the number of requests for additional information; (e) conducting in-process/side-by-side confirmatory surveys; and (f) relying more heavily on licensees' quality assurance programs, rather than conducting large-scale confirmatory surveys. Furthermore, the staff is incorporating strategies to achieve the performance goals identified as part of the Agency's strategic planning process and Strategic Plan for FY2000 - 2005. Examples of strategies being incorporated include: focusing on

resolving key issues such as institutional control for restricted release; partial site release; conducting stakeholder workshops to seek licensee, industry, and public input; updating, consolidating and risk informing/performance orienting decommissioning guidance; and working with industry to identify and resolve technical and policy issue associated with decommissioning; and developing a stakeholder database and website.

A table summarizing the decommissioning schedule for all SDMP and complex decommissioning sites is provided in Attachment 9. The schedules presented may be influenced by the quality and timeliness of licensee submittals and modifications in the licensee's remediation schedule. However, the staff's streamlining efforts may mitigate these schedule impacts somewhat. From the table, the following conclusions can be drawn: (1) five of 27 SDMP and complex decommissioning sites have not yet submitted DPs (the last DP should be submitted in 2002); (2) NRC has approved 14 of 22 DPs submitted to date [the last DP (Fansteel, Inc.) should be approved by 2009]; and (3) the last site (Fansteel) should be removed from the SDMP by 2020. Fansteel has an extremely protracted schedule because its current license allows continuation of reprocessing waste residue for 10 -12 more years. Each site schedule was initially developed independently by the staff and presented in SECY-00-0094, without formal licensee input, using the standard assumptions presented in Attachment 10 and the site-specific assumptions stated in the site summaries. During the past year, the staff discussed these schedules with licensees to factor in licensee input. Licensee input has resulted in many modifications to the decommissioning schedules presented in SECY-00-0094.

Attachment 9 contains the site decommissioning schedules for sites located in the Commonwealth of Pennsylvania, even though Pennsylvania is scheduled to become an Agreement State by FY2004. In preparing the FY2002 - FY2004 budget, it was assumed that nine current SDMP sites will have their licenses terminated after successful remediation or be transferred to the Commonwealth of Pennsylvania by the end of FY2003. Transferring sites to Agreement States raises some sensitive issues, as discussed in SECY-97-188, SECY-98-011, and SECY-98-273.

b. Reactor Decommissioning

NMSS and NRR signed a Memorandum of Understanding (MOU) on March 10, 1995, which delineates the responsibilities for power reactor decommissioning between NRR and NMSS. In accordance with the MOU, NRR, along with the appropriate Region, will be responsible for project management, inspection, and oversight for a power reactor undergoing decommissioning, until the spent fuel is permanently removed from the spent fuel pool. Once the spent fuel is permanently removed from the spent fuel pool, the facility is transferred to NMSS, and NMSS assumes responsibility for project management, and, along with the appropriate Region, inspection oversight. However, a facility may submit a License Termination Plan (LTP) before the spent fuel is permanently removed from the spent fuel pool. In this case, NRR retains project management oversight while NMSS is responsible for reviewing the LTP, and preparing the safety evaluation report, the environmental assessment, and the license termination order and amendment. NMSS is also responsible for confirmatory surveys and license termination activities, including assurance that appropriate site release criteria have been met.

NRR currently has regulatory project management responsibility for 17 power reactors. Plant status summaries for reactors under NRR project management are provided in Attachment 11. Regulatory project management responsibility for two reactors (Fermi 1 and Peach Bottom Unit 1) has been transferred from NRR to NMSS. Plant status summaries for Fermi 1 and Peach Bottom Unit 1 are provided in Attachment 12. NMSS is currently reviewing the LTPs for Maine Yankee, Saxton, and Connecticut Yankee. A license amendment approving the Trojan LTP was issued in February 2001. The staff has developed a generic schedule for reviewing LTPs (see Attachment 13). Attachment 14 provides a schedule for reactor decommissioning activities.

In February 2001, the responsibility for reactor decommissioning rulemaking and generic activities was transferred from NRR's Division of Licensing and Project Management (DLPM) to the Division of Regulatory Improvement Programs (DRIP). Project management responsibilities for 15 of the 17 power reactors under NRR oversight remained with DLPM. Decommissioning project management of two early demonstration reactors, GE VBWR and Saxton, will remain with the Non-Power Reactor Section in DRIP. The purpose of the February 2001 reorganization was to align rulemaking and generic activities in the organization (DRIP) responsible for those activities within NRR.

The Commission issued SRM (M990317C) dated June 23, 1999, requesting that the staff: (1) consider the viability of an integrated, risk-informed reactor decommissioning rule versus individual rulemakings, to address insurance, emergency preparedness, safeguards, backfit, fitness-for-duty, and staffing -- if viable, the staff should outline its plans for pursuing such a rule; and (2) provide a single coordinated annual report on all decommissioning activities. SECY-99-168, dated June 30, 1999, recommended approval of an integrated rulemaking approach and outlined plans for such a rulemaking. Accordingly, the staff subsumed previous rulemaking activities in the areas of emergency planning, insurance, safeguards, operator staffing, and backfit into one integrated rulemaking. The staffs plan for proceeding with the integrated rulemaking is before the Commission at this time.

As of February 11, 2001, NRR divided the responsibility for the decommissioning of power reactors between two main groups, Division of Licensing Project Management (DLPM), and Division of Regulatory Improvement Program (DRIP). This division allows the rulemaking for decommissioning to be consolidated with all other NRR rulemaking responsibilities in DRIP and DLPM project managers to continue to process licensing actions.

3. Guidance and Rulemaking Activities

In an SRM dated July 8, 1998, the Commission directed the staff to prepare various guidance documents in support of the "Final Rule on Radiological Criteria for License Termination." As a result, the staff has completed, and is developing several guidance documents that will help licensees prepare decommissioning documents, and provide the staff with a uniform approach for reviewing licensee submittals. The staff published NUREG-1727, "NMSS Decommissioning Standard Review Plan," (SRP) in September 2000. The staff conducted several workshops with stakeholders to obtain input on the development of the SRP. A listing of the major decommissioning guidance documents, completed and under development, is presented in Attachment 15.

A Commission meeting was conducted on March 17, 1999, regarding decommissioning of power reactors. At that time, the Commission directed the staff to consider developing a risk-informed approach to decommissioning regulations. The staff committed to perform a detailed technical study on decommissioning plant spent fuel pool accident risk. The spent fuel pool risk study was completed and publicly issued on January 17, 2001. The staff developed a policy options paper for the Commission -- SECY-01-0100, dated June 4, 2001, entitled, “Policy Issues Related to Safeguards, Insurance, and Emergency Preparedness Regulations at Decommissioning Nuclear Power Plants Storing Fuel in Spent Fuel Pools.”

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 LTP. The plan was sent to the Commission in SECY-00-0023, dated February 2, 2000. The Commission approved the rulemaking plan on April 26, 2000. The Advisory Committee on Nuclear Waste was briefed on the proposed rule in March 2001, and the proposed rule package was sent to the Commission on May 9, 2001. The staff will go forward and issue the proposed rule after receiving the SRM. In addition, as discussed in Attachment 1, the staff is reexamining its approach for control of solid materials.

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-01-099, “Rulemaking Plan and Advanced Notice of Proposed Rulemaking: Entombment for Power Reactors,” which contained three options for proceeding.

The staff has undertaken an effort to update the 1988 Generic Environmental Impact Statement (EIS) on Decommissioning (NUREG-0586) for power reactors. The current schedule calls for issuance of a draft update, for comment, in fall 2001. The staff has worked closely with EPA, industry, and interested members of the public in defining the scope of the draft EIS.

RESOURCES:

The total decommissioning program staff budget, for FY2001 and FY2002, is 82 FTEs and 75 FTEs, respectively. These resource figures include: licensing casework directly related to SDMP and other complex decommissioning sites; inspections; Region follow-up on formerly terminated license sites; project management and technical support for decommissioning power reactors; development of rules and guidance; and environmental impact statements and assessments. These figures do not include overhead associated with the decommissioning program. Resource breakdown for staff (in FTEs), and contractor support (in thousands of dollars), as reflected in the FY2001 budget to Congress, by Office, follows:

	FY01 Staff	FY01 Contractor	FY02 Staff	FY02 Contractor	**TOTAL** Staff	**TOTAL** Contractor
NMSS	33	3450	32	4470	65	7920
NRR	18	500	13	300	31	800
RES	11	2117	11	2122	22	4239
OGC	2		2		4	
Regions	18		17		35	
TOTAL	82	6067	75	6892	157	12,959

COORDINATION:

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

/RA/

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ATTACHMENTS:

1. “Decommissioning Program Activities”
2. “Criteria for Placing Site on the SDMP”
3. “Current SDMP and Complex Decommissioning Sites”
4. “Sites Removed from the SDMP after Successful Remediation”
5. “Sites Removed from the SDMP by Transfer to Agreement States or EPA”
6. “Contaminated Formerly Licensed Sites”
7. “Site Status Summaries for SDMP and Complex Decommissioning Sites”
8. Example of a Site Gantt Chart
9. “Schedule for Termination of SDMP and Complex Decommissioning Sites”
10. “Assumptions Used to Develop SDMP and Complex Decommissioning Site Gantt Charts”
11. “Status Summaries for Reactors Undergoing Decommissioning”
12. “Plant Status Summaries for Fermi Unit 1 and Peach Bottom Unit 1"
13. “Generic LTP Review Schedule”
14. “Schedule for Reactor Decommissioning Activities”
15. “Major Decommissioning Guidance Documents”

DECOMMISSIONING PROGRAM ACTIVITIES

Attachment 1

DECOMMISSIONING PROGRAM ACTIVITIES

The fiscal year (FY) 2001 Operating Plan divides the decommissioning program activities into two main areas: (1) Materials Decommissioning; and (2) Reactor Decommissioning. The activities associated with each program area are provided below. Since development of guidance and regulations is an activity common to both 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 it 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. In September 2000, the NRC staff published NUREG-1727, "NMSS Decommissioning Standard Review Plan" to aid the staff in reviewing and evaluating plans and information submitted by licensees to support the decommissioning of nuclear facilities.

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 entombment.

On March 23, 2000, the staff provided the Commission with a paper (SECY-00-070) which 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 Academies (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. The staff expects to have the NAS report in early 2002 and, as also directed by the SRM, will provide its recommendations on how best to proceed to the Commission approximately three months after completion of the NAS study.

The staff prepared a rulemaking plan to standardize the process for allowing the partial site release of a reactor facility or site prior to approval of the LTP. The plan was approved by the Commission on April 26, 2000. The Advisory Committee on Nuclear Waste (ACNW) was briefed on the proposed rule in March 2001, and the proposed rule package was sent to the

Commission on May 9, 2001. The staff will go forward and issue the proposed rule after receiving the SRM.

The staff published final Regulatory Guide 1.191, "Fire Protection Program for Nuclear Power Plants During Decommissioning and Permanent Shutdown," in May 2001. The Regulatory Guide describes methods acceptable to the staff for complying with NRC's regulations regarding fire protection programs for power reactors that have permanently ceased operations.

The staff also published SECY-01-099, "Rulemaking Plan and Advanced Notice of Proposed Rulemaking: Entombment for Power Reactors," on June 1, 2001. In addition, the staff continues to support the development of the rulemaking for the recycling/reuse of radioactively contaminated materials. A complete listing of the guidance developed 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-0094 was published, RES provided DWM with: (1) 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; (2) 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; (3) a technical basis to support selection of site-specific parameter values for estimating flux and transport in dose-assessment codes; (4) a probabilistic version of RESRAD; (5) a final user's guide on probabilistic version of D and D software; (6) a draft technical report on test application of methodology for selecting and testing conceptual models with respect to a specific site; and (7) verification and validation testing of 4SIGHT (computer code for predicting performance of barriers). Major RES activities to be completed in 2001 include: (1) a draft report on the uncertainty methodology for hydrologic parameter uncertainties; (2) publish NUREG/CR on radionuclide solubilities that will be used in assessments at slag sites; and (3) publish NUREG/CR on radionuclide solubilities that will be used in assessments of soil.

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) conducting of core inspections; (4) project management for all licensed non-power reactors; (5) supporting development of rulemaking on entombment; (6) development of rulemaking and guidance on partial site release; and 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. In addition, NMSS is currently reviewing LTPs for Maine Yankee, Connecticut Yankee, and Saxton. NRC approved the LTP for Trojan on February 12, 2001.

- NRR has project management and licensing oversight for 17 power reactors 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 conducting a pilot study for performing decommissioning without the submittal of a DP; (3) undertaking license termination file reviews; (4) undertaking financial assurance reviews; (5) providing West Valley oversight; (6) decommissioning guidance consolidation; (7) examination of 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; (8) interacting with the U.S. Environmental Protection Agency (EPA) and the Interagency Steering Committee on Radiation Standards (ISCORS); (9) inspecting SDMP and other complex decommissioning sites; (10) maintaining the Computerized Risk Assessment and Data Analysis Lab (CRADAL); (11) evaluating Agreement State implementation of the LTR; and (12) public outreach.

- Activities associated with the SDMP and complex site decommissioning program include: (1) review of site characterization plans; (2) review and approval of DPs; (3) implement streamlined licensing approach by conducting pre-decommissioning plan 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 (EISs). Since publication of SECY-00-0094, the staff has approved 7 DPs, conducted 4 pre-DP development meetings with licensees, and prepared 7 EAs. When SECY-00-0094 was published, the staff had indications that 12 SDMP and other complex decommissioning sites would request restricted release resulting in the preparation of 12 EISs. During the past year, the staff has been informed that three of these sites now intend to pursue unrestricted release. The staff believes that difficulties associated with securing legally enforceable institutional controls may cause other licensees to change from restricted to unrestricted release options. Sequoyah Fuels Corporation (SFC) is a good example of a site which is having difficulty securing legally enforceable institutional controls.

  SFC submitted a decommissioning plan requesting decommissioning in accordance with the restricted release provision of 10 CFR 20.1403. SFC has not contracted with a competent party to provide the required institutional controls. Staff is currently exploring if DOE might take the site under the Nuclear Waste Policy Act (NWPA) Section 151(b), that authorizes, but does not compel, DOE to take control of such sites. DOE and NRC are pursuing a Memorandum of Understanding by which sites would be selected for DOE control under its long-term stewardship program. In January, 2001, SFC proposed that its site be reclassified as a byproduct material facility because it believes approximately 80% of the waste could meet the definition in the Atomic Energy Act Section 11(e)(2). The bases for this position are that the front end of the SFC process is the same as that at a mill (solvent extraction to purify uranium ore), and "milling" is a function not a location. Such a reclassification would mandate DOE control of the site after decommissioning under Title II of the Uranium Mill Tailings Radiation Control Act.

The NRC staff and Office of General Counsel has not reached a resolution of this issue. DOE has reviewed the SFC submittal, and informed NRC, via letter, that DOE "has no formal opinion on this matter" and will abide by any NRC decision. Staff is currently evaluating SFC's request and will communicate with the Commission on a course of action.

! The staff continues to implement the Commission's direction under DSI-9. Three facilities (Westinghouse Cheswick Pump Repair Facility, Viacom/CBS Forest Hill Laboratory, Phillips Petroleum Radiation Laboratory) are taking part in the pilot study to perform decommissioning without the submittal of a DP. All three facilities have now completed decommissioning. On March 7, 2001, NRC authorized release of the Westinghouse Pump Repair Facility for unrestricted use. Region 1 has approved final site survey reports for the Viacom/CBS Forest Hill Laboratory and awaits the amendment request to release the site for unrestricted use. Region IV transferred the license docket for Phillips Petroleum Radiation Laboratory to the State of Oklahoma in September 2000, after the decommissioning was completed, but before receiving the license amendment requesting release of the laboratory for unrestricted use. Staff is currently finalizing the evaluation of the Pilot Program.

! 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 the inception of materials 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 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. Regional staff continue to review terminated license files and conduct follow-up, as appropriate, within existing resources. The following table, revised May 30, 2001, shows the number of formerly licensed sites yet to be reviewed by the Regions. The Regions are scheduled to complete all remaining reviews by September 2001.

	Region I	Region II	Region III	Region IV	**Total**
Number of loose material sites pending site review (non-Agreement State sites)	0	4	0	6	**10**
Number of sealed source sites pending review (non-Agreement State sites)	0	7	0	8	**15**
Total	**0**	**11**	**0**	**14**	25

- 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.

- NRC's decommissioning responsibilities at the West Valley Demonstration Project (WVDP) and West Valley site are specified under the WVDP Act and 10 CFR 20, respectively. Responsibilities under the WVDP Act include: prescribing decontamination and decommissioning criteria; reviewing draft portions of the EIS for decontamination and 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. Staff received public comments from December 1999 through April 2000. Considering the public comments, staff prepared a final draft policy statement which was submitted to the Commission for review in December 2000. 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 the EIS for decommissioning and closure of the site. The Commission is considering approaches to finalize the policy statement.

- The staff has initiated a decommissioning guidance consolidation project. The project involves review and consolidation of all 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 will be conducted using the Business Process Re-engineering (BPR) techniques. The BPR approach will be used to both develop the product, and manage the review and concurrence process, using self-managed teams consisting of NRC headquarters and regional resources, with possible Agreement State participation. 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 streamlined multi-volume NUREG grouped into decommissioning functional categories. Further ease of use will be realized by making this a web-based document. The project team began developing the first NUREG volume in June 2001, and the goal is to complete drafts of the NUREG volumes by the end of FY2002. The overall project is scheduled to be completed by the end of FY2003. The updated, consolidated guidance will be provided to all users, both NRC and licensee 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.

- 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 principle options approved by the Commission was for the staff to pursue an agreement with the U.S. Department of Energy (DOE) to provide long-term control, for a limited number of SDMP and complex sites using the the restricted release option under Part 20, as authorized under section 151(b) of NWPA. NRC and DOE management signed an Agreement in Principle in March 2001 to seek development of a Memorandum of Understanding (MOU) that would define the criteria and process that each agency would use to make determinations regarding the potential transfer of a site consistent with section 151(b) of NWPA. The staff is currently working with the DOE staff to develop the MOU and will report progress to the Commission by October 2001.

The Commission also tentatively approved 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. Staff from both Headquarters and the Regions are working on a response to be provided to the Commission in April 2002, after reviews of remaining terminated license sites are completed. 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. The staff is identifying potential sites that might have insufficient funds, estimating remediation costs for both restricted and unrestricted release, and determining the willingness of States or another Federal agency to direct remediation. The staff will provide this information to the Commission in April 2002. Finally, the staff is preparing a response to the Commission's request to further develop the option of increasing financial assurance requirements.

! 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 continues utilizing 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.

! In December 2000, NRC issued a request for technical information to all Agreement States regarding their status of the LTR. Of the 32 Agreement States, 16 States have

adopted dose criteria equivalent to the LTR, two States have adopted criteria more restrictive than the LTR, and 14 have yet to adopt dose criteria. All Agreement States were expected to adopt dose criteria equivalent to, or more restrictive than, the LTR by September 20, 2000. Implementation of decommissioning criteria by the Agreement States, is an agenda item for the annual Organization of Agreement States Meeting, in October 2001.

! Decommissioning staff interacts with the public in several ways including Pubic Meetings at individual sites, workshops, and participation in societal and private symposia.

On November 1, 2000, the DWM staff held a meeting at NRC Headquarters to gather input on the results of NRC's Decommissioning Pilot Program. Representatives from two participating pilot program licensees: Westinghouse Government Services and Viacom/CBS; the Nuclear Energy Institute; ABB Prospects, Inc.; several consultants; the public; and the Pennsylvania Department of Environmental Protection participated in the meeting. The Pilot Program was initiated in 1998, in response to a Staff Requirements Memorandum on COMSECY-96-058 - Decommissioning Non-reactor Facilities (DSI 9), to test a performance-based decommissioning review process. The pilot process focused on residual contamination goals and allowed participants to decommission without obtaining an approved decommissioning plan. Westinghouse and Viacom participated in the pilot program, completed decommissioning work by the summer of 2000, and shared “lessons learned” at the meeting. Westinghouse and Viacom indicated that their experiences in the pilot program were positive, and that the revised process resulted in schedule and cost savings.

On November 8 and 9, 2000, DWM staff sponsored a workshop on decommissioning. The purpose of the workshop was to provide a forum for industry and non-industry stakeholders to discuss, with NRC staff, NRC’s processes and procedures for managing the decommissioning of nuclear facilities, as well as current issues facing the staff, and licensees, as they implement NRC’s requirements at 10 CFR Part 20, Subpart E (the License Termination Rule). To ensure that both industry and non-industry stakeholders were represented at the workshop, staff invited representatives from the nuclear industry, various public interest groups, and other Federal and State agencies with responsibilities for regulating the use of radioactive material, to participate in the roundtable discussions. Approximately 130 individuals representing the nuclear industry, citizen’s organizations and the public, Federal and State regulatory agencies, and the media attended the workshop. The staff believes that there are not any outstanding issues that require immediate Commission attention, although the staff and Commission may wish to consider the issues raised as plans for future activities to implement the decommissioning program are developed.

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 to 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. The Plan discusses several topics pertinent to developing site specific communication plans including: cross cutting considerations; identification of stakeholders; application of communications tools and techniques; and costs associated with the Sequoyah Fuels public outreach meeting. 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. The Plan was distributed to all NRC staff working in the decommissioning arena in June 2001. Training sessions on the implementation of the Plan are planned for late summer 2001.

On June 1, 2001, the DWM staff conducted a public meeting on its project to update and consolidate NMSS's decommissioning policy and guidance. The purpose of the meeting was to explain the scope of the effort, the business process redesign techniques that will be used, coordination with industry efforts to standardize guidance, and to receive stakeholder input. The meeting was attended by representatives of licensees, industry groups, public interest groups, and a state agency.

CRITERIA FOR PLACING A SITE ON THE SITE DECOMMISSIONING MANAGEMENT PLAN LIST

Attachment 2

CRITERIA FOR PLACING A SITE ON THE SDMP

For a site to be placed on the original Site Decommissioning Management Plan (SDMP) it had to meet one of the following five criteria:

1. Problems with a viable responsible organization (e.g., inability to pay for, or unwillingness to perform, decommissioning);
2. Presence of large amounts of soil contamination or unused settling ponds or burial grounds that may be difficult to dispose of;
3. Long-term presence of contaminated, unused facility buildings;
4. License previously terminated; or
5. Contamination or potential contamination of the groundwater from onsite wastes.

In accordance with SECY-98-155, the following criteria is used to add new sites to the SDMP list:

1. Restricted-use sites; or
2. Complex unrestricted-use sites (sites requiring detailed site-specific dose modeling, sites subject to heightened public, State, or Congressional interest; or sites with questionable financial viability).

CURRENT SITE DECOMMISSIONING MANAGEMENT PLAN (SDMP) AND COMPLEX DECOMMISSIONING SITES

Attachment 3

CURRENT SDMP AND COMPLEX DECOMMISSIONING SITES

	Name	Location	Date Put On SDMP	Date DP Submitted	Date DP Approved	Cleanup Criteria	Projected Removal
1	Jefferson Proving Ground (Dept. Of Army)	Madison, IN	2/95	8/99 revised 7/01*	11/04*	LTR-RES	1/06
2	Watertown GSA	Watertown, MA	3/90	10/92	9/93	Action-UNRES	12/02
3	AAR Manufacturing, Inc.	Livonia, MI	8/94	4/96 revised 9/99	5/98 3/03*	LTR-UNRES	5/05
4	Dow Chemical Co.	Bay City, MI	3/92	10/95 revised 6/01*	7/97 8/02*	LTR-UNRES	7/03
5	Michigan Department of Natural Resources	Kawkawlin MI	3/90	8/02*	9/04* +	LTR-UNRES	7/08
6	SCA Services	Kawkawlin, MI	3/92	5/03*	3/07* +	LTR-RES	2/11
7	Lake City Army Ammunition Plant	Independence, MO	3/90	4/99	7/00	Action-UNRES	9/01
8	**Mallinckrodt Chemical Inc.	St. Louis, MO	NA	(Phase1) 11/97 (Phase2)12/01*	8/01* 11/05* +	LTR-RES	10/09
9	Heritage Minerals	Lakehurst, NJ	5/92	11/97	8/99	Action-UNRES	6/02

	Name	Location	Date Put On SDMP	Date DP Submitted	Date DP Approved	Cleanup Criteria	Projected Removal
10	Shieldalloy Metallurgical Corp.	Newfield, NJ	3/90	6/02*	10/06* +	LTR-RES	9/10
11	Fansteel, Inc.	Muskogee, OK	3/90	8/99	1/09* +	LTR-RES	8/20
12	Kaiser Aluminum	Tulsa, OK	8/94	(Phase 1) 8/98 (Phase 2) 6/01	2/00 12/02*	Action-UNRES LTR-UNRES	11/06
13	Kerr-McGee	Cimarron, OK	3/90	4/95	8/99	Action-UNRES	6/04
14	Kerr-McGee	Cushing, OK	3/90	4/94	8/99	Action-UNRES	12/03
15	Sequoyah Fuels Corp.	Gore, OK	6/93	3/99	8/04* +	LTR-RES	4/09
16	Babcock & Wilcox	Vandergrift, PA	10/93	1/96	10/98	Action-UNRES	7/03
17	Babcock & Wilcox (Shallow Land Disposal Area)	Vandergrift, PA	10/95	6/01*	5/05* +	LTR-RES	3/09
18	Cabot Corp.	Reading, PA	3/90	8/98	7/02*	LTR-UNRES	2/03
19	Cabot Corp.	Revere, PA	3/90	11/97 revised 3/01	8/01* +	LTR-UNRES	9/01
20	**Kiski Valley Water Pollution Control Auth.	Vandergrift, PA	NA	3/02*	1/07*	LTR-RES	12/10
21	Molycorp, Inc.	Wash., PA	9/93	6/99	8/00	Action-UNRES	TBD

	Name	Location	Date Put On SDMP	Date DP Submitted	Date DP Approved	Cleanup Criteria	Projected Removal
22	Molycorp, Inc.	York, PA	3/90	8/95	6/00	Action-UNRES	10/02
23	Permagrain Products	Media, PA	3/90	4/98	7/98	Action-UNRES	7/03
24	Safety Light Corp.	Bloomsburg, PA	3/90	11/98	9/99	LTR-UNRES	12/04
25	Westinghouse Electric	Waltz Mill, PA	3/90	4/97	1/00	LTR-UNRES	8/02
26	Whittaker Corp.	Greenville, PA	3/90	12/00	12/03*	LTR-RES	8/09
27	**Union Carbide	Lawrenceberg, TN (Buildings) (Soil)	NA	8/98	 7/00 12/00	 Action-UNRES LTR-UNRES	1/05

* - Estimated Date ** - Complex Decommissioning Site (Non-SDMP)
+ - Timeline for approving DP is protracted due to (1) satisfying NEPA requirements, (2) conduct of public hearing, (3) Multi-phase DP submittals, or (4) combination of all the above
Action - SDMP Action Plan Criteria
LTR - License Termination Rule Criteria
RES - Restricted Use
UNRES - Unrestricted Use

NOTES:

- Projected removal date for Molycorp, Inc. Washington, PA site will be determined after NRC receives and approves the updatd schedule from Molycorp.
- NFS is a complex decommissioning site not listed above because; (1) it is an operating licensee undergoing partial decommissioning, (2) project managed by the Division of Fuel Cycle Safety and Safeguards.
- Two sites; Watertown Mall and Minnesota Mining & Manufacturing (3M) were removed from the SDMP in 2000.
- The cleanup criteria identified in this table presents the staffs most recent information, but does not necessarily represent the current or likely outcome.

SITES REMOVED FROM THE SITE DECOMMISSIONING MANAGEMENT PLAN (SDMP) AFTER SUCCESSFUL REMEDIATION

Attachment 4

SITES REMOVED FROM THE SDMP AFTER SUCCESSFUL REMEDIATION

	Name	Location	Date On SDMP	Date of Lic. Term.	Date Off SDMP	Current Use
1	Pratt & Whitney	Middletown, CT	6/92	6/71	10/95	Property and warehouses remain under Pratt & Whitney control
2	Texas Instruments, Inc.	Attleboro, MA	3/90	3/97	3/97	Managed under active MA license
3	Watertown Mall	Watertown, MA	3/90	1970	9/00	Commercial retail and recreational use
4	Anne Arundel County / Curtis Bay	Anne Arundel County, MD	1/93	NA	7/97	Site is currently used for baseball fields and a prison
5	Frome Investments	Detroit, MI	8/94	NA	7/96	Currently operating as a warehouse
6	Minnesota Mining & Manufacturing (3M)	Pine County, MN	3/90	10/67	8/00	Site is currently forest land.
7	Allied Signal Aerospace	Teterboro, NJ	3/90	1975	2/92	Aerospace operation still active under new owner (Honeywell), property under owner control.

	Name	Location	Date On SDMP	Date of Lic. Term.	Date Off SDMP	Current Use
8	RTI Inc.	Rockaway, NJ	5/92	2/97	1/97	Property attached to facility owned and operated by Sterigenics, Intl, NRC License No. 29-30308-01.
9	Chevron Corp.	Pawling, NY	4/92	1975	6/94	Recreation area controlled by the Department of Interior
10	Alcoa	Cleveland, OH	3/90	2/61	4/96	ALCOA's Cleveland works remains a large, multiple-function aluminum refining, casting and refinishing facility
11	Chemetron Corp. (Bert Ave)	Cleveland, OH	3/90	7/99	7/99	This ravine-like, former uncontrolled landfill is now an engineered disposal cell with a thick soil cover, topped by a level, grassy field with unrestricted use
12	Chemetron Corp. (Harvard Ave)	Cleveland, OH	3/90	7/99	7/99	This site is now owned by McGean-Rohco, Inc. There is a closed engineered disposal cell at the west end of the property(where the main processing building stood) and the buildings remaining on the site are being used for industrial chemical production and processing.

	Name	Location	Date On SDMP	Date of Lic. Term.	Date Off SDMP	Current Use
13	Clevite Corp.	Cleveland, OH	8/94	NA	9/98	Building used for multiple small businesses and light manufacturing
14	Elkem Metals Inc.	Marietta, OH	1/95	1985	9/99	This site is a manufacturer of manganese products for the steel industry, with several onsite storage facilities.
15	Old Vic	Cleveland, OH	3/92	7/93	12/93	This site is now the location of an ongoing warehousing operation.
16	Babcox & Wilcox	Apollo, PA	9/93	4/97	1/97	Fenced field
17	Budd Co.	Philadelphia, PA	3/90	4/93	4/93	Property secure; under owner control
18	Cabot Corp.	Boyerton, PA	3/90	Active	9/98	Active license
19	Pesses Co. (METCOA)	Pulaski, PA	3/90	7/86	9/99	Abandoned buildings and property controlled inside security fence
20	Schott Glass Technologies	Durea, PA	3/90	4/92	9/98	Security fence maintained around owner controlled area
21	UNC Recovery Systems	Wood River Junction, RI	3/90	9/95	10/95	Property remains under UNC ownership, CERLCA issues being addressed

	Name	Location	Date On SDMP	Date of Lic. Term.	Date Off SDMP	Current Use
22	Amax Inc.	Washington, WV	3/90	6/94	6/94	Department of Energy site

SITES REMOVED FROM THE SITE DECOMMISSIONING MANAGEMENT PLAN (SDMP) BY TRANSFER TO AGREEMENT STATES OR U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

Attachment 5

SITES REMOVED FROM THE SDMP BY TRANSFER TO AGREEMENT STATES OR EPA

	Name & Location	Date On SDMP	Date Transferred	Cleanup Criteria	Status
1	Kerr-McGee (West Chicago) Chicago, IL	3/90	11/90	Surface- 20 pCi/g U_{tota}l Subsurface-50 pCi/g U_{total}	Active decommissioning, estimated completion date-2004. No unforseen factors delaying decommissioning.
2	Englehard Corp. Plainville, MA	1/92	3/97	Buildings - SDMP Soils - To be determined	Analyzing chemical contamination, not actively decommissioning. No unforseen factors delaying decommissioning. Estimated closure date - 2003.
3	Nuclear Metals, Inc. Concord, MA	6/93	3/97	SDMP - but licensee wants to revise criteria	Current Licensee, active decommissioning. No unforseen factors delaying decommissioning. No license termination planned.
4	Wyman Gordon N. Grafton, MA	4/91	3/97	To Be Determined	Groundwater monitoring, no plans to decommission. No unforseen factors delaying decommissioning. No estimated site closure date.
5	West Lake Landfill (to EPA) Bridgeton, MO	6/92	6/95	Site will utilize cap or cover rather than soil cleanup criteria. If soil remediation is required - 40 CFR 192.	EPA reviewing remediation plan. Remediation to start in 2001. No estimated date for completion. No unforseen factors delaying decommissioning.

	Name & Location	Date On SDMP	Date Transferred	Cleanup Criteria	Status
6	Advanced Medical Systems, Inc. Cleveland, OH	3/90	8/99	LTR	Site being relicensed. No decommissioning to date. No unforseen factors delaying decommissioning. No estimated license termination date.
7	BP Chemicals America Lima, OH	4/92	8/99	SDMP	Active decommissioning. Estimated license termination date is 2001. No unforseen factors delaying decommissioning.
8	Horizons, Inc. Cleveland, OH	8/94	8/99	SDMP	Non-licensee. Active decommissioning. Estimated clean-up completion date 2000. No unforseen factors delaying decommissioning.
9	Northeast Ohio Reg. Sewer Dist. Cleveland, OH	4/92	8/99	SDMP	On hold - no activity. No estimated clean-up completion date. No unforseen factors delaying decommissioning.
10	RMI Titanium Co. Ashtabula, OH	8/91	8/99	SDMP	Active decommissioning. No unforseen factors delaying decommissioning. Estimated termination date - 2005+
11	Shieldalloy Metallurgical Corp. Cambridge, OH	3/90	8/99	LTR	Active decommissioning. Estimated termination date - 2002+ if terminated at all. Identification of additional off-site residential contamination delaying decommissioning.

LTR - License Termination Rule Criteria
SDMP - SDMP Action Plan Criteria

CONTAMINATED FORMERLY LICENSED SITES

Attachment 6

Site Status Summaries

Attachment 7

AAR MANUFACTURING INC.
(Updated May 29, 2001)

1.0 SITE IDENTIFICATION

Location:	Livonia, MI
License No.:	STB-0362 (terminated)
Docket No.:	04000235
License Status:	Terminated
Project Manager:	Kristina Banovac

2.0 SITE STATUS SUMMARY

Surface and subsurface thorium contamination has been identified at several locations in open land areas on the site. Contaminated soil has also been identified below the building foundation in three locations.

AAR Manufacturing Inc. (AAR) submitted a site remediation plan (RP), including a site characterization report, for NRC review and approval on April 8, 1996. The NRC staff reviewed the RP and provided comments to AAR on February 13, 1997. NRC concluded that AAR's RP was unacceptable as presented, and provided AAR with an acceptable method for surveying and averaging concentrations of thorium in contaminated subsurface soil. AAR submitted a revised RP on October 14, 1997, and the NRC approved the revised RP on May 22, 1998. Remediation at the site began on October 12, 1998. AAR conducted geoprobe sampling onsite, to more precisely locate areas of contamination. As a result of the geoprobe sampling, additional soil contamination was identified in the open area on the western side of the property.

On September 17, 1999, AAR submitted the "Site Characterization Report, Phase II, Former Brooks & Perkins, Inc. Site, AAR Manufacturing Group, Inc., Livonia, Michigan" from B.Koh & Associates, Inc., which included a proposed revision to the approved RP. The proposed plan involved remediation of only soils containing thorium concentrations exceeding 116 pCi/g, which is the unimportant quantity (0.05 weight percent) of source material, exempt from regulation, established in 10 CFR 40.13(a). The NRC, on March 31, 2000, informed AAR that, based on a dose assessment completed by NRC staff, NRC could not approve the proposed remediation criteria and that further remediation at the site would be conducted at its own risk. NRC gave AAR the option to return to the RP approved on May 22, 1998, or to perform its own site-specific dose assessment, and submit it for NRC review. The March 31, 2000 letter also included NRC comments on Phase II of the Site Characterization Report.

AAR responded to NRC comments on July 17, 2000 and submitted the "Summary of Final Survey and Sampling Data for the Former Brooks and Perkins, Inc. Site, AAR Manufacturing, Inc., Livonia, Michigan, March 2000." This summary report described remediation of indoor areas conducted in January 2000, and provided sampling and survey results. NRC has several technical questions and comments on this submittal that will be addressed during a future inspection.

During an inspection conducted on June 15, 2000, Region III inspectors found that contaminated materials excavated during indoor remediation activities were being temporarily stored on-site without posting and control. In its approved RP, AAR agreed to control and conspicuously post contaminated materials resulting from remediation activities. Therefore, NRC requested in a letter dated September 18, 2000 that AAR take immediate action to conspicuously post (as specified in 10 CFR 20.1902) the fenced area where contaminated materials are currently being stored and secure the area to restrict public access. The letter also asked AAR to meet with NRC to discuss the issues dealing with the decommissioning of its site.

A public meeting between AAR and NRC was held on November 14, 2000. Topics discussed were the indoor remediation activities, the contaminated materials being stored on site, the proposed remediation plan, and the site-specific dose assessment. NRC provided AAR with a copy of the current guidance, NUREG-1727, "NMSS Decommissioning Standard Review Plan," to review before formally submitting the dose assessment. At the meeting, AAR agreed to make arrangements for the disposal of contaminated material being stored on site, submit the cost differential between remediation of the site under the approved criteria vs. the proposed criteria, and submit the site-specific dose assessment by December 15, 2000. AAR submitted the site-specific dose assessment on December 29, 2000, which did not include enough information to begin a technical review. The staff generated a request for additional information (RAI) to obtain the needed information; however, the RAI is on hold until the policy issue of using 40.13 (a) for decommissioning is resolved.

Involved Parties:

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General Counsel and Secretary
AAR Corporation
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Telephone: 630-227-2040

Dr. Barry Koh, President
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Mr. David W. Minnaar, Chief
Licensing and Registration Section
Division of Radiological Health
Michigan Department of Public Health
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There are no immediate radiological hazards at the site.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

Contamination at the site was identified as a result of the Oak Ridge National Laboratory terminated license review project. This site was owned and operated by Brooks & Perkins, Inc.

from 1959 - 1971. AAR purchased the property in 1981. Since AAR is not responsible for the contamination onsite, it believes it should not be responsible for the cost of remediation. In an effort to reduce the cost of remediation, AAR submitted a revised RP on September 17, 1999.

AAR takes the position that less than 116 pCi/g thorium is an exempt quantity (based on 10 CFR 40.13), and therefore, only soil exceeding 116 pCi/g thorium will be remediated. The inconsistency between “exempt quantities” of source material and allowable quantities for unrestricted release is a significant policy issue that will require a Commission decision to resolve. The NRC previously approved a 13 pCi/g thorium release limit as specified in “Method for Surveying and Averaging Concentrations of Thorium in Contaminated Subsurface Soil” (NRC, February 1997). The staff reviewed the revised RP and based on a dose assessment found that the proposed revision to the RP could not be accepted. The staff gave AAR the option to return to its approved RP perform a site-specific dose assessment. AAR presented its site-specific dose assessment during a November 14, 2000 public meeting and formally submitted it for NRC review on December 29, 2000. After a preliminary review of the dose assessment, it was determined that there was insufficient information to conduct an extensive technical review.

Also at the November 14, 2000 meeting, AAR presented Th-230 as a contaminant in the dose assessment. Historically, AAR has only considered Th-232 and Th-228 as contaminants on site. Apparently, elevated concentrations of Th-230 were found in soils on the AAR site during initial site characterization in 1995, but the results from the laboratory analysis of samples were not formally presented to the NRC until March 19, 2001. NRC has requested AAR to further research this issue to determine whether uranium contamination is also present, and to establish a thorium isotope distribution.

Since AAR is not a licensee, it is not obligated to submit a decommissioning funding plan. AAR has not provided certification of financial assurance to cover the cost of decommissioning. AAR has questioned its responsibility for funding the cost of decommissioning, given that it is not responsible for the contamination on the site. If remediation costs become large, it is possible that AAR may legally challenge its responsibility to fund the remediation activities.

Elevated levels of thorium have also been identified along the fence separating AAR and CSX Transportation, Inc. (CSX). Although contamination appears to be very limited, there is the potential that financial responsibility for the contamination on CSX property may become an issue. No remediation has been performed by CSX.

To date, public interest in remediation activities at the site is minimal.

4.0 ASSUMPTIONS

- A Commission decision is required to resolve the issue of whether the 40.13(a) criteria should be approved.
- An environmental impact statement (EIS) will not be required.
- Standard assumptions.

5.0 ESTIMATED DATE FOR CLOSURE 5/05

B&W PARKS OPERATING FACILITY
(Updated May 24, 2001)

1.0 SITE IDENTIFICATION

Location:	Parks Township, Armstrong County, PA
License No.:	SNM-414
Docket No.:	07000364
License Status:	Active
Project Manager:	Amir Kouhestani

2.0 SITE STATUS SUMMARY

The BWX Technologies (BWXT) facility is located in Parks Township, Armstrong Co. PA., approximately 37 kilometers (KM) (23 miles) east-northeast of Pittsburgh. Principal radioactive contaminants at the site are americium (Am)-241, plutonium (Pu), uranium, cobalt (Co)-60, and cesium (Cs)-137.

BWXT submitted the decommissioning plan for the below-grade structures and soil in January 1996. The NRC approved the decommissioning plan in October 1998. BWXT has completed decommissioning the above-grade structures at the site under its license, and it is decommissioning the soils and sub-grade structures and utilities under its decommissioning plan. BWXT provides interim final survey reports of project areas decommissioned. The Oak Ridge Institute of Science and Education (ORISE) has performed interim confirmatory surveys of the project areas decommissioned.

BWXT will remediate the facility with the intention of requesting unrestricted use of the site and termination of its radioactive materials license. BWXT is using the SDMP Action Plan criteria as the cleanup level, with a site-specific value of 1250 pCi/g for Pu-241.

Involved Parties:

BWX Technologies, Inc
Richard Bartosik, Licensing Manager
R.D. 1 Box 355
Vandergrift, PA 15690

Mr. Robert Maiers, Chief, Decommissioning Section
Pennsylvania Department of Environmental Protection
Bureau of Radiation Protection
Rachel Carson State Office Building
P.O. Box 8469
Harrisburg, PA 17105-8469

Mr. James Yusko, Site Coordinator
Pennsylvania Department of Environmental Protection
Bureau of Radiation Protection
400 Waterfront Drive
Pittsburgh, PA 15222-4745

Mr. Roy Woods, Health Physicist
Pennsylvania Department of Environmental Protection
Bureau of Radiation Protection
400 Waterfront Drive
Pittsburgh, PA 15222-4745

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

No financial assurance issues have been identified at this time. The staff has not identified any major offsite environmental issues that will not be addressed during decommissioning of the facility.

Involved politicians/interest groups

Carmen Scialabba
c/o Honorable John Murtha
2423 Rayburn HOB
Washington, DC 20515

The Kiski Coalition to Save Our Children
P.O. Box 185
Leechburg, PA 15656

Mr. Bud Shannon
Chairman, Parks Township Board of Supervisors
RD 1, Box 645
Vandergrift, PA 15690

Citizens Action for a Safe Environment
P.O. Box 185
Leechburg, PA 15656

4.0 ASSUMPTIONS

- Standard assumptions
- Confirmatory surveys for individual building footprints will be done by Region I as remediation is completed.
- The site-wide confirmatory survey will be performed by ORISE.

5.0 ESTIMATED DATE OF CLOSURE 7/03

B&W PARKS SHALLOW LAND DISPOSAL AREA
(Updated May 24, 2001)

1.0 SITE IDENTIFICATION

Location:	Parks Township, Armstrong County, PA
License No.:	SNM-2001
Docket No.:	07003085
License Status:	Active
Project Manager:	Amir Kouhestani

2.0 SITE STATUS SUMMARY

The BWX Technologies (BWXT) Shallow Land Disposal Area is located in Parks Township, Armstrong Co., PA., approximately 37 Km (23 miles) east-northeast of Pittsburgh. The site consists of 10 trenches that were used to dispose of wastes, scrap, and trash from a nearby nuclear fuel fabrication facility in Apollo, PA. Principal radioactive contaminants at the site are natural, enriched, and depleted uranium, and lesser quantities of Am-241, plutonium, and thorium.

This site is designated by the U.S. Army Corps of Engineers (USACE) as a Formerly Utilized Sites Remedial Action Program (FUSRAP) site. USACE is currently performing a Preliminary Assessment (PA) under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA). If the result of USACE's site PA indicates a need for further investigation, USACE will follow the CERCLA process leading to site remediation. In the event USACE proceeds with site remediation, the staff plans to suspend BWXT's license while USACE remediates the site. BWXT's current plan indicates license termination with restrictions on future site use. A Decommissioning Plan (DP) for this site was due on or before June 4, 2001. However, due to USACE's activities, the licensee requested an extension for submitting the DP in May 2001.

Involved Parties:

BWX Technologies, Inc
Richard Bartosik, Licensing Manager
R.D. 1, Box 355
Vandergrift, PA 15690

Robin J. Bullock, Sr. Envr. Manager
Atlantic Richfield Company
307 East Park Avenue
Anaconda, MT 59711

Mr. Robert Maiers, Chief, Decommissioning Section
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Mr. James Yusko, Site Coordinator
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400 Waterfront Drive
Pittsburgh, PA 15222-4745

Mr. Roy Woods, Health Physicist
PADEP
Bureau of Radiation Protection
400 Waterfront Drive
Pittsburgh, PA 15222-4745

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

NRC staff currently anticipates that, absent remediation by the USACE, BWXT will request license termination, with restrictions on future land use. There is significant public and Congressional interest in the site. PADEP is also involved in the decommissioning, and PADEP will not assume long-term stewardship for the site (i.e., become the institutional control authority) if it is decommissioned with land-use restrictions. No financial assurance issues have been identified at this time. The staff has not identified any major off-site environmental issues that will not be addressed during decommissioning of the facility.

Involved Politicians/Interest Groups:

Carmen Scialabba
c/o Honorable John Murtha
2423 Rayburn HOB
Washington, DC 20515

The Kiski Coalition to Save Our Children
P.O. Box 185
Leechburg, PA 15656

Mr. Bud Shannon, Chairman
Parks Township Board of Supervisors
RD 1, Box 645
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Citizens Action for a Safe Environment
P.O. Box 185
Leechburg, PA 15656

4.0 ASSUMPTIONS

- Standard Assumptions
- BWXT will request license termination with restrictions on future land use.
- The time required for the licensee to complete decommissioning activities is based on information in NUREG-1613, “Draft Environmental Impact Statement (DEIS), Decommissioning of the Babcock and Wilcox Shallow Land Disposal Area in Parks Township, Pennsylvania” (note this DEIS was withdrawn in September 1997).
- ORISE will perform a limited Confirmatory Survey, during the Final Site Survey Report (FSSR) review phase to validate radiation levels on and around the site.

5.0 ESTIMATED DATE OF CLOSURE 3/09

CABOT PERFORMANCE MATERIALS INC. (CABOT)
(Updated June 18, 2001)

1.0 SITE IDENTIFICATION

Location:	Reading, PA
License No.:	SMC-1562
Docket No.:	04000927
License Status:	Active (possession only)
Project Manager:	Ted Smith

2.0 SITE STATUS SUMMARY

There is surface and subsurface uranium and thorium contamination, in the form of slag, along a slope area at the edge of the site.

Cabot submitted a DP, for NRC review and approval, on August 28, 1998. NRC noticed the receipt of the DP and provided an opportunity for a hearing in the Federal Register on October 28, 1998. Two parties [Reading Redevelopment Authority/City of Reading, and Jobert Inc./ Metals Trucking Inc. (owner of the site at the time of filing)] petitioned for a hearing. In March 2000, the City of Reading took title to the property. In May 2000, the Jobert Inc./ Metals Trucking Inc. hearing request was vacated. Several months of private negotiations between the City of Reading and Cabot Corporation concluded with the City's request to withdraw their hearing request. The court vacated the City of Readings hearing request In October 2000. A representative from St. Joseph's hospital has expressed interest in the River Road easement portion of the site and has met with NRC staff, as well as, Congressional staff from that District.

The DP proposes unrestricted release of the site in its current condition. Because of a lack of dose-modeling guidance and staff resource limitations, review of the DP was delayed until the spring of 1999. The NRC contracted with Sandia National Laboratories (SNL) to review the dose assessment. SNL completed its preliminary review and presented its findings in a meeting on October 5, 1999. Issues raised as a result of this review are discussed below. A request for additional information was provided October 19, 1999. A second SNL review, based on Cabot's additional information, was completed in June 2000. The NRC is currently reviewing the SNL analysis and Cabot's latest DP.

Involved Parties:

Cabot Performance Material, Inc.
Tim Knapp, Radiation Safety Officer
P.O. Box 1608, County Line Road
Boyertown, PA 19512-1608
Telephone: 610-369-8520

Steffan R. Helbig, PG
ST Environmental Professional, Inc.
RR 4, Box 239 Lutz Road
Boyertown, PA 19512
Telephone: 610-754-9444

Ivna Shanbaky
PADEP- Radiation Protection
555 North Lane, Suite 6010 Lee Park
Conshohocken, PA 19428-2233
Telephone: 610-832-6032

Jonathan E. Rinde, Esq. (Attorney for current property owner)
Manko, Gold & Katcher, LLP
401 City Avenue, Suite 500
Bala Cynwyd, PA 19004
Telephone: 610-660-5700

Carl Engleman (Attorney for City of Reading and Redevelopment Authority)
Rhoda, Stoudt & Bradley
501 Washington Street
Reading, PA 19601
Telephone: 610-374-8293

There are no immediate radiological hazards at the site.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

The slag was generated from the processing of iron and tin ores for tantalum in 1967 and 1968. Additional source material was placed on the pile from decontamination of the process building in 1977 and 1978, and the Canton Yards site in Baltimore, MD. The pile encompasses approximately 5094 cubic meters (180,000 cubic feet). The average contamination levels are 45 pCi/g thorium-232 and progeny, and 30 pCi/g of uranium-238 and progeny. Cabot proposes to leave the material in place, without remediation, under criteria in the License Termination Rule.

Cabot proposed worker and trespasser scenarios, but did not analyze the default resident farmer. SNL's preliminary review of the DP indicates that doses could be higher if a residential scenario is considered. Staff requested the licensee to consider a resident gardener scenario. Licensee's Request for Additional Information (RAI) response considered a resident gardener scenario as part of a sensitivity analysis. SNL's review of licensee's response raised further questions about several parameters in the resident gardener scenario. A key issue is whether a slab-on-grade building at the edge of the slag-pile should be considered.

While conducting research and analysis on slags, the Office of Research (RES) identified some issues with the Reading site characterization methodology. In particular, RES questions both the quantity and concentration of radioactive slag at the site. These questions will be incorporated in an additional RAI to the licensee.

No major off-site environmental or financial assurance issues are associated with this site. A potential financial assurance concern would arise if off-site disposal were required.

4.0 ASSUMPTIONS

- Cabot's proposal for unrestricted release without remediation is valid.
- Cabot's site characterization is acceptable.
- Cabot takes no more than 60 working days to respond to the RAI.
- Standard assumptions5.0 ESTIMATED DATE FOR CLOSURE 2/03

CABOT PERFORMANCE MATERIALS INC. (CABOT)
(Updated June 18, 2001)

1.0 SITE IDENTIFICATION

Location:	Revere, PA
License No.:	SMC-1562
Docket No.:	04000927
License Status:	Active (possession only)
Project Manager:	Ted Smith

2.0 SITE STATUS SUMMARY

This site contains surface and subsurface uranium and thorium contamination in the form of slag in four discrete areas of the site.

Cabot submitted a Decommissioning Plan (DP), for NRC review and approval, on November 17, 1997. The NRC noticed the receipt of the DP and provided an opportunity for a hearing in the Federal Register on December 19, 1997. There were no requests for a hearing, and public interest in decommissioning activities at this site is minimal.

The DP proposed unrestricted release of the site in its current condition. Because of a lack of guidance and resource limitations, the review of the DP was delayed until the spring of 1999. The NRC contracted with Sandia National Laboratories (SNL) to review the dose assessment. SNL completed its preliminary review in June 2000. NRC issued a request for additional information (RAI) on December 28, 2000. Cabot replied on February 15, 2001. In March 2001, Cabot submitted a revised DP and dose assessment . The Cabot dose assessment considers industrial worker, and resident gardener scenarios.

An Environmental Assessment (EA) and Safety Evaluation Report (SER) have been completed by NRC staff and a summary was published in the Federal Register on June 12, 2001. A Commission Paper is being developed which will recommend implementation of the findings in the EA and SER.

Involved Parties:

Cabot Performance Material, Inc.
Tim Knapp, Radiation Safety Officer
P.O. Box 1608, County Line Road
Boyertown, PA 19512-1608
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Ivna Shanbaky
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Steffan R. Helbig, PG
ST Environmental Professional, Inc.
RR 4, Box 239 Lutz Road
Boyertown, PA 19512
Telephone: 610-754-9444

There are no immediate radiological hazards at the site.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

The slag was generated from the processing of pyrochlore ore for niobium in the late 1960s and early 1970s. In 1988, Cabot performed decommissioning activities. During a final survey in 1993, ORISE found that, although average concentrations satisfied existing NRC guidelines, individual fragments of slag at, and below, the surface exceeded these guidelines. Specifically, total uranium ranged from 20 - 1800 pCi/g and total thorium ranged from 3.5 - 2200 pCi/g in two slag fragments.

Based on inventory records, Cabot estimates that a maximum of 0.0065 Ci of thorium and 0.016 Ci or uranium remain at the site, spread over the four locations. The thorium and uranium are contained in slag fragments which are distributed with building debris and uncontaminated slag in the four areas. A total volume of 820,000 ft^3 (23,000 m^3), and a total mass of approximately 46.4 x 10^6 kilograms of affected material remains at the site. The staff questions Cabot's volume estimates. The staff's independent analysis indicates that the site is acceptable for release if a lower, more realistic, volume estimate is used in the dose modeling.

No major offsite environmental or financial assurance issues are associated with this site. A potential financial assurance concern could arise if offsite disposal is required.

4.0 ASSUMPTIONS

- Cabot's proposal for unrestricted release without remediation is valid.
- Existing characterization data is sufficient to demonstrate final status survey requirements.
- Staff's conclusions are accepted by the Commission.
- Standard assumptions.

5.0 ESTIMATED DATE FOR CLOSURE 9/01

KERR McGEE - CIMARRON
(Updated May 24, 2001)

1.0 SITE IDENTIFICATION

Location:	Crescent, OK
License No.:	SNM-928
Docket No.:	07000925
License Status:	Active (possession only)
Project Manager:	Ken Kalman

2.0 SITE STATUS SUMMARY

There is uranium contamination in groundwater at Burial Area 1 in the eastern portion of the Cimarron site. Technetium-99 has also been found in the groundwater in the vicinity of Waste Pond 1 in the central portion of the Cimarron site.

The licensee submitted a DP in April 1995. Pursuant to NRC staff comments that the DP had not adequately addressed groundwater, the licensee submitted a DP groundwater evaluation report in July 1998. In coordination with the Oklahoma Department of Environmental Quality (ODEQ), the NRC approved Cimarron's DP in August 1999. Cimarron proposed, in its DP, a groundwater release standard of 180 pCi/l for uranium. NRC staff approved this proposed groundwater release standard but added a license condition to note that it would not terminate Cimarron's license until Cimarron demonstrates that the total uranium concentrations in all wells have been below the groundwater release criteria for eight consecutive quarters. In May 2001, Cimarron met with NRC staff to discuss alternatives that Cimarron is considering for groundwater remediation in the vicinity of Burial Area 1.

In April 1996, the NRC amended Cimarron's license to release the Phase I subareas of the site, for unrestricted use, they had no history of licensed activities, and concentrations of uranium in the soil were below NRC's guidelines. Phase I subareas comprised 695 acres of the 840 acre site. In accordance with its Phase II Final Status Survey Plan (FSSP) (approved in March 1997) and its Phase III FSSP (approved in September 1998), Cimarron is submitting FSSRs for the unrestricted release of other discrete subareas of the site. NRC staff amended the license in April 2001 to release Subareas H, I, L, and M. The NRC staff has completed its review of Final Status Survey Reports for Subareas G and K and will conduct confirmatory surveys of these two subareas in August 2001.

The site is also licensed for on-site disposal of up to 500,000 cubic feet of soil containing uranium and thorium at the levels specified in Option 2 of the BTP (October 1989). Approximately 164,518 cubic feet were emplaced in the first disposal cell, 155,952 cubic feet were emplaced in the second disposal cell, and 121,070 cubic feet were emplaced in the third and final cell which was completed in July 2000. In total, the Option 2 disposal cells contain approximately 441,540 cubic feet of contaminated material. This area will not be released for unrestricted use until NRC approves Cimarron's Subarea N Report and and performs its independent confirmatory survey. Assuming no unforeseen problems, this release is scheduled to take place by January 2003, along with the release of Subareas G, K, and F.

Involved Party:

Cimarron Corporation
123 Robert S. Kerr, MT 2006
Oklahoma City, OK

Jess Larsen, Site Manager
Telephone: 405-270-2288 (Oklahoma City)
405-282-6722 (Cimarron Site)

There are no immediate radiological hazards at the site.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

Groundwater samples have shown high concentrations of uranium, technetium-99, fluorides, and nitrates. In coordination with ODEQ, NRC has accepted Cimarron's proposed standard of 180 pCi/l for uranium in groundwater. This standard equates to a 25 millirem/year dose. The NRC will not terminate Cimarron's license until Cimarron can demonstrate that groundwater concentrations are below the proposed standard for two full years. Technetium-99 concentrations appear to be diminishing over time. NRC staff is concerned with a uranium contaminated groundwater plume emanating from the vicinity of Burial Area 1. ODEQ will retain control over the non-radiological groundwater components.

There is minimal public interest in the decommissioning activities at this site. No financial assurance issues have been identified at this time. The staff has not identified any major off-site environmental issues that will not be addressed during decommissioning of the facility.

4.0 ASSUMPTIONS

- As early as October 31, 2003, Cimarron will be able to submit a report to demonstrate that uranium concentrations in groundwater were below 180 pCi/l for the past two years. As noted in License Amendment 15, the NRC will not terminate Cimarron's license until Cimarron has successfully made this demonstration.
- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE - 6/04

KERR McGEE - CUSHING REFINERY
(Updated May 23, 2001)

1.0 SITE IDENTIFICATION

Location:	Cushing, Oklahoma
License No.:	SNM-1999
Docket No.:	070-03073
Licensing Status:	Active/Decommissioning
Project Manager:	Stewart Brown

2.0 SITE STATUS SUMMARY

The licensee submitted a DP for the site in April 1994, that included a request for on-site disposal. The licensee revised the DP on August 17, 1998. In place of on-site disposal, the licensee proposed to ship the waste exceeding the SDMP Action Plan Criteria to Envirocare for disposal. The licensee, in its letter dated August 30, 1996, requested NRC that approve five sections of the DP, which would allow remediation of Acid Sludge Pit 4. On September 3, 1998, the staff approved these sections of the DP. The staff completed its review of the revised DP in August 1999.

Involved Parties:

Jeff Lux
Kerr-McGee Corporation
Kerr-McGee Center
Po Box 25861
Oklahoma City OK 73125

Mike Broderick
Waste Management Division
ODEQ
707 North Robinson
Oklahoma City, OK 73102-6087

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

No financial assurance issues have been identified at this time. The staff has not identified any major off-site environmental issues that will not be addressed during decommissioning of the facility. There is moderate public interest in site remediation activities. The involved public interest group is:

Citizens Oversight Committee
c/o Steve Cubbage
123 West Boardway
Cushing, OK 74023

4.0 ASSUMPTIONS

- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 12/03

DOW CHEMICAL COMPANY (DOW)
(Updated May 31, 2001)

1.0 SITE IDENTIFICATION

Location:	Bay City, MI
License No.:	STB-527
Docket No.:	04000017
License Status:	Active
Project Manager:	Sam Nalluswami

2.0 SITE STATUS SUMMARY

Remediation at the Midland site has been successfully completed and the site was released for unrestricted use by License Amendment No. 8 on March 3, 2000.

Contamination at Dow's Bay City, Michigan, site consists of thorium contaminated slag storage piles.

Dow submitted a DP and a license amendment request, for NRC review and approval, on October 12, 1995. The DP and subsequent documents that Dow submitted were approved at different times. The remediation approach and methods were approved in July 1996. Notice of a Finding of No Significant Impact (FONSI) and Opportunity for Hearing for the issuance of this license amendment were published in the Federal Register on July 19, 1996. Approval of the unrestricted-use criteria, based on SDMP Action Plan Option 1, and the final survey plan, was granted in July 1997.

Dow made a presentation on September 14, 2000, at the NRC Headquarters and explained that the decommissioning of the Bay City site has been complicated by a larger volume of contamination than originally estimated, the presence of wetlands, and winter flooding. Based on these factors, Dow submitted an application for license amendment to extend the time schedule for decommissioning to December 31, 2002, and it was approved on November 3, 2000. The remaining area to be remediated is about 9.1 acres (about 25%) of the original Bay City site. Dow is planning to submit a revised decommissioning plan by June 30, 2001. This revision is intended to address the complications discussed above.

Involved party:

Dave Minnar
Director
Michigan Department of Environmental Quality
Drinking Water & Radiological Protection Division
3423 N. Martin Luther King Blvd.
P.O. Box 30630
Lansing, MI 48909-8130

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

There are no immediate radiological hazards at the site.

During the meeting on September 14, 2000, Dow representatives explained that the wetlands and frequent flooding have complicated the removal of contaminated soils and suggest that an alternate release criteria should be adopted. Based on the meeting, the NRC staff stated that Dow needed to formally submit an alternate approach for the staff's detailed review. The NRC staff suggested that Dow submit a conceptual approach for review and comment. Based on an acceptable conceptual approach, Dow would revise its decommissioning plan accordingly and submit it for approval. Dow collected soil samples in the saturated zone to determine the source term within the water table. Dow presented a conceptual approach to revise the DP on March 27, 2001, at NRC Headquarters. On May 29, 2001, NRC staff requested additional information on Dow's conceptual approach.

To date, there has been minimal public interest in the decommissioning activities at this facility.

4.0 ASSUMPTIONS

- Dow takes no more than 45 working days to respond to the RAI.
- Standard assumptions

5.0 ESTIMATED DATES FOR CLOSURE 7/03

The estimated closure date is based on the revised DP to be submitted by Dow.

FANSTEEL INC.
(Updated May 30, 2001)

1.0 SITE IDENTIFICATION

Location:	Muskogee, OK
License No.:	SMB-911
Docket No.:	040-07580
License Status:	Active; timely renewal
Project Manager:	Leslie Fields

2.0 SITE STATUS SUMMARY

The Fansteel facility is in active operation for the recovery of tantalum, niobium and scandium from uranium and thorium ores and other metals of commercial value from process waste residues. Fansteel has decontaminated approximately 35 acres of the Muskogee facility designated as the "Northwest Property," and the NRC has released this area for unrestricted use. Fansteel has an approved NRC license dated March 25, 1997, to complete the processing of ore residues, calcium fluoride residues, and wastewater treatment residues contained in various site impoundments. Fansteel is not scheduled to terminate License SMB-911 until after 10 to 12 years of additional waste-residue reprocessing. On May 5, 2000, Fansteel requested that NRC stop the review of August 1999 decommissioning plan due to investigation of other waste disposal alternatives.

Involved Parties:

A. Fred Dohmann
Fansteel Inc.
Number Ten Tantulum Place
Muskogee, OK 74403-9296
Telephone: 918-687-6303

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

Contaminants at the site include natural uranium and decay products, and natural thorium and decay products; metals including tantulum, niobium, chromium, antimony, tin, barium, arsenic; and ammonia fluoride and methyl isobutyl ketone.

Soil contamination is non-uniformly distributed at the Fansteel site. Gross alpha concentrations range from 21 to 360 pCi/g; uranium concentrations range from 6.2 to 93 pCi/g; and thorium concentrations range from 7.2 to 51 pCi/g. The depth of contamination ranges from the ground surface to 7.9 m (26 ft) below, with the majority concentrated within the top 0.76 m (2.5 ft) of soil.

Groundwater contamination is non-uniformly distributed at the Fansteel site. Gross alpha concentrations ranged from 19 pCi/l to 2600 pCi/l and gross beta concentrations ranged from 59 to 1300 pCi/l. These levels of contamination were confined to the shallow groundwater zone. Sampling and analysis of deep (bedrock) groundwater wells detected no concentrations

above background levels. Therefore, radioactive contamination of groundwater appears to be confined to the shallow alluvium at the top of the bedrock.

Preliminary radioactivity surveys indicate that surfaces and equipment in the following buildings are contaminated: Chemical A, Chemical C, Thermite, Sodium Reduction, and Research & Development Lab. These buildings are currently being used in plant operations. Levels of contamination will be determined after operations have ceased.

The estimated volume of contaminated soil and other material for which metal recovery operations are feasible and that must be transported off-site is 16,810 m^3 (594,000 ft^3). "Offsite" is defined as any other area and may include areas currently owned by Fansteel and are located adjacent to the Eastern Property Area. Current processing operations will reduce the source of much of the existing soil and groundwater contamination.

On February 27, 2001, the licensee submitted a Decommissioning Funding Plan (DFP) in accordance with its license. The DFP specifies a total cost estimate of $3,983,170 to decommission with on-site disposal. A technical assistance request has been submitted from the Division of Fuel Cycle Safety and Safeguards (FCSS) to the Division of Waste Management (DWM) to review this estimate. The DFP was approved on March 15, 2001.

4.0 ASSUMPTIONS

- Fansteel will request restricted release
- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 8/20

HERITAGE MINERALS INC.
(Updated June 14, 2001)

1.0 SITE IDENTIFICATION

Location:	Lakehurst, New Jersey
License No.:	SMB-1541
Docket No.:	040-08980
License status:	Renewed - 9/20/99 (possession/decommissioning only)
Project Manager:	Craig Gordon, R I

2.0 SITE STATUS SUMMARY

The Heritage Minerals Inc. (HMI) Final Status Survey Plan (FFSP) submitted to the NRC in November 1997 provided the basis for site decommissioning activities. After RI review and comment, and additional information submitted by the licensee, the FSSP was reviewed and approved and an EA was issued in August 1999 to address decommissioning activities, concluding with a FONSI. HMI has requested unrestricted release for the site, after license termination. The licensee's preferred disposal method is to transfer the material to an authorized recipient in Utah, most likely Envirocare or International Uranium Corporation (IUC). The IUC license was amended 12/00 to accept HMI material as alternate feed material.

After the license renewal in September 1999, HMI initiated decommissioning activities. Since early CY2000, HMI has reviewed contract proposals to complete major site remediation activities, but a contract award has not been made. A management meeting was held on March 20, 2001, to discuss the status of remediation plans. On June 7, 2001, the licensee provided a proposed decommissioning schedule to NRC and indicated that contracts were signed to perform site decommissioning activities and transportation and shipment of material. An agreement was being finalized to transfer material to the IUC White Mesa uranium mill. Routine radiation surveys and security checks of the property are performed monthly. No potential public health and safety consequences have been identified.

Involved Parties:

Anthony J. Thompson, Esq. (Attorney for HMI)
Shaw Pittman
2300 N Street, NW
Washington, DC 20037
Tel: (202) 663-9198

John F. Lord, Site Manager
One Hovchild Plaza
4000 Route 66
Tinton Falls, NJ 07753

Pat Gardner, Supervisor
NJ Department of Environmental Protection and Energy
Trenton, NJ 08625

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

The site contains a 700 m^3 (24,717 ft^3) tailings pile of monazite-rich sand from the physical separation processes used to isolate rare minerals. The licensee cleaned and decontaminated mill buildings used during processing of feed material (sand) containing monazite, leaving remediation activities to clean up the tailings pile. The entire site covers a large area in central New Jersey, while the licensed material is secured within a very small area. The property is owned by a building company that could develop the land for residential use after license termination. Financial assurance instruments were revised in 1999.

The primary issue to resolve before license termination is waste disposal. For several years the licensee was negotiating with a private company in Malaysia to export the material. However, Malaysian import restrictions have delayed material transfer and the licensee has abandoned the export strategy. Current plans are to transfer the tailings to the IUC White Mesa uranium mill once an agreement is finalized.

NRC-licensed portions of the site are within an area of enhanced background, raising regulatory issues with New Jersey over continued radiological exposure if NRC terminates the license. The State believes that NRC jurisdiction should extend beyond the licensed tailings pile, to other areas of the site, which contain exempt quantities of uranium and thorium, but do not exceed unrestricted-use criteria. The primary State issue is that once NRC terminates the license, the large contaminated areas of the site not subject to NRC licensing could involve costly remediation, some of which may be the State's responsibility. In accordance with the 24 month decommissioning period designated by 10 CFR 40.42 (h)(1), HMI is expected to complete activities by 10/01. There are no financial assurance issues associated with this site.

4.0 ASSUMPTIONS

- HMI is able to finalize the transfer agreement with IUC.
- The proposed June 7, 2001 decommissioning schedule is met.
- Standard assumptions.

5.0 ESTIMATED DATE FOR CLOSURE 6/02

U.S. ARMY JEFFERSON PROVING GROUND
(Updated May 30, 2001)

1.0 SITE IDENTIFICATION

Location:	Madison, Indiana
License No.:	SUB-1435
Docket No.:	04008838
License Status:	Active (possession only)
Project Manager:	Tom McLaughlin

2.0 SITE STATUS SUMMARY

The site has been closed for the testing of all ordnance including depleted uranium rounds since 1995. The monitoring of DU in soil, groundwater, surface water, and sediment continues on a bi-annual basis. The license was amended on May 8, 1996, resulting in the area south of the firing line being released for unrestricted use. License Condition 13 was added to the license, requiring the U.S. Army to submit a Security Plan and an Environmental Monitoring Plan. The NRC approved these plans in July 1996.

The U.S. Army submitted a revised DP in August 1999. NRC staff reviewed the DP and responded with a RAI in January 2000. The U.S. Army chose to revise its DP as a result of the RAI. The revised DP will be based on 10 CFR Part 20, Subpart E. The U.S. Army is still preparing its final draft DP, Institutional Control Plan (ICP), and Environmental Report. A telephone conference between the U.S. Army and NRC was held on October 18, 2000, to discuss the status of these documents. The Army explained that its schedule has slipped and provided a new date for submission of their revised DP. However, due to the Army's new policy of reviewing DU documents, this schedule will most likely be extended again. The current estimate is for the submission of a revised DP on July 6, 2001.

A teleconference was held with the Army on January 5, 2001, to discuss data needed from the Army in order for NRC to construct an EIS for the JPG site. The Army wanted to know what additional information was needed for NRC to construct its own EIS besides what is already contained in the Army's 1995 EIS. NRC agreed to send the Army a detailed list of information needed by January 19, 2001. It was agreed that another meeting would take place after the Army received this list of requested information. The Army agreed to send a list of contact persons for Fish and Wildlife, Air Force, local, State and Federal officials with knowledge of the JPG site. The list of points of contact was sent to NRC on January 8, 2001.

On January 25, 2001, NRC sent the Army a report entitled "Listing of Potential Discussion Areas for the Jefferson Proving Ground Environmental Report," to assist the Army in their development of the ER to be submitted to NRC. The Army informed NRC that it would delay submitting its ER because of resource constraints until after it submits the revised DP.

On March 22, 2001, the Army sent a quarterly update on the status of the Army's revised DP submission. Due to the request by a citizens group reviewing the document (Save The Valley)

the submission will be delayed until July 6, 2001. Also, the Army is in the process of finalizing the contract for support of the environmental report (ER) that it needs to submit to NRC.

Involved Parties:

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There are no immediate radiological hazards at the site. Unexploded ordnance at the site represents a significant non-radiological hazard. The staff has not identified any major off-site environmental issues that will not be addressed during decommissioning of the facility. No financial assurance issues have been identified at this time.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

The presence of unexploded ordnance, the associated risk, and cost for cleanup of this material, as well as potential contamination of groundwater, are complicating remediation. NRC staff needs to closely coordinate site actions with the State and EPA.

The licensee has signed a memorandum of agreement with the Department of the Interior (Fish and Wildlife) and the Department of Defense (Air Force) for long-term institutional control of the site.

4.0 ASSUMPTIONS

- The U.S. Army will choose restricted release.
- The U.S. Army will find an appropriate agency for long-term institutional control of the site.
- The request for hearing is approved.
- Standard assumptions

In January 2000, Save the Valley, a local environmental group, requested a hearing on the DP, citing that the DP does not adequately describe the decommissioning process and does not provide adequate assurance for long-term control.

5.0 ESTIMATED DATE FOR CLOSURE 1/06

KAISER ALUMINUM SPECIALTY PRODUCTS (KAISER)
(Updated May 29, 2001)

1.0 SITE IDENTIFICATION

Location:	Tulsa, OK
License No.:	STB-472 (terminated)
Docket No.:	040002377
License Status:	Terminated
Project Manager:	John Buckley

2.0 SITE STATUS SUMMARY

The NRC added Kaiser to the SDMP on August 19, 1994. During site characterization Kaiser identified thorium concentrations above the unrestricted-release limits on Kaiser property and in soil located adjacent to the Kaiser property. Kaiser plans to remediate the site in two phases. In Phase 1, Kaiser will remediate the land adjacent to the Kaiser property. Remediation of the Kaiser property will be performed during Phase 2. On August 17, 1998, Kaiser submitted a remediation plan for the land adjacent to the Kaiser property.

NRC staff provided comments on the Adjacent Land Remediation Plan (RP) to Kaiser on June 10, 1999, along with a RAI. Kaiser submitted responses to NRC's comments on July 8, 1999, and August 3, 1999, and submitted a revised RP.

The staff reviewed the revised RP and concluded that is acceptable. On March 8, 2000, the staff published a Finding of No Significant Impact in the Federal Register. The staff approved the RP on April 4, 2000. Phase 1 remediation is complete. Kaiser is preparing the Final Status Survey Report, which will be submitted to NRC in July 2001.

Kaiser submitted the remediation plan for the Kaiser property (Phase 2) in May 2001.

Involved Parties:

J. W. (Bill) Vinzant, Project Manager	Henry Morton
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Baton Rouge, LA 70809	Potomac, MD
Tel:225-231-5116	Tel:301-983-0365

There are no immediate radiological or non-radiological hazards associated with this site.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

Remediation of the Kaiser property is being conducted in two phases: Phase 1 - remediation of land adjacent to the Kaiser property; Phase 2 - remediation of the Kaiser property. The purpose of Phase 1 remediation is to get contaminated soil located outside the current Kaiser property boundary onto Kaiser property so that it can be properly controlled and away from the

general public. Adjacent land areas will be released for unrestricted use in accordance with the criteria presented in the SDMP Action Plan. During Phase 2 remediation Kaiser will dispose of thorium-contaminated soil from the Kaiser facility.

Kaiser originally expected to propose on-site disposal, with restrictions. Reduced disposal costs at WCS and Envirocare caused Kaiser to revise its Phase 2 remediation options.

Kaiser is not currently a licensee. The site was found to be contaminated as a result of the Oak Ridge National Laboratory (ORNL) terminated license review program.

There are no financial assurance issues identified at this time. To date there is minimal public interest in the decommissioning activities at the site. The staff has not identified any major off-site environmental issues that will not be addressed during remediation of the facility.

4.0 ASSUMPTIONS

- Since Kaiser is a non-licensee, there is no requirement to offer the public an opportunity for a hearing.
- For current planning purposes, it is assumed that Kaiser will not become a licensee.
- Standard assumptions

5.0 ESTIMATED DATES FOR CLOSURE

Phase 1 closure - 11/01
Phase 2 closure - 11/06

KISKI VALLEY WATER POLLUTION CONTROL AUTHORITY (KVWPCA)
(Updated May 29, 2001)

1.0 SITE IDENTIFICATION

Location:	Vandergrift, PA
License No.:	No license
Docket No.:	
License Status:	Non-licensee
Project Manager:	Rebecca Tadesse

2.0 SITE STATUS SUMMARY

The KVWPCA site is located about 40 Km (25 miles) Northeast of Pittsburgh, on the flood plain of the Kiskiminetas River. Approximately 9000 m^3 (317,790 ft^3) of uranium-contaminated sludge ash, with an average concentration of ~147 pCi/g and ~4 percent enrichment are currently distributed in a 4,000 m^2 (43,040 ft^2) on-site lagoon. The contamination resulted from the incineration and subsequent re-concentration of effluents released (within regulatory limits) from the nearby Babcox & Wilcox facilities. In July of 1997, PADEP requested that KVWPCA prepare and submit a closure plan. No plan has been developed; however, KVWPCA and its contractors have characterized the contamination with extensive sampling. The NRC has used these data, and some of its own, to develop a detailed 3-dimensional geospatial model of the KVWPCA lagoon. NRC developed site-specific remediation guidance, for the KVWPCA facility, that was sent to KVWPCA in November 1999. Representatives from the NRC and PADEP met with KVWPCA for clarification of the guidance in late March 2000. As of March 2001, B&W, BWXT and KVWPCA finalized an interim settlement agreement which provides arrangements for the preparation of a Decommissioning Plan (DP) for the contaminated lagoon. The parties have appointed a team to oversee development of the DP. Work toward developing the DP began in April 2001 and is expected to be completed in November 2001. The DP will be submitted to NRC in March 2002.

The feasibility study is based on three different options which are being evaluated by KVWPCA: Option 1 - cap on site; Option 2 - disposal at licensed disposal facility; Option 3 - disposal at a municipal landfill. The Gantt chart dates are estimates based on the feasibility study being completed by the end of November 2001, and the selection of Option 3 (disposal in municipal landfill). Option 3 would require an exemption from PADEP for KVWPCA because Pennsylvania law requires disposal of radioactive material only in a licensed LLW disposal facility. An Environmental Impact Statement may be required.

Involved Parties:

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3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

KVWPCA is not a licensed facility and currently it is unlikely that it possesses the funds necessary to remediate the site. For on-site remediation alternatives, DWM would apply the requirements of 10 CFR Part 20 Subpart E. For off-site disposal alternatives (excluding disposal at a licensed, LLW disposal facility), the requirements of 10 CFR Part 20.2002 would apply and any residual contamination at the KVWPCA site would have to meet the requirements of Subpart E.

There are no off-site environmental concerns at the present time.

Three remediation options are available. Option 1 (stabilization and capping on site) would involve disposal in a floodplain, and the NRC has never approved disposal in such a location. In addition, as KVWPCA plans on extending its present facility over the present lagoon, it has expressed concerns that on-site disposal is not an option. Option 2 (disposal in an LLW facility) would require that KVWPCA pay for disposal, but KVWPCA has severe financial restrictions. Option 3 (disposal in a municipal landfill) would require an exemption from PADEP for KVWPCA because Pennsylvania law requires disposal of radioactive material only in a licensed LLW disposal facility. Note that a fourth option for remediation would involve some combination of the previously mentioned options.

There is political and public interest about remediation of the KVWPCA site.

Involved Politicians/Public Interest:

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Senator Patrick J. Stapleton
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4.0 ASSUMPTIONS

- EIS will be required to support restricted release of the site.
- KVWPCA, currently not a licensee, will maintain such status and therefore not require a license amendment.
- KVWPCA will submit a DP to the NRC in March 2002.
- Remediation is estimated to take 350 days (one-half of the 700 days in the generic scenario) because contamination is limited to a spatially small area [a 4000m^2 (43,040 ft^2) lagoon], and it is anticipated that no buildings will require remediation.
- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 12/10

LAKE CITY ARMY AMMUNITION PLANT (LCAAP)
(Updated June 15, 2001)

1.0 SITE IDENTIFICATION

Location:	Independence, Missouri
License No.:	SUC-1380
Docket No.:	040-08767
Licensing Status:	Active/Decommissioning
Project Manager:	Stewart Brown

2.0 SITE STATUS SUMMARY

The licensee is addressing decommissioning by the submittal of separate DPs for Area 10, and for the 549 m (600-yd) bullet-catcher and building 3A areas.

On May 1, 1998, the licensee submitted revision 5.1 of the Area 10 DP. On August 25, 1998, the NRC approved the Area 10 DP. On August 12, 1998, the licensee submitted a DP for the 549 m (600-yd) bullet catcher and Building-3A areas. On July 13, 2000, the staff approved this DP.

The site is listed on the NPL because of hazardous chemical contamination on site. In early 1998 NRC and EPA staffs entered into discussions on how to reduce redundant regulatory oversight at this site. Both agencies believed that it would be reasonable for the NRC to defer regulatory oversight of radioactive contamination remediation to the EPA, except for Area 10, Building 3A, and the 549 m (600 yd) bullet catcher area. The staff proposed that once these areas are remediated, the staff would remove the Lake City project from the SDMP, and when the EPA has determined that any additional necessary radiological remediation is complete the staff would remove this site from the license. The Commission approved a paper requesting approval for the NRC to defer regulatory oversight of LCAAP to the EPA, except for the above-listed areas (SECY-98-201, dated August 21, 1998) (Staff Requirements Memorandum (SRM), dated October 15, 1998). The staff fowarded this agreement to the EPA by letter dated October 20, 1998. The licensee is addressing decommissioning by the submittal of DP for Area 10, and for the 549 m (600-yd) bullet-catcher and building 3A areas.

The Army's budgeting process will result in only a portion of the total LCAAP site being decommissioned in any one fiscal year, because of fiscal constraints.

During the remediation of Area 10, the licensee determined that the amount of depleted uranium (DU)-contaminated sand material was much greater than it had estimated [potentially an increase of about 21,225 m^3 (750,000 ft^3)]. In addition, this sand material is also potentially contaminated with leachable lead. The EPA, the State of Missouri, and NRC were able to develop a framework for transferring regulatory oversight of the Area 10 remediation to EPA once the licensee has prepared an Engineering Evaluation/Cost Analysis and a draft Action Memorandum. Once the licensee has produced these documents, EPA is willing to assume regulatory oversight of Area 10 under the provisions of Comprehensive Environmental Response Compensation and Liability Act (CERCLA), similar to our October 20, 1998, deferral

of regulatory oversight for the other portions of the LCAAP site to EPA (See SECY-98-201). SECY-01-0088 of May 17, 2001 sought Commission approval to defer regulatory oversight of Area 10 to EPA. The Commission approved the staff's approach in an SRM dated June 13, 2001.

Involved Parties:

Rosalene Graham, Chief
Safety/Rad Waste Team
Industry Operations Command
U. S. Department of the Army

Mitchell Scherzinger, Project Manager
Division of Natural Resources
State of Missouri

Scott Marquess, Project Manager
Federal Facilities and Special Emphasis Branch
Region IV
U.S. Environmental Protection Agency

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

No financial assurance issues have been identified at this time. The staff has not identified any major off-site environmental issues that will not be addressed during decommissioning of the facility. There is currently no public interest in the site.

4.0 ASSUMPTIONS

- Standard assumptions
- Commission agrees that regulatory oversight for Area 10 can be deferred to EPA and the licensee completes remediation of both Building 3A and the 600-Yard Bullet Catcher by July 2001.

5.0 ESTIMATED DATE FOR CLOSURE 9/01

MALLINCKRODT CHEMICAL INC. (MALLINCKRODT)
(Updated May 29, 2001)

1.0 SITE IDENTIFICATION

Location:	St. Louis, MO
License No.:	STB-401
Docket No.:	40-6563
License Status:	Decommissioning
Project Manager:	John Buckley

2.0 SITE STATUS SUMMARY

Contaminants at the Mallinckrodt site are:
U-238; U-235; U-234 and progeny; Th-230; Ra-226;
Th-232; Th-228 and progeny; Ra-228; and K-40.

Decommissioning at the Mallinckrodt site will take place in two phases. Phase 1 will decommission the buildings and equipment to the extent that whatever remains on-site will be released for unrestricted use. Phase 2 will complete the decommissioning of the building slabs and foundations, paved surfaces, and all subsurface materials to the extent that they can be released for restricted use.

Mallinckrodt submitted the Phase 1 DP on November 20, 1997. NRC completed its review of the Phase 1 DP and submitted a request for additional information (RAI) to Mallinckrodt on February 12, 1999. Mallinckrodt responded to NRC's RAI and submitted a revised Phase 1 DP on March 24, 2000. The NRC reviewed Mallinckrodt's response and revised DP, and transmitted additional comments to Mallinckrodt on August 7, 2000. The staff met with Mallinckrodt, in several meetings which were open to the public, to discuss NRC's comments. Mallinckrodt submitted a revised DP to NRC on January 29, 2001. NRC staff reviewed the revised DP and determined that the NRC's comments were not adequately addressed. The staff will meet with Mallinckrodt in JUly 2001 to resolve outstanding concerns. Mallinckrodt is expected to submit the Phase 2 DP on December 19, 2001.

Involved Parties:

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Tel: 301-983-0365

There are no immediate radiological hazards at the site.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

Mallinckrodt has proposed a two-phase decommissioning for the site. In phase 1, Mallinckrodt will remove the equipment from the buildings, and either decontaminate the buildings or demolish the buildings. Mallinckrodt is proposing to rubbleize the demolished buildings and either survey and release material for unrestricted use or dispose of it as radioactive waste. Therefore, the NRC must determine how rubble should be surveyed, and what can be released.

The Mallinckrodt site has been in operation since 1867 and has produced a wide range of products. In addition to the extraction of columbium and tantalum carried out under NRC license STB-401, various uranium compounds were extracted under contract to the Manhattan Engineering District and the Atomic Energy Commission (MED-AEC). Remediation of MED-AEC radiological constituents is currently being performed under the U.S. Department of Energy's (DOE's) Formerly Utilized Sites Remedial Action Program (FUSRAP) by the U.S. Army Corps of Engineers (USACE). USACE and Mallinckrodt currently do not agree on who has remediation responsibility for several areas within the facility. As a result, USACE disagrees with some portions of the Mallinckrodt Phase 1 DP. NRC will not approve the Phase 1 DP until Mallinckrodt and USACE reach agreement on remediation responsibilities for all buildings and equipment. Mallinckrodt and USACE are expected to meet in May 2001, to discuss remediation responsibilities for Phase 1 areas. The Phase 1 remediation schedule has slipped, and will slip further, as a result of the USACE and Mallinckrodt discussions. Further, since the NRC and the DOE are regulating remediation at the Mallinckrodt site, there is the potential that two different release criteria will be used at the site, making it difficult to release the areas remediated under NRC jurisdiction.

Public interest about the site is high, although public concern about the site is low. Mallinckrodt has gone to great lengths to keep the public informed about decommissioning activities at the site. There has been a Community Advisory Panel (CAP), made up of Mallinckrodt employees and the public, in place for five years.

No financial assurance issues have been identified at this time. The staff has not identified any major off-site environmental issues that will not be addressed during decommissioning of the facility.

4.0 ASSUMPTIONS

- An EIS will be required because of the large volume of contaminated material and Mallinckrodt's anticipated request for restricted release.
- Standard assumptions

5.0 ESTIMATED DATES FOR CLOSURE

Phase 1 - 7/05
License Termination - 10/09

MICHIGAN DEPARTMENT OF NATURAL RESOURCES (MDNR)
(Updated May 31, 2001)

1.0 SITE IDENTIFICATION

Location:	Kawkawlin, Bay County, Michigan
License No.:	SUC-1581
Docket No.:	04009015
License Status:	Active (possession only)
Project Manager:	Sam Nalluswami

2.0 SITE STATUS SUMMARY

The MDNR site, located in Bay County, MI, is part of the former Hartley & Hartley Landfill, and is currently known as the Tobico Marsh State Game Area. The site covers about 3 acres and is contaminated with thorium. The contamination came from magnesium-thorium alloy production at a defunct former licensee. The contaminated soil is covered with a 1.5 m (5 ft) thick clay cap and encapsulated with 0.9 m (3 ft) thick bentonite slurry walls.

The licensee plans to submit a DP by August 2002. The remediation of the site will start after the DP is approved. The type of release will depend on the results of the site characterization work that began in September 1999.

Involved Parties:

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There are no immediate radiological hazards at the site. Chemical wastes are also present at the site. The staff has not identified any major off-site environmental issues that will not be addressed during decommissioning of the facility.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

Site characterization work began in September 1999. The decision on unrestricted or restricted release will depend on the site characterization data.

In July 1984, Oak Ridge Associated Universities (ORAU) undertook a radiological survey of the Tobico Marsh site. The results of this survey indicated a 0.15 to 0.20 m (0.5 to 0.7 ft) thick layer of thorium-contaminated slag near the surface. The contaminated slag appeared to be distributed in a 10 to 20 m (33 to 66 ft) wide strip near the center of the property, extending almost the entire north/south length of the site. The NRC and State of Michigan staffs concluded, on the basis of the radiological survey, that the thorium contamination exceeded the unrestricted release criteria in the SDMP Action Plan.

In 1984, the neighboring licensee undertook encapsulation measures at the site to isolate and prevent the migration of the non-radiological hazardous wastes. Encapsulation measures included the installation of a 1.5m-thick (5 ft) clay cap and 0.9m-thick (3 ft) bentonite slurry walls. As a result, this site involves buried waste that is likely mixed with hazardous chemical wastes. Remediation of the site will require coordination with the State, which regulates hazardous chemicals. The licensee concluded that the mixture of non-radiological hazardous and radioactive waste would make the wastes unacceptable at a chemical or radioactive waste disposal site (other than an authorized mixed-waste disposal facility).

Currently, the State of Michigan does not want the clay cap over the wastes to be removed, because of the non-radiological hazards of the site. However, it is uncertain whether the site can be sufficiently characterized and decommissioned without removal of parts of the cap. No financial assurance issues have been identified at this time. There is minimal, if any, public interest, to date. Public interest is expected to continue to be minimal if the clay cap is not removed and waste removal is kept to a minimum.

4.0 ASSUMPTIONS

- Standard assumptions for unrestricted release

5.0 ESTIMATED DATE FOR CLOSURE 7/08

MOLYCORP INC.
(Updated May 30, 2001)

1.0 SITE IDENTIFICATION

Location:	Washington, PA
License No.:	SMB-1393
Docket No.:	040-08778
License Status:	Timely renewal
Project Manager:	Tom McLaughlin

2.0 SITE STATUS SUMMARY

This site is located 56.3 Km (35 mi) southwest of the City of Pittsburgh in Canton Township, PA less than 0.8 Km (0.5 mi) southwest of the City of Washington, PA. Molycorp produced a ferrocolumbium alloy from an ore that contained natural thorium. The operation resulted in the production of thorium-bearing slag that was used as fill over portions of the site and stored in an above-ground, vegetated slag pile 7641 m^3 (10,000 yd^3). Thorium is the primary contaminant. However, the ore may have contained small amounts of uranium. Average thorium concentrations over most of the site are between 100 and 200 pCi/g. In some locations, the contamination extends down to 3 m (10 ft) in the subsurface soil. The average concentration of thorium in the slag pile is 1200 pCi/g. Estimates of total waste volumes range from 45,846 - 114,615 m^3 (60,000 - 150,000 yd^3).

Molycorp submitted its original DP in July 1995. The DP proposed on-site storage, followed by permanent disposal of the waste, from both the Washington and York sites, in an impoundment on the Washington site. Because on-site disposal would have exceeded the SDMP criteria (criteria designated for use before the LTR), the NRC staff requested that Molycorp submit an environmental report (ER) as part of the DP. The licensee supplemented the 1995 DP with an ER in April 1997.

Because the July 1995 DP was determined not to conform to the interim SDMP criteria, and as such, could not be grandfathered under the provisions of the LTR, an NRC letter dated February 16, 1999, directed Molycorp to revise its DP to meet the requirements of the LTR. After consultation with NRC staff, the licensee stated its intention to submit the DP in two parts. Part I of the DP would address cleanup of the contaminated portion of the site and comply with the SDMP Action Plan criteria. Part II would address disposal of material from York and Washington in an impoundment on the Washington site and would comply with the LTR. NRC staff agreed to this approach and a revised DP (Part I) was submitted on June 30, 1999.

NRC staff completed an acceptance review of the Molycorp Washington DP Part I for decommissioning the Washington site and corresponding amendment request on October 19, 1999. An opportunity for a hearing on the amendment request was published in the Federal Register on November 16, 1999. In response to the hearing notice, Canton Township submitted a request for hearing on the Part I DP on December 13, 1999. The Atomic Safety and Licensing Appeal Board Panel (ASLBP), at the NRC staff's request, delayed consideration of the hearing request until the staff had completed its environmental assessment and safety

evaluation report for the Part I DP decommissioning amendment request. The staff approved the Part I DP on August 8, 2000. On September 19, 2000, the Presiding Officer ruled that Canton Township had standing on its request for a hearing on the DP Part I for the Washington site. After Molycorp's withdrawl of its request for an amendment for construction of an onsite disposal cell, the Canton Township subsequently withdrew its request for a hearing.

Molycoprp submitted Part II of its DP on July 14, 2000. Part II of the DP consisted of Molycorp's plans to dispose of the waste, generated by the Part I remediation, in an on site disposal cell and terminate the license under the restricted release provisions of the LTR. Staff completed an acceptance review on August 16, 2000, and initiated the technical review. In a letter dated January 3, 2001, Molycorp withdrew its amendment request for approval of the Part II DP. While Molycorp will continue to decommission the Washington facility under its previously approved Part I DP, it will now dispose of the material off site and will ultimately seek a unrestricted release of the site. On February 26, 2001, Molycorp informed NRC that it finished removal of all above ground waste, including the slag pile, and shipped the material to the Envirocare facility in Clive, Utah.

On March 19, 2001, Molycorp submitted a license amendment request for an alternate decommissioning schedule. The request was submitted with no text to support the approximately 5 year time frame for decommissioning. NRC rejected the proposed schedule on March 28, 2001. An open meeting was held at NRC to discuss Molycorp's proposed alternate decommissioning schedule on April 25, 2001. As a result of the meeting, Molycorp agreed to provide additional justification for the proposed schedule.

ON March 20, 2001, DWM participated in a public meeting hosted by the Agency for Toxic Substance & Disease Registry (ATSDR). The purpose of the meeting was to provide the public an opportunity to ask questions concerning the ATSDR's health risk assessment for the Molycorp, Washington, PA site. The study had been conducted at the request of a concerned citizen. The ATSDR found:

- Radiation levels, both on and off site, are not likely to cause harmful health effects;
- The estimated levels of radiation released as a result of licensed operations were not high enough to be harmful;
- Contamination of the buried municipal water line on the Molycorp site is not likely;
- ATSDR could not identify an association between health problems, including cancer, and the radiological contamination at the site; and
- The site does not pose a public health threat from exposure to radiation caused by coming near the site or accidently breathing or eating dust from the property.

The ATSDR is recommending that it review environmental monitoring data collected during cleanup activities to evaluate for public health impacts. Following the close of the public comment period for this study on April 30, 2001, ATSDR release its final version of the study.

Molycorp submitted revised financial assurance instruments to NRC on May 31, 2001.

Involved Parties:

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Township Secretary
96 North Main Street
Washington, PA 15301

There are no immediate radiological hazards at the site.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

Public concern in the Canton Township, City of Washington area, is high. Congressional interest also mirrors that found in the local communities. The NRC has conducted two local public meetings to keep interested parties informed, the second of which was attended by over 300 people.

The State will need to make a finding on whether metals from the ore that remain on the site are of sufficient quantity and concentration to categorize the waste as a mixed waste. If the waste is determined to be a mixed waste, special mixed-waste disposal requirements would be required.

The Commonwealth of Pennsylvania is expected to apply for Agreement State status and may become the regulatory authority for this site before to the completion of decommissioning.

The licensee has submitted a “parent company guarantee” in the amount of $26.3 million as financial assurance for decommissioning the Washington site. At this time the parent company guarantee is being reviewed and no problems are anticipated with the instrument.

4.0 ASSUMPTIONS

- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE

To be determined after NRC receives and approves the updated schedule.

MOLYCORP INC.
(Updated July 16, 2001)

1.0 SITE IDENTIFICATION

Location:	York, PA
License No.:	SMB-1408
Docket No.:	04008794
License Status:	Timely renewal
Project Manager:	Tom McLaughlin

2.0 SITE STATUS SUMMARY

The site is located in the City of York, Pennsylvania, and occupies approximately 6 acres of land. Molycorp processed lanthanide ores and concentrates containing low quantities of thorium and uranium. Although thorium is the primary contaminant, small amounts of uranium may be present. Molycorp submitted its original decommissioning plan (DP) in August of 1995, proposing to clean-up the site to meet the SDMP Action Plan criteria for unrestricted use (10 pCi/g thorium and natural uranium) with storage of the waste generated, in a temporary storage cell on the Washington site, until approval was granted for disposal of the waste in an impoundment on the Washington site. The licensee provided a supplement to the DP on June 30, 1999. The DP was approved for unrestricted release of the York site on June 6, 2000. A significant portion of the site was remediated before approval of the DP.

On August 1, 2000, Molycorp withdrew its request to amend its Washington, PA Source Material license to allow storage of York decommissioning soil on the Washington site. NRC responded on August 3, 2000, granting the request and ceasing all activities related to the to the amendment request. The licensee is currently preparing its final radiological site surveys. NRC Region 1 will conduct in-process inspections while the licensee is performing these surveys.

On January 29, 2001, Molycorp submitted a license amendment request to plug and abandon ground water monitoring wells at this site. Several of these wells are designated in the license and samples are required to be drawn from these designated wells biannually. Molycorp has asserted that this action is needed to begin cleanup activities in the areas surrounding the wells. Molycorp has committed to install new wells in the same locations and screened at the same intervals as the existing wells designated in the license. Prior to installing the new wells, Molycorp has committed to confer with both NRC and the Pennsylvania Department of Environmental Protection to ensure that the new well locations are satisfactory. Molycorp expects to install the new wells in August 2001 and to complete biannual sampling for the year 2001 by sampling the new wells twice before year end.

All building structures have been taken down along with some of the concrete pads under the buildings. The railroad spur onto the site has been constructed and the licensee will begin to ship contaminated material and soil off site. Buiilding material that was surveyed and released as clean is now being shipped off site to a landfill.

Involved Parties:

George W Dawes, Supervisor
Laboratory & Environmental Eng.
Molycorp, Inc.
300 Caldwell Ave
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724-222-5605 ext. 517
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James Kopenhaver
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PADEP Southcentral Regional Office
909 Elmerton Ave.
Harrisburg, PA 17110-8200
717-705-4891
jkopenhave@dep.state.pa.us

Robert Maiers, P.E.
Chief, Decommissioning Section
Commonwealth of Pennsylvania
Department of Environmental Protection
Rachel Carson State Office Building
P.O. Box 8469
Harrisburg, PA 17105-8469
717-783-8979
717-783-8965 (FAX)
rmaiers@state.pa.us

William Belanger
U.S. EPA Region 3
Mail Code 3AP23
1650 Arch Street
Philadelphia, PA 19103-2029
215-814-2082

There are no immediate radiological hazards at the site.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

Limited groundwater sampling data indicates very low concentrations (30 pCi/l of uranium) in the groundwater in the area of the York facility. The licensee is providing additional uranium groundwater sampling data during cleanup activities.

Molycorp has submitted has submitted a parent company guarantee for $3,414,000.00, as assurance for decommissioning the site. This amount is being reviewed to determine whether it is sufficient for carrying out the proposed alternative.

Public interest appears minimal at the present time. The licensee held a public meeting to explain the decommissioning activities that will take place. One member of the public inquired about and was provided the site characterization report for the York facility.

4.0 ASSUMPTIONS

- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 10/02

PERMAGRAIN PRODUCTS INC. (PPI)
(Updated June 18, 2001)

1.0 SITE IDENTIFICATION

Location:	Karthaus, PA
License No.	37-17860-02
Docket No.	030-29288
License Status:	Active
Project Manager:	Steve Shaffer, RI

2.0 SITE STATUS SUMMARY

Strontium (Sr)-90 is the main contaminant at the site. The licensee started to decommission the site on July 13, 1998, with excavation of the buried tank farm. During decontamination of the waste water treatment building, soil contamination was discovered under the building. Soil excavation activities are in progress. An incident occurred on October 12, 1998, from contractor work, in a hot cell that released between 10-100 mCi of Sr-90. The release was contained in the building, and there was no release to the environment. One worker was found to have internal deposition resulting in an estimated dose of approximately 760 millirem. Four individuals showed skin contamination as a result of the event. The NRC approved the Permagrain Restart Plan in December 1998, and the project was restarted immediately. Because of the extremely high levels of contamination associated with the event, in Cell 4, the licensee has decided to decommission to unrestricted use limits. This will involve building a new irradiator for PPI. Decommissioning work at the site will continue in the interim. However, no work will be done on Cell 4 until PPI operations have been moved.

Involved Parties:

A. E. Witt, President
Permagrain Products, Inc.
4789 West Chester Pike
Newtown Square, PA 19073
Tel: 610-353-8801

William Kirk
Bureau of Radiation Protection
Rachel Carson State Office Building
P.O. Box 8469
Harrisburg, PA 17105
Tel: 717-787-2480

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

Clean-up of the soil contamination associated with the event is the primary technical issue. The licensee has not made any unique proposals at this time. The Commonwealth of Pennsylvania is responsible for financing remediation activities.

The local emergency response officials and a local State representative have shown interest in the activities at the site. The licensee has held tours and kept interested parties informed of progress at the site. Public interest to date has come from:

Camille George
State house of Representatives
Room 388
Main Capital Building
House Box 202020
Harrisburg, PA
Tel: 717-787-7316

4.0 ASSUMPTIONS

- The licensee is grandfathered under Option 1 of the BTP.
- The change to greenfielding the entire site will not jeopardize the grandfathered status.
- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 7/03

SAFETY LIGHT CORPORATION (SLC)
(Updated June 15, 2001)

1.0 SITE IDENTIFICATION

Location:	Bloomsburg, PA
License No.:	37-00030-02
Docket No.:	030-05980
License Status:	Active; Renewed December 1999
Project Manager:	Marie Miller, RI

2.0 SITE STATUS SUMMARY

Radioactive contamination of site buildings, soil, and groundwater was identified as a result of previous manufacturing operations of self-illuminating watch and instrument dials and related activities involving Ra-226, Cs-137, Sr-90, and Am-241.

The current license expires at the end of 2004. The NRC staff recommended and the Commission approved the renewal in December 1999, despite the lack of sufficient financial assurance to cover decommissioning costs. The renewal allowed SLC to continue to remove radioactive material from two underground silos that was initiated in October 1999. The remediation of the underground silos has taken considerably longer than originally projected, because SLC can not dispose of the material without further sorting and characterization. SLC projects that preparing the packages for disposal and shipment will use the remaining decommissioning funds. This issue is under Staff review.

SLC submitted a revised Decommissioning Cost Estimate(DCE) and Decommissioning Plan (DP) in October 2000, as required by a condition of the license renewal. The Decommissioning Plan recommends a sequence of remediation tasks based on amount of radiological contamination and its impact on the environment. The revised DCE and DP are under Staff review to determine the reasonableness of the cost estimate, now estimated to be about 29 million dollars for both licenses. Nevertheless, the staff believes that no significant remediation work can be performed at the site, because of limited funding.

Involved Parties:

Safety Light Corporation
Larry Harmon, Plant Manager
4150-A Old Berwick Road
Bloomsburg, PA 17815
Tel: 570-784-4344

Safety Light Corporation
Norman Fritz, Radiation Safety Officer
4150-A Old Berwick Road
Bloomsburg, PA 17815
Tel: 570-784-4344

Bob Maiers
Bureau of Radiation Protection
PADEP
P.O. Box 8469
Harrisburg, PA 17105-8469
Tel: 717-783-8979

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

SLC's inability to provide sufficient financial assurance for remediation activities is the primary regulatory issue. At this time, the licensee has available approximately $1.5 million for site remediation.

Contamination of large amounts of soil (Ra-226 concentrations up to 670 pCi/g and Cs-137 concentrations up to 630 pCi/g) is the principal radiological hazard at the site. Building and groundwater contamination also needs to be addressed by SLC as part of decommissioning.

To date, public interest in the decommissioning activities at the site is minimal. PADEP has been more involved with the site since the NRC licenses were renewed. A meeting with PADEP to review near and long term regulatory actions is scheduled for June 25, 2001. They have also conducted several activities associated with their regulatory responsibilities including, storage of the mixed waste and radium waste removed from the underground silos, and they have conducted groundwater and surface water assessments. A final report is expected in June 2001. The staff has not identified any major off-site environmental issues that will not be addressed during decommissioning of the site.

4.0 ASSUMPTIONS

- After removal of contaminated material from the silos, the length of time to complete subsequent remediation tasks cannot be determined.
- SLC will continue to request unrestricted release.
- Standard assumptions

5.0 ESTIMATED DATES FOR CLOSURE

License Termination - 12/04 Off SDMP - Indefinite

SCA SERVICES (SCA)
(Updated May 31, 2001)

1.0 SITE IDENTIFICATION

Location:	Kawkawlin, Bay County, Michigan
License No.:	SUC-1565
Docket No.:	04009022
License Status:	Active (possession only)
Project Manager:	Sam Nalluswami

2.0 SITE STATUS SUMMARY

The SCA Services site, located in Bay County, MI, is part of the former Hartley & Hartley Landfill, and covers about 235 acres. Part of the site is contaminated with thorium that came from magnesium-thorium alloy production at a defunct former licensee. The contaminated soil is covered with a clay cap and encapsulated with slurry walls.

The licensee completed site characterization in 1996. The buried thorium wastes were not located. There are hazardous wastes present at the site and the site is being regulated under the State Superfund law. The licensee is reviewing the possibility of terminating the license under restricted release.

The licensee plans to submit a DP by August 1, 2003. The licensee is investigating restricted-release options.

Involved Parties:

Timothy Bertram, Environmental Quality Analyst
Saginaw Bay District Office
MDEQ
503 N. Euclid Avenue
Bay City, MI 48706

David W. Minnaar, Chief
Radiological Protection Section
Drinking Water and Radiological Protection Division
MDEQ
P.O. Box 30630
Lansing, MI 48909-8130

Denise S. Gruben, Project Manager
Office of Legal Services
MDNR
P.O. Box 30028
Lansing, MI 48909

There are no immediate radiological hazards at the site. There are hazardous wastes present at the site and therefore the site is also being regulated under the State's Superfund law. The staff has not identified any major off-site environmental issues that will not be addressed during decommissioning of the facility.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

The site characterization completed in 1996 could not locate the buried thorium wastes. ORAU had undertaken a radiological survey of the site in July 1984. The NRC and State of Michigan staffs concluded, on the basis of the radiological survey, that the thorium contamination exceeded the unrestricted release criteria in the SDMP Action Plan. The licensee is likely to use the contamination level from this survey as the radiological contamination level at the site because the contamination is not likely to have migrated off-site and the licensee would not have to perform additional site characterization. SCA is licensed to possess 40 metric tons of thorium and 5 metric tons of uranium.

After the radiological survey, the licensee undertook cap repair measures at the site to isolate and prevent the migration of the non-radiological hazardous wastes. As a result, this site involves buried waste that is likely mixed with hazardous chemical wastes. Remediation of the site will require coordination with the State, which regulates hazardous chemicals. The licensee also concluded that the mixture of non-radiological hazardous and radioactive waste would make the wastes unacceptable at a chemical or radioactive waste disposal site (other than an authorized mixed-waste disposal facility) and agreed to implement a monitoring program and to place a restriction on the deed prohibiting intrusion. Currently, the State of Michigan does not want the clay cap over the wastes to be removed, because of the non-radiological hazards at the site. There is minimal, if any, public interest to date. Public interest is expected to remain minimal if the clay cap is not removed.

If the licensee selects restricted release for the site, then it will need to find a long-term custodian. The neighboring MDNR site indicated that it is not willing to provide institutional control for this site. No financial assurance issues have been identified to date.

The probability for a hearing is low if the licensee satisfies the unrestricted release criteria with minimal disturbance to the clay cap. The potential for a hearing increases if the licensee has to remediate the site, involving removal of the clay cap. An EIS will be needed if the restricted-release option is selected. The schedule for submitting a DP is being driven by State requirements associated with its Superfund law.

4.0 ASSUMPTIONS

- SCA Services will choose restricted release.
- SCA Services will find an appropriate agency for long-term institutional control of the site.
- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 2/11

SEQUOYAH FUELS CORPORATION (SFC)
(Updated May 25, 2001)

1.0 SITE IDENTIFICATION

Location:	Gore, OK
License No.:	SUB-1010
Docket No.:	04008027
License Status:	Expired (possession only)
Project Manager:	Jim Shepherd

2.0 SITE STATUS SUMMARY

There is surface, subsurface, and groundwater contamination from uranium and thorium throughout the site, and uranium, thorium, and radium in raffinate sludge ponds. There is also chemical contamination of arsenic, molybdenum, and copper in the soils, which being addressed under a Resource Conservation and Recovery Act (RCRA) Administrative Order on Consent (AOC) issued by the EPA Region 6.

The contamination was generated during the processing of uranium oxide (yellowcake) to uranium hexafluoride, from 1970 through 1992, and treatment of the process raffinate. Soil contamination levels range from about 5 ?Ci/g to more than 500 ?Ci/g of (primarily) uranium and thorium. Uranium concentration in the groundwater ranges from ~200 - 30,000 ?Ci/l. Radium concentration in the raffinate sludges are about 300 - 350 ?Ci/g. There is also process system waste comprising piping, vessels, and building materials contaminated with uranium in various chemical forms such yellowcake, uranyl nitrate, and uranium hexafluoride. The total radiological and hazardous waste volume is estimated to be 141,600 - 311,520 m^3 (5 - 11 million ft^3).

SFC submitted a DP for NRC review and approval, on March 26, 1999. The NRC issued a notice of the receipt of the DP and provided an opportunity for a hearing in the Federal Register on June 9, 1999. The State of Oklahoma petitioned for a hearing. On December 22, 1999, the Atomic Safety and Licensing Board (ASLB) issued a ruling granting a hearing to the State. On January 3, 2000, SFC appealed the ASLB ruling to the Commission. Issues related to the hearing are discussed below.

The DP proposes restricted release of the site after placing all radiological and chemical contamination in an on-site, above-grade disposal cell. The NRC determined that an EIS was required before approval of the DP. EIS development was initiated in May 2000.

By letter dated January 5, 2001, SFC requested that NRC review the concept that the majority of waste at the facility should be classified as byproduct material, as defined in Atomic Energy Act paragraph 11(e)(2). If NRC agrees, control of the site would be transferred to Department of Energy under Title II of the Uranium Mill Tailings Radiation Control Act on completion of decommissioning. NRC discussed this issue with DOE in April 2001. DOE will abide by NRC opinion on the SFC material. NRC staff is developing a position on this issue and will consult with the Commission before responding to SFC.

During February 21-23, 2001, staff visited the site and discussed the need for hydrological and geological data to support dose modeling for license termination. SFC has developed a plan to acquire additional data by drilling and geotechnical work. Following data collection, SFC will revise the transport and dose analyses.

On February 27, 2001, NRC issued a request for additional information (RAI) to SFC on items related to the EIS. SFC provided an interim response to the RAI in April 2001. Additional information is expected in July 2001.

The second draft of the preliminary EIS was received from the contractor in April 2001. Additional dose modeling work will be delayed until additional information is received from SFC.

There are no immediate radiological hazards at the site.

Involved Parties:

Sequoyah Fuels Corp.
John Ellis, President
Craig Harlin, Director of Regulatory Affairs
P.O. Box 610,
Gore, Oklahoma 74435
Tel: 918-489-2291

Stephen L Jantzen, Esq.
Assistant Attorney General, Environmental Protection Unit
2300 N. Lincoln Blvd. Suite 112
Oklahoma City, Oklahoma 73105
Tel: 405-521-3921

Pat Gwin
Associate Director for Environmental Health, Cherokee Nation
PO Box 948
Tahlequah, Oklahoma 74464
Tel: 918-456-0671 x2704

Michael Hebert, PE
Enforcement Officer, EPA, Region 6
1445 Ross Ave.
Dallas, TX 75202-2733
Tel: (214) 665-8315

Michael Broderick
ODEQ, Waste Management Division
707 N. Robinson
Oklahoma City, Oklahoma 73102-6087
Tel: 405-702-5157

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

In its hearing request, the State of Oklahoma indicated it was concerned that leaving the contamination in place would create a hazard to the health of residents of the State of Oklahoma, decrease property values in the area, and destroy the scenic value of adjacent venues. This request has been granted by the ASLB. By agreement among all parties, the hearing is being held in abeyance pending completion of the EIS, currently scheduled for 2002. Staff submits quarterly status reports to ASLB.

SFC proposes "monitored natural attenuation" as the remediation alternative for groundwater. This is an EPA approach for remediation of chemical contamination that requires, among other things, that the plume be accurately monitored and that mass reduction be demonstrated by means other than dilution. SFC has not demonstrated the requisite monitoring and mass reduction. SFC is collecting additional groundwater movement and contaminant transport data.

SFC plans to stabilize all other material and place it in an on-site cell inside a restricted area. Areas outside the proposed institutional control boundary of about 100 acres (40 ha) -- will be released for unrestricted use under criteria in the LTR. SFC proposed a resident-farmer scenario, excluding groundwater, with no penetration of the disposal cell.

The concentration of radium, the radiological precursor to radon, in the sludges at the SFC does not meet the unrestricted release criteria of 10 CFR 20 Subpart E. The Statements of Consideration for the License Termination Rule state that in this case, restricted use scenarios should be considered, and that the EPA criteria for buildings to minimize the concentration of radon in basements is an appropriate institutional control. SFC has not calculated a dose from radon in buildings; all existing buildings will be demolished during site remediation.

SFC has not identified a competent party to maintain institutional control over the site following license termination, as required by 10 CFR 20.1403. SFC has proposed to the staff the possibility of converting the license from a source material license to an 11.e(2) byproduct material license and decommissioning in accordance with the Uranium Mill Tailings Radiation Control Act, and have Department of Energy assume control under Title II of the Act. In addition to any issues related to conversion of the license, SFC estimates that about 23% of the identified radioactive waste at the site would not qualify as 11(e)(2) in any case, and would need other authorization for disposal. DOE has stated it will abide by NRC opinion on this matter.

In addition to Oklahoma's hearing, there is a high level of interest by local environmental groups and local citizens, many of whom are opposed to on-site disposal and license termination. These include:

Nuclear Risk Management for Native Communities (NRMNC)
Center for Technology, Environment and Development
Clark University
Dan Handy, Project Assistant
950 Main St.
Worcester, MA 01610-1477
Tel: 508-751-4615

Environment As Related To Health (EARTH)
JoKay Dowell, NRMNC Site Manager
PO Box 73
Park Hill, OK 74451
Tel: 918-458-5502

Oklahoma Toxics Campaign
Mr. Earl Hatley
P.O. Box 74
Guthrie, OK 73044

Local property owner
Mr. Ed Henshaw
Route 1, Box 76
Vian, OK 74962
Tel: 918 489 5784

Total financial assurance is comprised of three parts: (1) a certificate of deposit for $750,000 to meet the requirements of the formula value identified in the NRC financial assurance rule; (2) $5.4 million from a "parent company guarantee" that resulted from settlement of an NRC Order; and (3) a written promise, from the licensee, to devote its resources to decommissioning activities, also as settlement of the Order. The licensee's estimate to decommission the site is about $87 million, of which approximately $22 million is direct remediation cost, and $2 million to a fund for long-term site control and monitoring.

EPA Region 6 has expressed concern that a calculated dose of 25 mrem/yr may result in exceeding EPA risk limits of 10 e-04 probability of additional induced cancers when combined with the risk from the hazardous chemical materials that will also be disposed of in the on-site cell.

There is potential competition for the limited funds available for decommissioning the site between NRC and the EPA, who has issued an Administrative Order on Consent under the RCRA. There is close coordination between the agencies on this issue.

4.0 ASSUMPTIONS

- SFC's proposal for restricted-release is valid, based on licensee plans and limited financial resources.
- The outcome of the hearing will not materially affect the decommissioning plan.
- SFC will take 3 years to perform decommissioning after NRC approval.
- SFC and the first lien holder (Kerr-McGee) will reach timely agreement on legally enforceable institutional controls required for license termination.
- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 4/09

SHIELDALLOY METALLURGICAL CORPORATION (SHIELDALLOY)
(Updated May 29, 2001)

1.0 SITE IDENTIFICATION

Location:	Newfield, NJ
License No.:	SMB-1507
Docket No.:	04007102
Licensee Status:	Active
Project Manager:	Julie Olivier

2.0 SITE STATUS SUMMARY

Shieldalloy operates a manufacturing facility located in Newfield, N.J. This facility manufactures or has manufactured specialty steel and super alloy additives, primary aluminum master alloys, metal carbides, powdered metals, and optical surfacing products. One of the raw materials used in its manufacturing processes is classified as "source material" under 10 CFR Part 40. This material is called pyrochlore, a concentrated niobium ore containing greater than 0.05 percent natural uranium and natural thorium. Shieldalloy currently holds NRC License No. SMB-743 which allows possession, use, storage, transfer, and disposal of source material ancillary to metallurgical operations.

During the manufacturing process, the facility generates slag, and baghouse dust. Currently, there is approximately 18,000 m^3 (635,580 ft^3) of slag and approximately 15,000 m^3 (529,650 ft^3) of baghouse dust contaminated with natural uranium, thorium, and daughters stored on-site. Shieldalloy is actively seeking a buyer for both the slag, which can be used as a fluidizer by steel manufacturers, and for the baghouse dust, which can be substituted for lime in the production of cement. If suitable buyers are found, and the NRC approves of the sale, the volume of waste to be disposed of at the time of decommissioning will be greatly reduced. SMC submitted a revised DFP dated April 20, 2000, which assumes on-site stabilization of the slag pile and baghouse dust, similar to the proposal approved for the Shieldalloy Cambridge, Ohio site. SMC is no longer active, and has until September, 2001 to notify the NRC if they plan to resume operations. They have informally told the NRC that they do not plan to resume operations and will submit a site DP mid-year 2002.

Involved Parties:

Mr. David R. Smith, Radiation Safety Officer
Shieldalloy Metallurgical Corporation
P.O. Box 768
Newfield, New Jersey 08344

Jill Lipoti, PhD., Assistant Director
for Radiation Protection Programs
Division of Environmental Safety
Health and Analytical Program
NJ Department of Environmental Protection
P.O. Box 415
Trenton, NJ 08625-0415

Mark Winslow, Coordinator
Radiation Health & Safety Program
Radiation and Indoor Air Branch
U.S. EPA, R11
290 Broadway, 28th Floor
2DEPP-RIAB
New York, NY 10007-1866

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

In the past, Shieldalloy has found it difficult to sell the slag material. Several attempts to export the material have failed. Shieldalloy intends to sell the baghouse dust to a local cement manufacturer. Regardless of whether the sales occur, Shieldalloy has proposed, in its DFP to dispose of these materials on-site in an engineered cell. The technical issues associated with the design and institutional controls of the cell will be the main focus of the DP review, once the plan is submitted.

The site is also on the NPL, because of past operations involving chromium-contaminated on-site groundwater. Remediation of the groundwater is currently taking place. Public interest in the decommissioning of this site is minimal.

Because of past bankruptcy, Shieldalloy had less than adequate financial assurance. The Shieldalloy license contained a condition that required the site to update its DFP and provide adequate financial assurance for the decommissioning of the site. Shieldalloy has submitted a revised plan, dated April 20, 2000, which provides $2.5 million of funding, based on capping of the waste slag pile in place. The staff is reviewing the adequacy of Shieldalloy's plan.

4.0 ASSUMPTIONS

- If the slag and baghouse dust are removed from the site, there would only be small amount of residual radioactivity in some buildings and soils.
- Shieldalloy will elect to begin decommissioning in 2002.
- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 9/10

UNION CARBIDE CORPORATION
(Updated May 29, 2001)

1.0 SITE IDENTIFICATION

Location:	Lawrenceburg, TN
License Nos.:	SNM-724
	SMB-720
Docket Nos.:	070-00784
	040-07044
License Status:	Previously Terminated
Project Manager:	Rebecca Tadesse

2.0 SITE STATUS SUMMARY

The contaminant at the Union Carbide site is enriched uranium

A Decommissioning Plan (DP) was submitted by UCAR Carbon Company, Inc. (UCAR) on August 19, 1998. As a result of issues involving jurisdiction, the NRC staff review of the DP was delayed until July 1999. The NRC completed its review of the DP and discussed the results of its review with UCAR in August and December 1999. The DP proposes unrestricted release of the site, based on the 10 CFR Part 20, Subpart E release criteria for soil contamination and the "Guideline for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear material," for buildings and structures. NRC approved the UCAR DP in two phases. Phase 1 (building and structures) was approved in July 2000, and Phase 2 (soils) was approved in December 2000.

Involved parties:

Juanita Bursley, Manager
Corporate Environmental Manager
UCAR
12900 Snow Road
Parma, OH 44130
Tel: 216-676-2000

Phil Brandt
Nuclear Fuel Services, Inc.
1205 Banner Hill Road
Erwin, TN 37650
Tel: 423-743-9141

Mr. L. Edward Nannie, Director
Tennessee Dept. of Environment and Conservation
Division of Radiological Health
L&C Annex, Third Floor
401 Church Street
Nashville, TN 37243-1532
Tel: 615-532-0364

There are no immediate radiological hazards at the site.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

The former Union Carbide facility licenses, which authorized the production of graphite-coated fuel particles, were terminated in June 1974. As stated in the DP, UCAR proposes to further investigate and remediate contamination identified in three buildings, the outdoor areas surrounding the buildings, and an incinerator pad and the surrounding soil. The UCAR DP was approved in two phases. Remediation of the UCAR facility will be conducted in two phases: Phase 1, decommissioning activities associated with buildings; Phase 2, decommissioning activities associated with soil. A two-phase approach is being used because UCAR is proposing to use the cleanup criteria found in the 1993 “Guideline for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear material” for buildings and structures. UCAR is “grand fathered,” and thus able to use these criteria for buildings.

No financial assurance issues have been identified to date. Public interest about decommissioning activities at the site is minimal. The staff has not identified any major off-site environmental issues that will not be addressed during decommissioning of the facility.

4.0 ASSUMPTIONS

- UCAR’s proposed soil-release guideline is valid.
- UCAR will not become a licensee.
- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 1/05

WESTINGHOUSE WALTZ MILL
(Updated June 18, 2001)

1.0 SITE IDENTIFICATION

Location:	Madison, PA
License No.:	SNM-770
Docket No.:	070-00698
License Status:	Active, (also at this site is an inactive test reactor TR-2, which is being decommissioned by the Office of Nuclear Reactor Regulation (NRR)
Project Manager:	Mark Roberts, RI

2.0 SITE STATUS SUMMARY

There is contamination present in outdoor areas as a result of past licensed operations and from cleanup activities from a test reactor accident in 1960. Areas include buried liquid-waste basin liners; contaminated concrete pads and adjacent contaminated soil from waste segregation and laundry activities; and an in-ground concrete liquid-retention basin. An inactive drain line, with multiple manholes, is also a significant source of contamination. Principal contaminants include mixed fission products (primarily Sr-90 and Cs-137) with significantly lesser concentrations of transuranic radionuclides. Groundwater wells on site also show elevated activity, primarily Sr-90. Exterior surface structures, including one large above-ground tank, four smaller above-ground tanks, a small building, and a trailer have been removed and shipped for processing and eventual disposal. Interior areas, including hot cells and related equipment, are being remediated, using procedures developed under the licensee's broad license.

Westinghouse submitted an RP (not a DP), in April 1997, for review and approval. The NRC noticed the receipt of the RP in the Federal Register and received no comments. The NRC has approved portions of the plan, notably the removal of contaminated above-ground structures and decontamination of interior retired facilities. Excavation and disposal of contaminated soil and below-ground structures (concrete pads) were not approved. Primarily because of the presence of the Sr-90 contamination in the groundwater, the licensee resubmitted the soil excavation and groundwater treatment portion of the RP in August 1999. The NRC approved the soil-remediation plan in January 2000. The licensee has removed contaminated soil from the areas of the buried basins and is remediating the liquid waste retention basin.

Involved Parties:

A. Joseph Nardi, Supervisory Engineer
Westinghouse Electric Company
Environment, Health and Safety
P.O. Box 355
Pittsburgh, PA 15230-0355
Tel: 412 374-4652

Wayne Vogel, Radiation Safety Officer
Westinghouse Electric Company
Waltz Mill Site
P.O. Box 158
Madison, PA 15663-0158
Tel: 724 722-5924

Richard K. Smith
Director, Environmental Remediation
Viacom Corporation
11 Stanwix Street
Pittsburgh, PA 15222
Tel: 412 642-3285

Robert Maiers
Bureau of Radiation Protection
Department of Environmental Protection
Rachel Carson State Office Building
P.O. Box 8469
Harrisburg, PA 17105-8469
Tel: 717 783-8979

There are no immediate radiological hazards at the site. The licensee intends to continue licensed activities (principally testing, maintenance, and calibration of major equipment for nuclear power reactor services), at the site, for the foreseeable future.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

The licensee requested an alternate schedule for completion of the remediation. Because the licensee intends to maintain an active license at the site for at least the next 25 years, the remediation plan includes considering radioactive decay and further pump-and-treat for groundwater contamination, in addition to the excavation and disposal of contaminated soil. The licensee provided an acceptable rationale for approving the alternate schedule, and the schedule was approved in January 2000.

Removal of the site from the SDMP list is a question and concern of the licensee. Region I staff intend to submit a Commission Paper requesting removal of the site from the SDMP list, after successful implementation of the RP and licensee demonstration and NRC confirmation that DCGL targets have been met.

Public interest in the decommissioning activities at the site is minimal at this time. The staff has not identified any financial assurance issues associated with decommissioning.

4.0 ASSUMPTIONS

- The characterization data are representative of the site conditions.
- Once groundwater and soil-contamination issues have been addressed, the site can be removed from the SDMP list.
- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 8/02

WATERTOWN GSA
(Updated June 14, 2001)

1.0 SITE IDENTIFICATION

Location:	Watertown, MA
License No.:	none
Docket No.:	none
License Status:	in abeyance
Project Manager:	Craig Gordon, RI

2.0 SITE STATUS SUMMARY

Residual material on the property resulted from licensed activities at the Watertown Arsenal. The site is currently unlicensed. The General Services Administration (GSA) is responsible for performing the required site remediation of contaminated soils and groundwater in areas previously used by the Army for burning licensable quantities of uranium scrap and storage of radioactive waste. The New England District (NED) of the U.S. Army Corps of Engineers (USACE), under agreement with GSA, assumed management of site decommissioning activities in 1992. USACE submitted an aggressive schedule to NRC relating to additional characterization, remediation, and decommissioning for unrestricted release of the site.

The final characterization survey submitted in 1996 was supplemented by a 2000 Historical Site Assessment. A Derived Concentration Guideline Report (DCGL) report was submitted to NRC in February 2001. The May 2001 NRC review determined that the dose estimate based upon a DCGL of 340 pCi/g total uranium provided a reasonable assurance that Part 20 dose limits would not be exceeded for the critical group. GSA indicated that a Sampling and Analysis Plan and Final Status Survey will be submitted for NRC review in late 2001.

Involved Parties:

Mike Strobel, Contracting Officer
General Services Administration
J.W. McCormick Bldg., Room L1-A
Boston, MA 02109
Tel: 617-223-9622

MaryEllen Iorio, Project Manager
Army Corps of Engineers NED
696 Virginia Rd.
Concord, MA 01742
Tel: 978-318-8174

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

NRC will not seek licensing of the site from GSA if remediation can be completed within the USACE's proposed schedule. There are no immediate public health and safety risks from the

radiological exposure or hazards associated with intrusion of groundwater contamination because of the low concentrations levels and insolubility of the uranium identified.

A high water table causes occasional flooding of most property areas. Flooded areas and the presence of significant amounts of building rubble at or near surfaces delayed previous characterizations of contamination, but the recent historical site assessment sufficiently quantified contamination levels throughout the site. The Derived Concentration Guideline Report provides the nuclide concentrations and exposure scenarios to support release of the site for unrestricted use. Some local public interest has been shown due to the location of the site being adjacent to a residential community. The Watertown Restoration Advisory Board provides a forum for public interest in the site.

There are no major off-site environmental or financial assurance issues to be addressed during decommissioning of the site.

4.0 ASSUMPTIONS

- The USACE maintains the decommissioning schedule and is able to complete the Sampling and Analysis Plan and Final Status Surveys by the end CY2001.
- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 12/02

WHITTAKER CORPORATION
(Updated June 18, 2001)

1.0 SITE IDENTIFICATION

Location: Greenville, PA
License No: SMA-1018
Docket No: 040-7455
License Status: Active
Project Manager: Steve Shaffer, RI

2.0 SITE STATUS SUMMARY

Thorium is the major contaminant at the Whittaker site. NRC staff conducted inspections of the Greenville site, in 1997, that identified problems with site erosion control and migration of contamination into groundwater. The licensee has expanded the security fence around the site to encompass all licensed material. The licensee installed new groundwater monitoring wells in March 2000. The wells were sampled initially and will be sampled annually there after.

Whittaker Corporation was acquired, in its entirety, by Meggitt plc. in July 1999. The company name, operations, and financial obligations were not affected by the acquisition.

A meeting was held with the licensee on February 15, 2001, to discuss the NRC review of the Whittaker contractor's risk assessment of different methods of site release. The licensee will notify the NRC of their decision regarding decommissioning methodology early this summer.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

The licensee has not submitted a DP. The estimated volume of contaminated material is 14,160 m^3 (500,000 ft^3). Contaminated waste was apparently dumped off the edge of a steep hill and has accumulated into soil and adjacent groundwater.

Whitaker is considering on-site entombment of material and will likely request restricted release of the property in accordance with the LTR. There are no interested public groups or financial concerns.

Involved Party:

Eric Lardiere, Vice President and General Counsel
Whittaker Corporation
1955 N. Surveyor Ave.
Simi Valley, CA 93063-3386
Tel: (805) 526-5700 x 6648

4.0 ASSUMPTIONS

- The Commonwealth of Pennsylvania will enter into an Agreement with the NRC and take responsibility for oversight of remediation activities.
- The licensee continues with plans to move toward restricted release.
- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 8/09

CONTAMINATED FORMERLY LICENSED SITES

	Name	Location	Date of Lic. Term.	Status
1	U.S. Army Chemical Corp.	Fort McClellan, AL	1965	In process of decommissioning
2	Reynolds Metals	Bauxite, AR	1957	Transferred to Arkansas (AR completed remediation)
3	Aerojet General Co.	San Ramon, CA	1970	Transferred to California
4	Isotope Specialties	Burbank, CA	1959	Transferred to California
5	Isotope Specialties	Burbank, CA	1959	Transferred to California
6	Verdi Mill	Mohave, CA	1958	Transferred to California
7	United Nuclear	New Haven, CT	1974	In process of decommissioning
8	U.S. Naval Research Lab.	Washington, DC	1987	Closed via letter from Navy
9	Norton	Worchester, MA	1968	Closed- successfully remediated
10	AAR Manufacturing, Inc.	Livonia, MI	1970	In process of decommissioning

	Name	Location	Date of Lic. Term.	Status
11	American Metal Products	Ann Arbor, MI	1964	Closed- successfully remediated
12	Frome Investment Co.	Detroit, MI	1970	Closed- successfully remediated
13	General Electric	Warren, MI	1970	Closed- successfully remediated
14	Tenneco Chemicals	Fords, NJ	1973	Closed- successfully remediated
15	Navy	St. Albans, NY	1973	Closed-new license issued to Veterans Affairs
16	Cleveland Pneumatic Tool Co.	Cleveland, OH	1972	Closed- successfully remediated
17	Clevite	Cleveland, OH	1962	Closed-successfully Remediated
18	Horizons, Inc.	Cleveland, OH	1959	Transferred to Ohio
19	National Carbon Co. (Union Carbide)	Fostoria, OH	1964	Closed- successfully remediated
20	Standard Oil Co. (BP America)	Cleveland, OH	1973	Closed- successfully remediated
21	Thompson Products	Cleveland, OH	1963	Closed- successfully remediated
22	Union Carbide	Parma, OH	1972	Closed- successfully remediated

	Name	Location	Date of Lic. Term.	Status
23	Kaiser Aluminum	Tulsa, OK	1971	In process of decommissioning
24	Atlantic Metals	Philadelphia, PA	1971	Closed - successfully remediated
25	Department of the Army	Frankford Arsenal, Philadelphia, PA	1981	In process of decommissioning
26	International Chemical and Nuclear	West Mifflin, PA	1969	Closed - successfully remediated
27	Nuclear Laundry Rental Services	Jeanette, PA	1973	Closed - successfully remediated
28	Superior Steel	Pittsburgh, PA	1958	In process of decommissioning
29	Westinghouse Electric	Blairsville, PA	1961	In process of decommissioning
30	Union Carbide	Lawrenceburg,TN	1974	In process of decommissioning
31	American Smelting & Refining	Houston, TX	1971	Transferred to Texas
32	Dow Chemical	Freeport, TX	1964	Transferred to Texas
33	LTV Corporation	Dallas, TX	1964	Transferred to Texas

	Name	Location	Date of Lic. Term.	Status
34	Marquardt Corp.	Ogden, UT	1971	Transferred to Utah
35	Marquardt Corp.	Hill AFB, UT	1972	Transferred to U.S. Air Force Radioisotope Committee
36	Atlantic Research Corp.	Alexandria, VA	1979	Closed - Review of records indicates that the ARCO facility was properly decommissioned in 1995
37	Fostoria Glass	Moundsville, WV	1969	Closed - dose assessment indicated facility below 25mrem/yr
38	Homer Laughlin	Newell, WV	1972	Under Regional review
39	International Mining Co.	Greenville, WY	1961	Under Regional review

In SECY-00-0094 the staff noted that Region 1 had identified 92 additional sites with minor amounts of contamination and therefore not included on this list. Of these sites, 82 were remediated and closed, four were transferred to Agreement States for closure, and six were pending closure. One of the six sites pending Regional closure, Department of the Army, Frankford Arsenal, Philadelphia, PA, was added to above contaminated sites list because the Army is not able to remediate this site in a timely manner.

SAMPLE GANTT CHART:
KAISER ALUMINUM & CHEMICAL CORPORATION

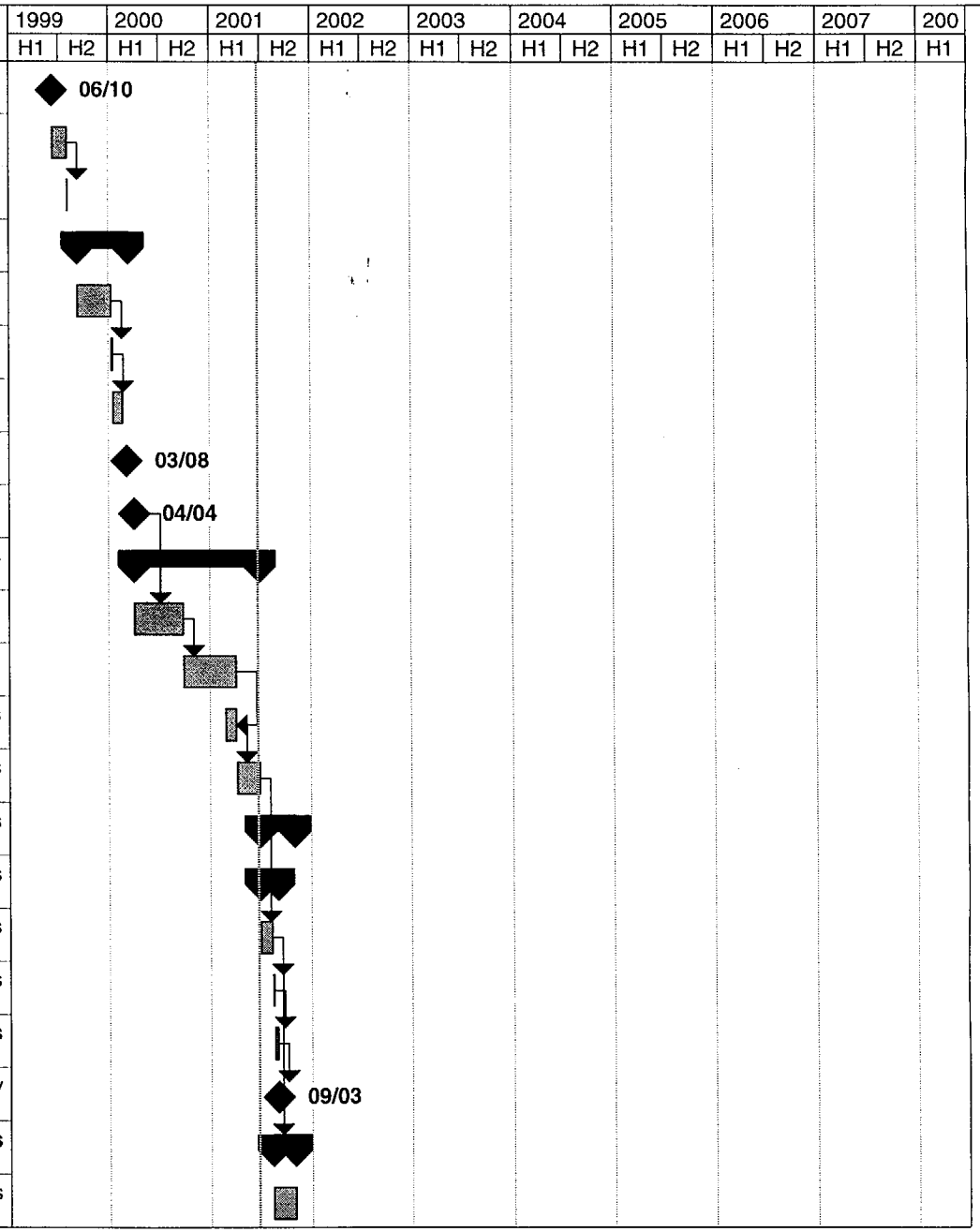
Attachment 8

PM: J. Buckley

Kaiser Aluminum & Chemical Corporation

Wed 06/20/01

ID	Task Name	Start	Duration
1	Review Phase 1 RAI	06/10/99	0 days
2	Kaiser prepares response to RAI	06/11/99	37 days
3	NRC reviews response to RAI	08/03/99	1 day
4	**FRN - EA-FONSI**	**09/09/99**	**134 days**
5	PM - Draft FRN	09/09/99	90 days
6	LA - Review of FRN	01/13/00	3 days
7	Concurrence	01/18/00	25 days
8	Publish FRN	03/08/00	5 days
9	Approve Phase 1 RP	04/04/00	0 days
10	**Phase 1 Site Decommissioning**	**04/04/00**	**324 days**
11	Pre-cleanup staging activities	04/04/00	128 days
12	Kaiser Performs Cleanup	09/29/00	136 days
13	Region in process confirmatory survey	02/26/01	30 days
14	Kaiser prepare FSSR	04/09/01	60 days
15	**Review Final Site Survey Report (FSSR)**	**07/02/01**	**90 days**
16	**FSSR - Acceptance Review**	**07/02/01**	**46 days**
17	PM - Acceptance Review	07/02/01	30 days
18	PM - Draft Letter	08/13/01	5 days
19	Concurrence	08/20/01	10 days
20	Issue letter to Kaiser	09/03/01	1 day
21	**FSSR - Technical Review**	**08/13/01**	**60 days**
22	PM - Technical Review	08/13/01	60 days

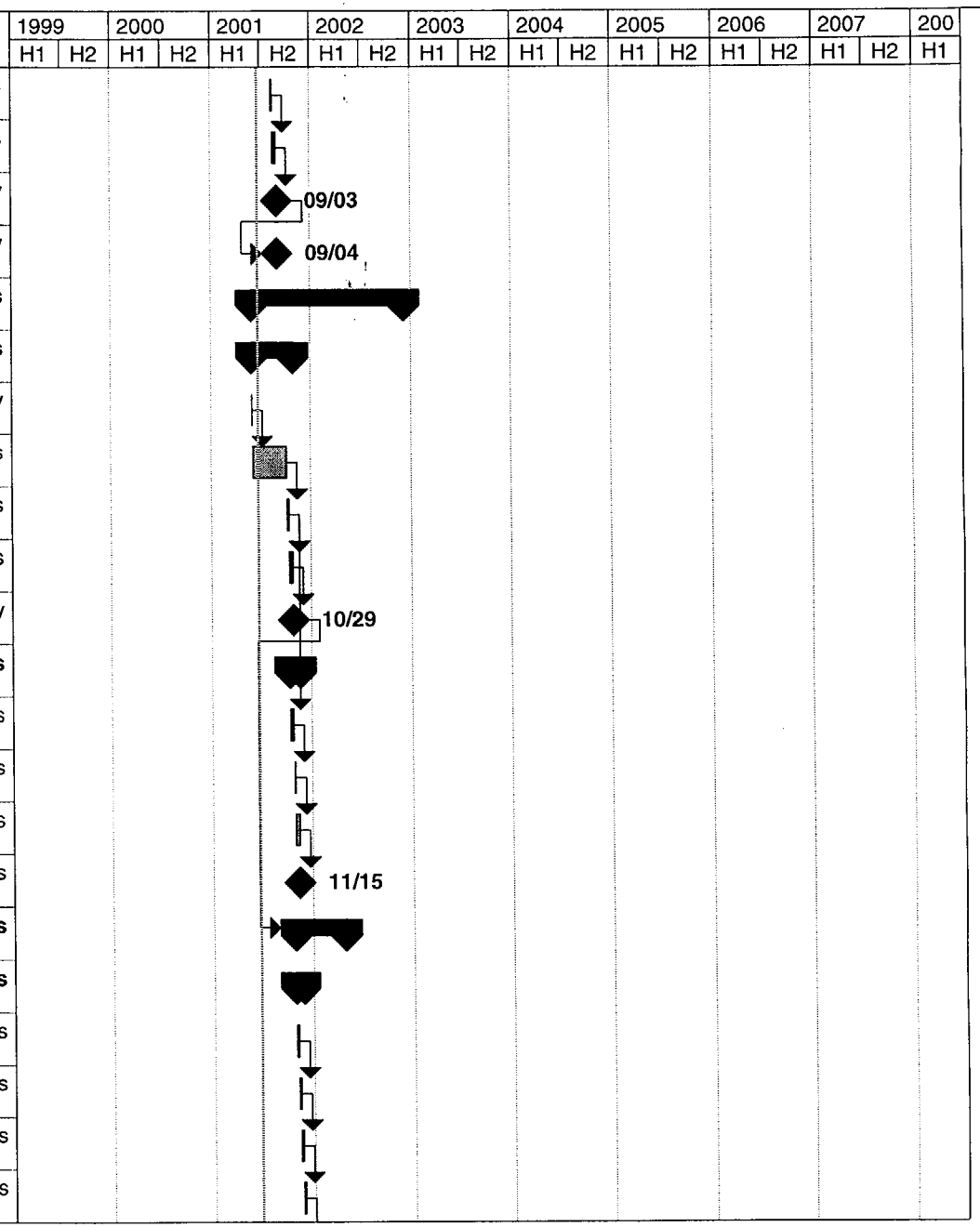


PM: J. Buckley

Kaiser Aluminum & Chemical Corporation

Wed 06/20/01

ID	Task Name	Start	Duration
23	PM - Draft Letter	08/13/01	5 days
24	Concurrence	08/20/01	10 days
25	Issue letter to Kaiser	09/03/01	1 day
26	Off-site Acceptable for Release	09/04/01	1 day
27	**Phase II DP - Review**	**06/01/01**	**396 days**
28	**DP - Acceptance Review**	**06/01/01**	**107 days**
29	Receive DP	06/01/01	1 day
30	PM - Acceptance Review	06/04/01	90 days
31	PM - Draft Letter	10/08/01	5 days
32	Concurrence	10/15/01	10 days
33	Issue letter to Kaiser	10/29/01	1 day
34	**Publish Federal Register Notice (FRN)**	**10/15/01**	**28 days**
35	PM - Draft FRN	10/15/01	10 days
36	LA - Review of FRN	10/29/01	3 days
37	Concurrence	11/01/01	10 days
38	Publish FRN	11/15/01	5 days
39	**Phase II DP - Technical Review**	**10/30/01**	**131 days**
40	**Develop Review Plan**	**10/30/01**	**21 days**
41	PM - Prepare Task Plan	10/30/01	5 days
42	SL - Review Task Plan	11/06/01	5 days
43	PM - Prepare TAR	11/13/01	5 days
44	TAR concurrence	11/20/01	5 days

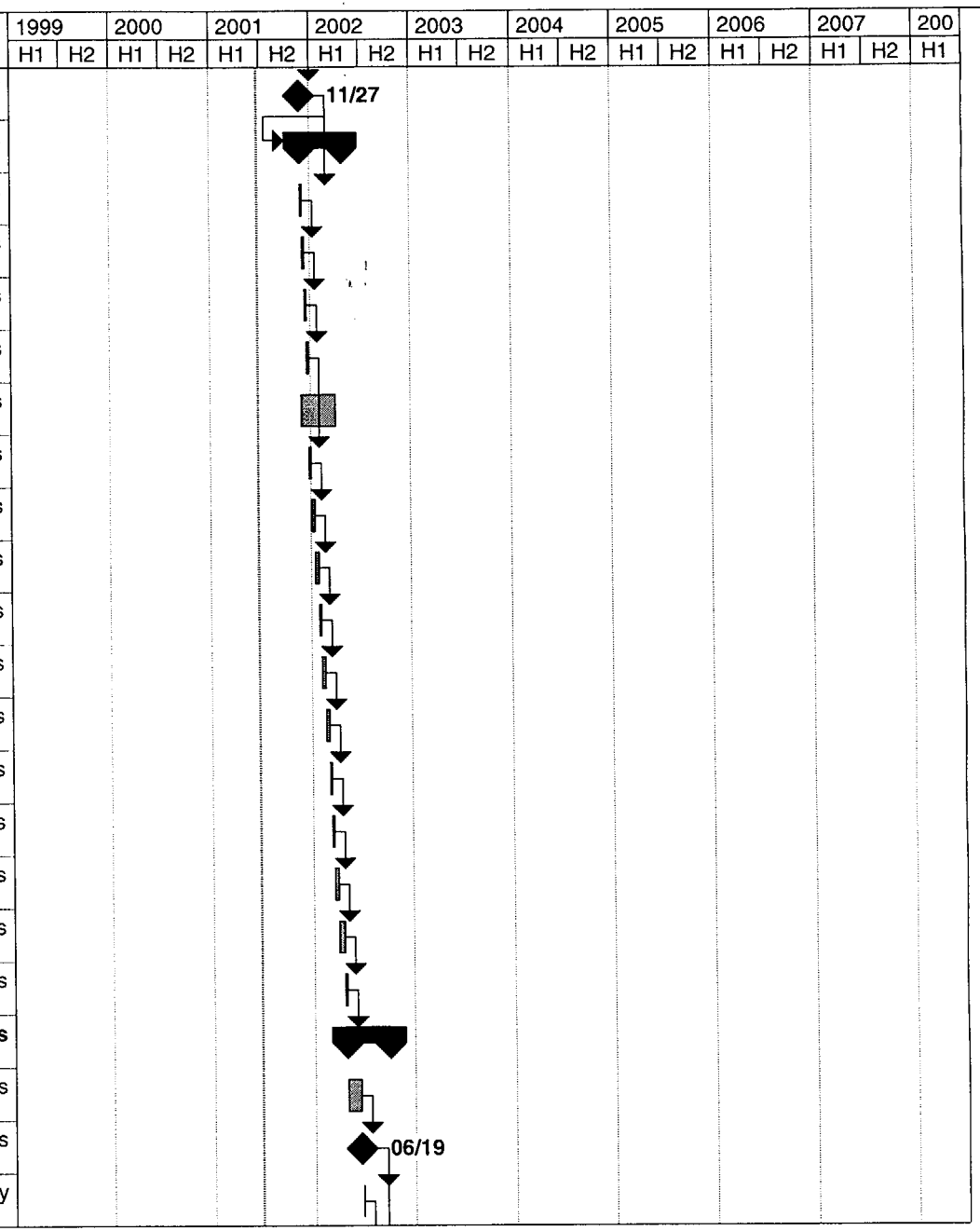


PM: J. Buckley

Kaiser Aluminum & Chemical Corporation

Wed 06/20/01

ID	Task Name	Start	Duration
45	Issue TAR	11/27/01	1 day
46	**Evaluate Decommissioning Plan**	**11/28/01**	**110 days**
47	Review SRP 1 - Executive Summary	11/28/01	5 days
48	Review SRP 2 - Facility Operating Hi:	12/05/01	5 days
49	Review SRP 3 - Facility Description	12/12/01	5 days
50	Review SRP 4 - Facility Radiological	12/19/01	5 days
51	Review SRP 5 - Dose Assessment	11/28/01	90 days
52	Review SRP 6 - Alternatives Analysis	12/26/01	5 days
53	Review SRP 7 - ALARA	01/02/02	10 days
54	Review SRP 8 - Planned Decom Acti	01/16/02	10 days
55	Review SRP 9 - Project Management	01/30/02	5 days
56	Review SRP 10 - Health & Safety Pla	02/06/02	10 days
57	Review SRP 11 - Envir. Monitoring Pl	02/20/02	10 days
58	Review SRP 12 - Rad Waste Mgnt	03/06/02	5 days
59	Review SRP 13 - QA Program	03/13/02	5 days
60	Review SRP 14 - Radiation Surveys	03/20/02	10 days
61	Review SRP 15 - Financial Assuranc	04/03/02	15 days
62	Review SRP 16 - Restricted Use	04/24/02	5 days
63	**Develop RAI / Resolve Comments**	**05/01/02**	**112 days**
64	Develop TER	05/01/02	35 days
65	Review TER	06/19/02	5 days
66	Meet with Kaiser to discuss concerns	06/26/02	1 day

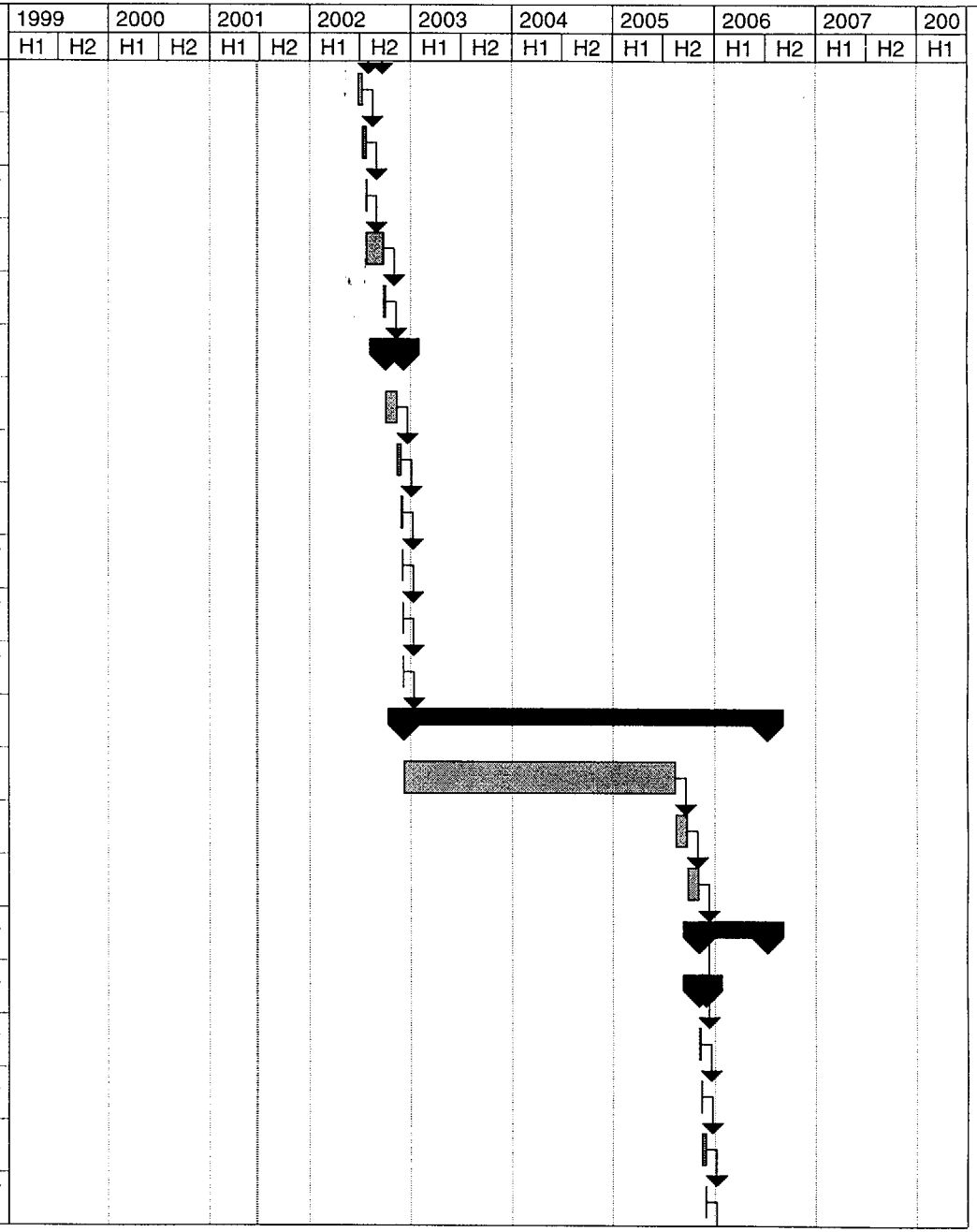


PM: J. Buckley

Kaiser Aluminum & Chemical Corporation

Wed 06/20/01

ID	Task Name	Start	Duration
67	Draft questions/comments	06/27/02	10 days
68	Review questions/comments	07/11/02	10 days
69	Issue comment letter	07/25/02	1 day
70	Kaiser review RAI	07/26/02	45 days
71	Review Kaiser response to RAI	09/27/02	5 days
72	**Prepare EA - SER - FONSI**	**10/04/02**	**46 days**
73	Prepare draft EA, SER, FONSI	10/04/02	30 days
74	Review draft EA, SER, FONSI	11/15/02	10 days
75	Revise draft EA, SER, FONSI	11/29/02	3 days
76	Finalize EA, SER, FONSI	12/04/02	1 day
77	Publish FRN	12/05/02	1 day
78	Approve Phase 2 DP	12/06/02	1 day
79	**Site Decommissioning**	**12/09/02**	**936 days**
80	Kaiser performs cleanup	12/09/02	700 days
81	Region in-process confirmatory survey	08/15/05	30 days
82	Kaiser prepares FSSR	09/26/05	30 days
83	**Review FSSR**	**11/07/05**	**176 days**
84	**FSSR - Acceptance Review**	**11/07/05**	**19 days**
85	PM - acceptance review	11/07/05	5 days
86	PM - draft letter	11/14/05	3 days
87	Concurrence	11/17/05	10 days
88	Issue letter to Kaiser	12/01/05	1 day



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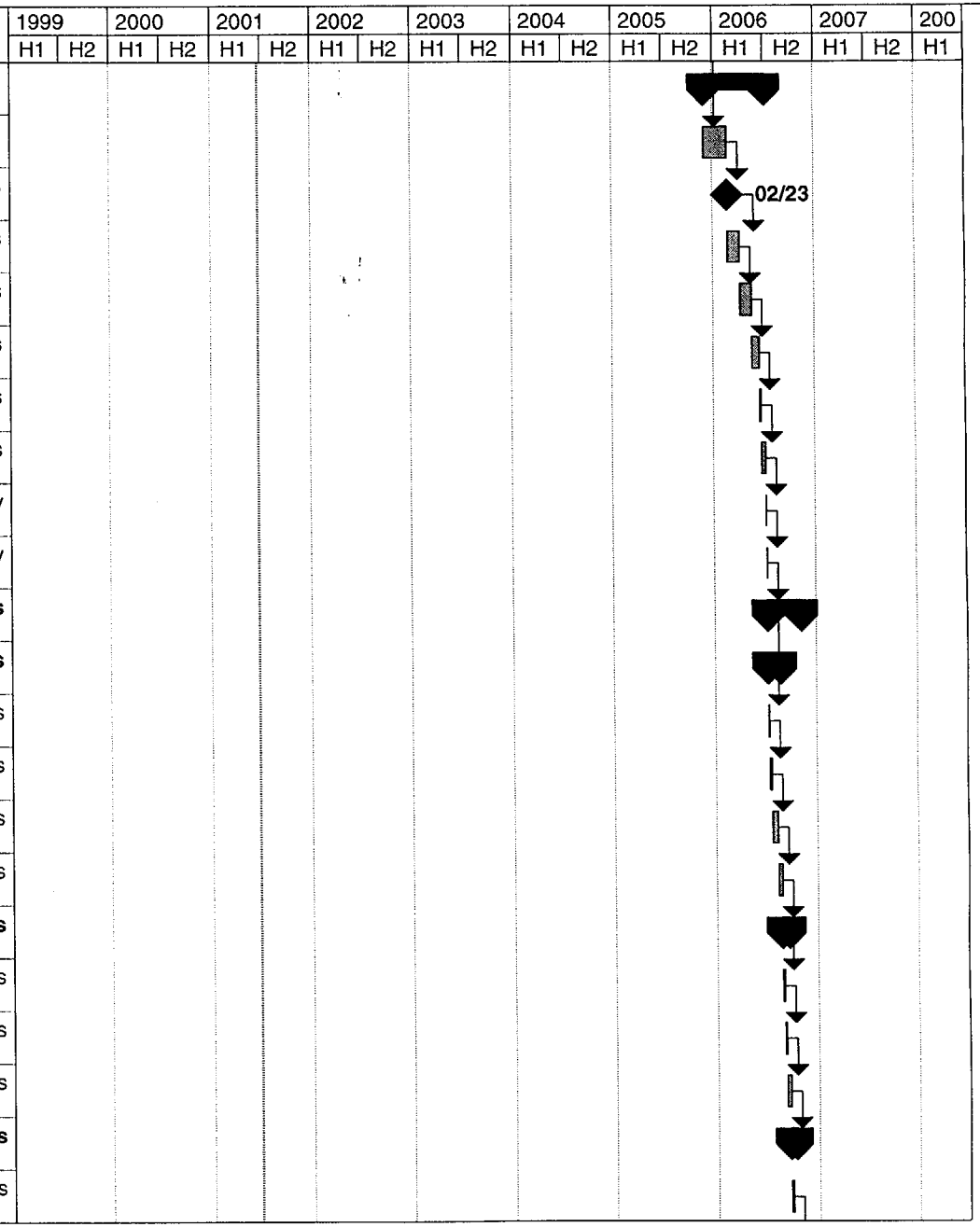
Kaiser Aluminum & Chemical Corporation

Wed 06/20/01

ID	Task Name	Start	Duration
89	**FSSR - Techncial review**	**12/02/05**	**156 days**
90	PM - technial review	12/02/05	60 days
91	Complete FSSR review	02/23/06	0 days
92	Develop FSSR TER and FSSR RAI	02/24/06	30 days
93	Kaiser prepares response to RAI	04/07/06	30 days
94	NRC reviews response to RAI	05/19/06	20 days
95	PM - draft letter	06/16/06	5 days
96	Concurrence	06/23/06	10 days
97	Issue letter to Kaiser	07/07/06	1 day
98	Site acceptable for release	07/10/06	1 day
99	**Remove Site From SDMP**	**07/11/06**	**88 days**
100	**Prepare Commission Paper**	**07/11/06**	**33 days**
101	PM - prepare Commission Paper Outline	07/11/06	3 days
102	Management review	07/14/06	5 days
103	PM - draft Commission Paper	07/21/06	15 days
104	Concurrence	08/11/06	10 days
105	**Prepare FRN to remove site from SDMP**	**08/25/06**	**18 days**
106	PM - draft FRN	08/25/06	5 days
107	LA - review FRN	09/01/06	3 days
108	Concurrence	09/06/06	10 days
109	**Prepare Letters to State & EPA**	**09/20/06**	**15 days**
110	PM - draft letter to State/EPA	09/20/06	5 days

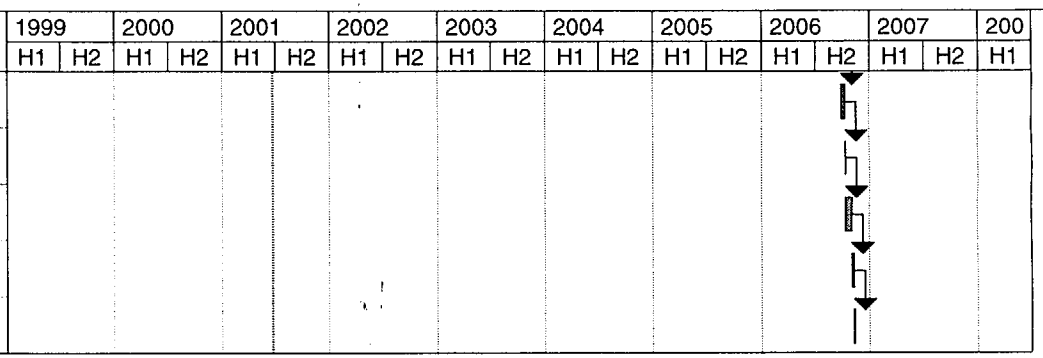


PM: J. Buckley

Kaiser Aluminum & Chemical Corporation

Wed 06/20/01

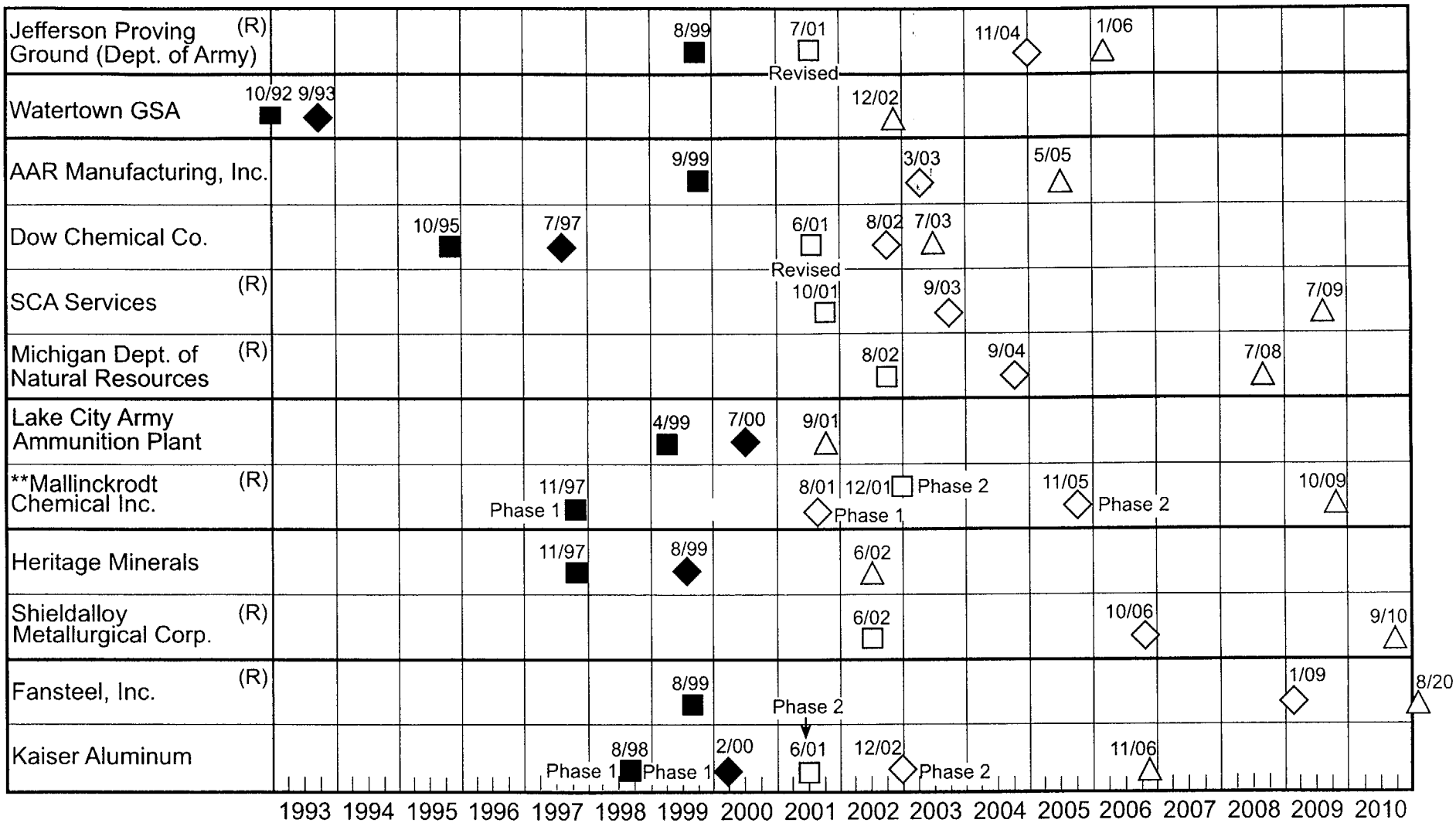
ID	Task Name	Start	Duration
111	Concurrence	09/27/06	10 days
112	Issue Commission Paper	10/11/06	1 day
113	Commission Review	10/12/06	15 days
114	Publish FRN & issue letters	11/02/06	5 days
115	Release site	11/09/06	1 day



SCHEDULE FOR TERMINATION OF SDMP AND COMPLEX DECOMMISSIONING SITES

Attachment 9

SCHEDULE FOR TERMINATION OF SDMP AND COMPLEX DECOMMISSIONING SITES



■ DP Submitted

□ DP Submittal Anticipated

(R) Staff Anticipates that Licensee will Request Restricted Release

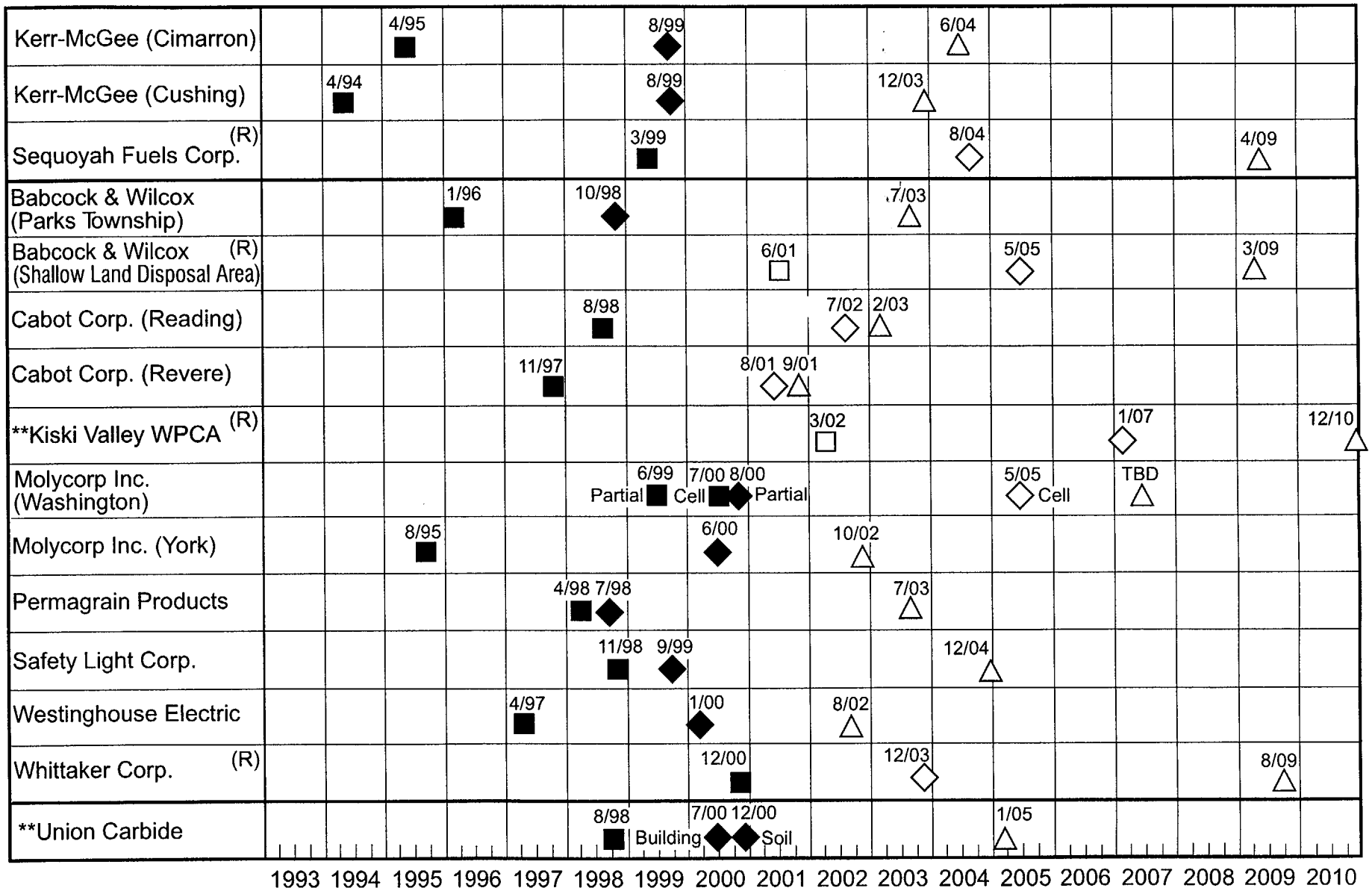
Anticipated Dates are Staff Estimates

◆ DP Approved

◇ DP Approval Anticipated

△ Site Removal from SDMP Anticipated

SCHEDULE FOR TERMINATION OF SDMP AND COMPLEX DECOMMISSIONING SITES



■ DP Submitted
□ DP Submittal Anticipated
◆ DP Approved
◇ DP Approval Anticipated
△ Site Removal from SDMP Anticipated

ASSUMPTIONS USED TO DEVELOP SDMP AND COMPLEX DECOMMISSIONING SITE GANTT CHARTS

Attachment 10

ASSUMPTIONS USED TO DEVELOP SDMP AND
COMPLEX DECOMMISSIONING SITE GANTT CHARTS

GENERIC ASSUMPTIONS:

- Staff will meet with licensees before the submission of the Decommissioning Plan (DP), to ensure that the licensee understands the type and quality of information needed in a DP.

- No major policy decisions will be needed to complete the decommissioning.

- Adequate staff resources will be available to accomplish tasks when scheduled, provided the tasks do not all occur simultaneously.

- NUREG-1727, “NMSS Decommissioning Standard Review Plan” (SRP) provides sufficient guidance to evaluate any site-specific issues raised in the DP.

- If necessary, staff will be adequately trained in the use of the SRP.

- All requests for additional information (RAIs) will be developed using the Division of Waste Management’s ”streamlined approach to licensing actions,” and only one RAI will be generated per licensing action or licensee submission [DP, Final Status Survey Report (FSSR), etc].

- Technical Evaluation Reports will be developed to serve as the basis for all RAIs.

- It will not be necessary for licensees to collect significant additional information to respond to an RAI (i.e., large numbers of additional samples).

- Licensees will be available to meet with the NRC staff in a timely fashion, to ensure that the planned schedule is met.

- Staff will use a multiplication factor of 2.0 to convert level of effort (i.e., actual task time) to “calendar” time in developing Gantt charts (basis: experience and budget load factor).

- DPs will be approved as a license amendment.

- All sites requesting license termination with restrictions on future site use will require the development of an environmental impact statement (EIS), and approval of the DP will include a public hearing.

- All sites requesting license termination without restrictions on future use will only require the development of an environmental assessment/finding of no significant impact, and approval of the DP will not include a public hearing.

- All licensees have sufficient financial assurance to cover the cost of decommissioning.

SPECIFIC ASSUMPTIONS:

A. Sites Requesting License Termination under Unrestricted Use

Acceptance Reviews:

- DP will be complete when submitted and meet acceptance criteria.
- Licensing Assistant's (LA's) concurrence will be no more than 3 days.
- Staff will use a standardized "acceptance" letter [see Office of Nuclear Material Safety and Safeguards (NMSS) Decommissioning Handbook, Appendix G].
- The Office of the General Counsel (OGC) will not need to concur on acceptance review letters.
- Section Leader/Branch Chief (SC/BC) concurrence will be no more than 5 days.
- Staff will use acceptance review checklists (Appendix A to NUREG-1727) to perform acceptance reviews.
- Acceptance review will include a limited technical review and be completed within 90 days

Federal Register Notices (FRN's):

- Staff will always prepare an FRN when a DP is received.
- Staff will use a standard FRN to announce its intent to amend the license to incorporate the DP.
- LA concurrence will be no more than 3 days.
- SC/BC concurrence will be no more than 5 days.
- OGC review not needed for the FRN.
- There will be FRNs will be published within 7 days of being sent to the Publications Branch.

Develop DP Review Plan:

- SC review/approval only.

DP Evaluation:

- No unresolvable or policy-challenging issues will be raised as a result of the review of the DP.

Final Radiological Status Surveys:

- In general, confirmatory surveys will not be conducted at the end of licensee remediation activities. Instead, the Regions will perform in-process, side-by-side confirmatory surveys and rely on the licensee's quality assurance (QA) program.
- No additional cleanup will be required and no significant additional information will need to be collected to support the FSSR.

Removal of site from the Site Decommissioning Management Plan (SDMP):

- The Commission will approve the staff's recommendation to remove the site from the SDMP.
- States, U.S. Environmental Protection Agency (EPA), or others will not challenge the staff's decision to remove the site from the SDMP and terminate the license.

B. Sites Requesting License Termination under Restricted Use

Acceptance Reviews:

- DP will be complete when submitted and will meet acceptance criteria.
- LA concurrence will be no more than 3 days.
- Staff will use a standardized “acceptance” letter (see NMSS Decommissioning Handbook, Appendix G).
- OGC will not need to concur on acceptance review letters.
- SC/BC concurrence will be no more than 5 days.
- Staff will use acceptance review checklists (Appendix A to NUREG-1727) to perform acceptance reviews.
- Acceptance review will include a limited technical review and be completed within 90 days

Federal Register Notices:

- Staff will always prepare an FRN when a DP is received.
- Staff will use a standard FRN to announce its intent to amend the license to incorporate the DP.
- LA concurrence will be no more than 3 days.
- SC/BC concurrence will be no more than 5 days.
- OGC review will not be needed for FRN.
- FRNs will be published within 7 days of being sent to the Publications Branch.

Phased Review

- Following the successful acceptance review, the detailed technical review will be conducted in two phases
- Phase 1 will consist only of a review of the institutional control and financial assurance provisions of the DP.
- Phase 1 can be completed successfully in 9 months with a single request for additional information (RAI).
- Phase 2 will address all other aspects of compliance with the License Termination Rule.
- The environmental impact statement will not be initiated until Phase 2.

10 CFR 20.1405 Letters:

- Staff will use a standard 10 CFR 20.1405 letter to solicit input from interested parties.
- LA concurrence will be no more than 3 days.
- SC/BC concurrence will be no more than 5 days.
- OGC will not need to review 10 CFR 20.1405 letter(s).

Develop DP Review Plan:

- SC review/approval only.

DP Evaluation (including EIS development):

- One scoping meeting will be held to support the development of the EIS.
- Environmental and Performance Assessment Branch (EPAB) will have the lead for developing the EIS and will be supported by Decommissioning Branch (DCB) and a contractor.

- EPAB team will prepare FRN - “Intent to Develop EIS.”
- DCB staff will prepare the draft Safety Evaluation Report during the development of the draft EIS (DEIS).
- One RAI will be required in support of each of the DEIS and FEIS.
- No unresolvable or policy-challenging issues will be raised as a result of the review of the DEIS.
- All comments on the DEIS will be submitted within the prescribed comment period.
- The Commission will approve/concur on the staff’s Record of Decision.
- The DP will be approved after the public hearing.

Final Radiological Status Surveys:

- In general, neither the Regions nor ORISE will conduct confirmatory surveys at the end of licensee remediation activities. Instead, the Regions will perform in-process, side-by-side confirmatory surveys and rely on the licensee’s QA program.
- No additional cleanup will be required and no significant additional information will need to be collected to support the FSSR.

Removal of site from the SDMP:

- The Commission will approve the staff’s recommendation to remove the site from the SDMP.
- States, EPA, or others will not challenge the staff’s decision to remove the site from the SDMP and terminate the license.

STATUS SUMMARIES
FOR
REACTORS UNDERGOING DECOMMISSIONING

Attachment 11

PLANT STATUS SUMMARIES
FOR
FERMI UNIT 1 AND PEACH BOTTOM UNIT 1

Attachment 12

FERMI - Unit 1
(Updated May 23, 2001)

1.0 Site Identification

Location:	Monroe, Michigan
License No.:	50-16
Docket No.:	DPR-9
Licensing Status:	Active/Decommissioning
Project Manager:	Stewart Brown

2.0 Site Status Summary

Licensee's initial stage of decommissioning complete, bulk sodium has been removed from the site. Facility is in a SAFSTOR condition. Spent fuel was removed from the site. The licensee is currently performing occupational safety enhancement activities, concentrating in non-radioactive areas, such as asbestos removal. A contractor was selected in January 1999 to conduct trace sodium cleanup starting in about October/November 1999. The facility is expected to be dismantled under the provisions of 50.59. PSDAR public meeting held on April 22, 1998. Current decommissioning cost estimate is $28-31 million (1998 dollars). Current amount in trust fund is $32 million. The licensee will begin to dismantle the facility in mid to late 2001. The staff plans to meet with the licensee in mid 2001 to discuss issues related to the development of a license termination plan (LTP). The licensee plans to submit its LTP in either 2002 or 2003.

Involved Parties:

Lynn Goodman
Detroit Edison Company

3.0 Major Technical or Regulatory Issues

None

4.0 Assumptions

- Standard

5.0 Estimated Date for Closure 3/05

PEACH BOTTOM - Unit 1
(Updated May 23, 2001)

1.0 Site Identification

Location:	Delta, Pennsylvania
License No.:	50-171
Docket No.:	DPR-12
Licensing Status:	Active/Decommissioning
Project Manager:	Stewart Brown

2.0 Site Status Summary

Facility in a SAFSTOR condition. Spent fuel removed from the site. PSDAR meeting was held on June 29, 1998. Final decommissioning not expected until 2015 when Units 2 and 3 are scheduled to shut down. Current decommissioning cost estimate is $48.9 million (1998 dollars). Utility has been collecting $723,360/yr, but will increase the amount to $1,343,808/yr through 2015 to accumulate sufficient funding. The current trust fund amount is $11.3 million as of December 31, 1998.

Involved Parties:

Steve Beck
EXELON

3.0 Major Technical or Regulatory Issues

None

4.0 Assumptions

- The licensee will maintain its facility in SAFSTOR until 2010 and submits its license termination plan (LTP) in 2012.

5.0 Estimated Date for Closure 12/15

BIG ROCK POINT

Licensee:	Consumers Energy Company
Reactor Type:	67 Mw(e) BWR
Containment Type:	Dry, Spherical
Vendor:	GE
Power Level:	Permanently shutdown
CP Issuance Date:	5/31/1960
OL Issuance Date:	5/1/1964
OL Expiration Date:	N/A
Shutdown Date:	8/30/97

CURRENT DECOMMISSIONING STATUS

The plant shut down on August 30, 1997. Fuel was transferred to the spent fuel pool by September 20, 1997. The licensee submitted certification of permanent cessation of operations on June 26, 1997, and certification of permanent fuel removal on September 23, 1997. The licensee submitted their decommissioning plan (DP) on February 27, 1995. The DP was considered to be the PSDAR and has subsequently been updated. The PSDAR public meeting was held on November 13, 1997. The licensee selected the DECON option. Under the current schedule, the Part 50 license would be terminated in 2007. The current decommissioning cost estimate is approximately $314 million (2000 dollars).

CURRENT ISSUES

The licensee is planning to use a generally-licensed onsite dry cask transportable system compatible with Big Rock and Palisades fuel. The licensee expects to transfer fuel to ISFSI by October 2001. The estimated date of transfer from NRR project management to NMSS project management is 2002. Current licensing action requests are associated with upgrading the containment building crane, lifting/transporting the reactor vessel, and a 10 CFR 20.2002 request to bury demolition debris in a State of Michigan Landfill.

June 2001

DRESDEN - Unit 1

Licensee:	Exelon Generation Company
Reactor Type:	BWR
Containment Type:	Spherical
Vendor:	GE
Power Level:	Permanently shutdown
CP Issuance Date:	5/4/1956
OL Issuance Date:	9/28/1959
OL Expiration Date:	N/A
Shutdown Date:	10/78

CURRENT DECOMMISSIONING STATUS

The plant shut down in October 1978, and is currently in SAFSTOR. The decommissioning plan was approved in September 1993. No significant dismantlement activities are underway. Asbestos removal, isolation of Unit 1 from Units 2 and 3, and general radiation cleanup activities are complete or in progress. The licensee will dismantle Unit 1 at the same time as the other two units onsite, which is expected no earlier than 2011. The licensee submitted an updated PSDAR on June 1, 1998. The PSDAR public meeting was held on July 23, 1998. The current decommissioning cost estimate is $362 million (1996 dollars). The current amount in the decommissioning trust fund is $92.9 million. The licensee expects to collect the remainder by 2011. The expected date of transfer from NRR project management to NMSS project management has not been determined.

CURRENT ISSUES

The licensee will use the Holtec HISTAR 100 dual purpose cask and the HISTORM concrete overpack to store spent fuel. The HISTAR 100 draft Certificate of Compliance (CoC) SER was issued in September 1998. The HISTORM final rule was issued in May 2000. The licensee installed a new cask-handling crane, then loaded the first cask and transferred it to the ISFSI in August 2000. Subsequently, casks have been loaded with Unit 1 spent fuel from the Unit 2 spent fuel pool, along with Unit 2 spent fuel, to address the Unit 2 spent fuel storage issue.

July 2001

HADDAM NECK - CONNECTICUT YANKEE

Licensee:	Connecticut Yankee Atomic Power Company
Reactor Type:	PWR
Vendor:	Westinghouse
Power Level:	Permanently shutdown
Provisional OL:	6/30/67
Full Term OL:	12/27/74
OL Expiration date:	N/A
Shutdown Date:	7/22/96

CURRENT DECOMMISSIONING STATUS

Steam generators, RCPs and the pressurizer have been removed from containment and reactor internals segmentation is complete. Preparations are underway for reactor vessel removal from containment in late 2001 or early 2002. Plans are being finalized for turbine building dismantlement. There are 1016 spent fuel assemblies and 18 canisters of GTCC waste stored in the spent fuel pool. The date for transferring project management responsibilities from NRR to NMSS has not been determined, however, the licensee plans to begin operation of an ISFSI in 2003.

CURRENT ISSUES

Early this year, the staff issued RAIs related to the License Termination Plan (LTP) submitted in July 2000. The licensee submitted an initial response to the RAIs in June 2001. The LTP is being challenged by the Connecticut Dept. of Public Utility Controls and by the Citizens Awareness Network. Pre-hearing conferences were held in April and May 2001. The ASLBP ruled on the admissibility of contentions in early July 2001, however, hearings are not imminent because discovery against the staff will not commence until the LTP safety evaluation is issued.

In April 2001, the licensee was fined by the State of South Carolina for exceeding the limit for liquid content in a radioactive waste transport cask shipped to the Barnwell, SC disposal facility. An NRC inspection found contributing deficiencies in work process controls.

The licensee has been unsuccessful in obtaining approval from the town government for construction of the planned ISFSI. The licensee brought the issue to federal court, but the case was dismissed. Attempts at an out-of-court settlement have been fruitless. The Town of Haddam sent a letter to the Chairman in June 2001, asking for the NRC position on several issues related to CY's spent fuel storage plans. The staff is preparing a response to the letter. SFPO is reviewing a NAC application to use its dry storage cask at Haddam Neck.

The licensee recently announced its plans with AES Corporation to use part of the site for a natural gas-fired electric plant. CY plans to submit a request to the NRC to release its parking lot area for unrestricted use to build the plant.

June 2001

HUMBOLDT BAY

Licensee:	Pacific Gas & Electric Co.
Reactor Type:	65 MW(e) BWR
Containment Type:	Pressure suppression
Vendor:	GE/Bechtel
Power Level:	Permanently shutdown
Date of CP:	11/9/60
Date of OL:	08/28/62
OL Expiration:	N/A
Shutdown Date:	07/76

CURRENT DECOMMISSIONING STATUS

The plant was shutdown in July 1976. The plant is in SAFSTOR. The decommissioning plan was approved in July 1988. The licensee is evaluating the feasibility of early dismantlement with license termination in 2005. The 250-ft ventilation stack, which was in close proximity to the spent fuel pool, has been dismantled and replaced with a 50-ft vent stack that is less vulnerable to seismic induced damage. In September 1997, the licensee successfully repaired groundwater leaks into the reactor building caisson. The grout injection effort reduced inleakage from about 7000 gal/day to less than 15 gal/day. An updated PSDAR was submitted on February 27, 1998. The current decommissioning cost estimate is $218 million (license termination in 2015) or $201 million (license termination in 2005). There is currently $202.5 million in the decommissioning trust fund. The expected date of transfer from NRR project management to NMSS project management is 2005 assuming an early license termination. A Technical Specification conversion is presently in review with the staff.

CURRENT ISSUES

The licensee is planning to submit an ISFSI application in the fall of 2001, and anticipates the review and approval process will take 2 years. If the application is approved, a decision will then be made on whether to proceed with ISFSI construction. ISFSI construction and fuel movement is projected to be completed by mid -2005. Along with this PGE is involved in a study at this time to determine if total site decommissioning for Unit 3 should be undertaken sooner.

The next phase of work for PGE will involve asbestos removal, systems and structures radiological characterization, reactor and internals activation analysis, LLW management plan development, developing of a work, cost and scheduling process and the developing of a facilities and staffing plan. This phase would continue from now until 2004 assuming early decommissioning.

July 2001

INDIAN POINT - Unit 1

Licensee:	Consolidated Edison
Reactor Type:	257 Mw(e) PWR
Containment Type:	Dry Volumetric Pre-Stressed
Vendor:	B & W
Power Level:	Permanently shutdown
CP Issuance Date:	5/56
OL Issuance Date:	3/26/1962
OL Expiration Date:	N/A
Shutdown Date:	10/74

CURRENT DECOMMISSIONING STATUS

The plant was shutdown in October 1974. The order approving SAFSTOR was issued in January 1996. The license was extended to 2006. Currently there is no significant dismantlement underway. The licensee plans to decommission Unit 1 with Unit 2, which is currently in operation. The PSDAR public meeting was held on January 20, 1999. The current decommissioning cost estimate is for both Units 1 and 2. The licensee estimated site-specific decommissioning cost in 1998 dollars of $771.3 million. About 40% of this amount represents spent fuel storage costs. The estimated date of transfer from NRR project management to NMSS project management has not been determined yet.

CURRENT ISSUES

The licensee recently informed the NRC of its intentions to seek regulatory approval for onsite dry cask storage of the fuel in the SFP. Current merger between CEI and NU will have no effect on IP1 or IP2. The onsite and off-site resources supporting IP1 will not be refocused or altered in any way as a result of the merger. The recent accident at IP2 did not affect the SAFSTOR of IP1. Workers were doing routine maintenance in the IP1 spent fuel pools when the accident occurred.

April 2001

LACROSSE

Licensee:	Dairyland Power Corporation
Reactor Type:	50 Mw(e) BWR
Containment Type:	Light cylinder with hemispherical dome and semi-ellipsoidal bottom
Vendor:	Allis-Chalmers
Power Level:	Permanently shutdown
CP Issuance Date:	3/29/1963
OL Issuance Date:	7/3/1967
OL Expiration Date:	N/A
Shutdown Date:	04/30/87

CURRENT DECOMMISSIONING STATUS

The plant was shut down on April 30, 1987. The SAFSTOR decommissioning plan (DP) was approved August 7, 1991. The DP is considered the PSDAR. The PSDAR public meeting was held on May 13,1998. Limited and gradual dismantlement is currently underway. The current decommissioning cost estimate is $98.7 million for dismantlement. The current amount in the decommissioning trust fund is $66.9 million. The licensee expects to collect an additional $2.2 million per year through the year 2010. The estimated date of transfer from NRR project management to NMSS project management can not be determined because of spent fuel disposition schedule uncertainties.

CURRENT ISSUES

The licensee is coordinating with the Goshute Indian tribe in Utah for MRS storage of spent fuel. The licensee has no plans for an onsite ISFSI.

April 2001

MAINE YANKEE

Licensee:	Maine Yankee Atomic Power Company (MYAPC)
Reactor Type:	PWR
Containment Type:	Steel lined, reinforced concrete
Vendor:	CE
Power Level:	Permanently shutdown 860 MWe
OL Issuance Date:	6/29/1973
Shutdown Date:	12/06/96

CURRENT DECOMMISSIONING STATUS

The plant was shutdown on December 6, 1996. Certification of permanent cessation of operations was submitted on August 7, 1997. The PSDAR was submitted on August 27, 1997. The LTP was submitted on January 13, 2000. Based in part on hearing requests by the State of Maine and Friends of the Coast Opposing Nuclear Pollution, the licensee committed to develop a revised LTP and submitted the revised LTP on June 1, 2001. The licensee selected DECON as decommissioning option. A $250 million decommissioning and decontamination contract was awarded to Stone & Webster Engineering Corporation (SWEC) on August 4, 1998. The plant was de-powered on December 30,1998 to a “cold, dark plant” status for turnover to SWEC. On May 4, 2000, MYAPC terminated its contract with SWEC due to SWEC’s financial difficulties and impending bankruptcy. The three steam generators and the pressurizer were shipped to GTS Duratek in Memphis, Tennessee, in June and July 2000, for processing and disposal. The current decommissioning cost estimate is $547 million of which $357 million applies to decommissioning, $154 million applies to spent fuel management, and $36 million applies to site restoration. The expected date of transfer from NRR to NMSS project management is late 2002, upon completion of fuel transfer to the ISFSI.

CURRENT ISSUES

On September 13, 2000, MYAPC announced that it was revising its plan for disposing of concrete from demolished buildings at the Maine Yankee site. MYAPC decided to dispose of above-grade concrete from demolished buildings by shipping the concrete to off-site disposal facilities rather than place it in the building foundations as it had initially proposed. The portion of the above-grade concrete that is radiologically contaminated will be shipped by rail to the Envirocare facility in Utah.

Beginning in July 2000, MYAPC began acting as its own general contractor, after terminating the decommissioning contract due to SWEC’s impending bankruptcy. On January 26, 2001, MYAPC announced that it would manage the decommissioning as general contractor through completion.

The State of Maine and the Friends of the Coast Opposing Nuclear Pollution filed separate petitions to intervene in response to the license amendment associated with the Maine Yankee LTP. On July 20, 2000, the Atomic Safety and Licensing Board held a telephone conference with the participants and determined that the proceeding should be held in abeyance until MYAPC files a revised LTP. MYAPC filed the revised LTP on June 1, 2001.

The licensee intends to use the NAC International Universal Multi-Purpose Canister System (UMS) dry cask spent fuel storage system. Spent fuel transfer from the spent fuel pool to the onsite ISFSI is scheduled from September 2001 to November 2002.

July 2001

MILLSTONE - Unit 1

Licensee:	Northeast Nuclear Energy (NNECO)
Reactor Type:	652 MW(e) BWR
Vendor:	GE
Power Level:	Permanently shutdown
CP Issuance Date:	5/19/66
OL Issuance Date:	10/07/70 (Provisional Operating License)
	10/31/86 (Full Term Operating License)
Shutdown Date:	11/04/95

CURRENT DECOMMISSIONING STATUS

Unit 1 was shutdown on November 4, 1995. Unit 1 was defueled on November 19, 1995. Certifications per 10CFR 50.82(a) were submitted July 21, 1998. The licensee's current plan is to leave the plant in SAFSTOR until the Unit 2 operating license expires. The licensee submitted their PSDAR on June 14, 1999. The licensee has chosen a combination of the DECON and SAFSTOR options. NRR conducted two public meetings in Waterford, CT, on February 9, and August 25, 1999. The PSDAR estimated the total decommissioning cost, including and ISFSI, to be $692 million. A more recent analysis estimates the cost to be $701 million in mid-year 1999 dollars (including fuel management/storage and site restoration). The decommissioning trust fund amount is $304 million as of 12/99, with an additional $36 million being collected each year.

CURRENT ISSUES

On March 9, 2001, the NRC issued an Order approving the transfer of the Operating License for Millstone, Units 1, 2 and 3 from Northeast Nuclear Energy Company (NNECO) to Dominion Nuclear Connecticut, Inc. Dominion Nuclear Connecticut is an indirect, wholly-owned subsidiary of Dominion Energy, which is in turn owned by Dominion Resources, Inc. The closing of the sale and transfer was completed on March 31, 2001.

As part of preparation for the sale, NNECO conducted a spent fuel inventory reconciliation and determined in December 2000 that the location of two spent fuel rods was unknown. In 1972 a once burned fuel assembly was disassembled to allow testings by GE. Two of the fuel rods were not put back in the assembly but were put in a special fuel rod box. Records dated 1979 and 1980 show the rods stored in the Northwest corner of the spent fuel pool. Records after 1980 do not show the fuel rods in the fuel pool. No record for transport of the fuel rods offsite has been found. Inspections of the spent fuel pool, an extensive records search, and personnel interviews are continuing.

The licensee is evaluating the feasibility of constructing and operating an ISFSI. The PSDAR projects the fuel transfer to an ISFSI, if they build one, being completed by the end of 2005.

June 2001

RANCHO SECO

Licensee:	Sacramento Municipal Utility District
Reactor Type:	2772 MW(t) PWR
Containment Type:	Large Dry
Vendor:	B&W
Power Level:	Permanently shutdown
CP Issuance Date:	
OL Issuance Date:	8/16/1974
OL Expiration Date:	N/A
Shutdown Date:	06/89

CURRENT DECOMMISSIONING STATUS

The plant was shutdown in June 1989. The SAFSTOR decommissioning plan was approved in March 1995. The licensee revised its decommissioning plan in 1997 to use an incremental dismantlement approach. In November 1999, the licensee informed the NRC of its decision to begin full dismantlement of the facility. The licensee has completed dismantlement of the secondary side equipment in the turbine building. Wastes generated during decommissioning are being shipped to Envirocare. The current schedule is to complete the license termination survey by 2008. The licensee is now dismantling equipment in the auxiliary building. The current decommissioning cost estimate is $433 million (1999 dollars). The licensee has spent $118 million. The current amount in the decommissioning trust fund is approximately $128 million and is considered adequate to complete decommissioning. The licensee will be collecting money through the license expiration date of 2008. The expected date of transfer from NRR project management to NMSS project management is 2002.

CURRENT ISSUES

On October 4, 1991, the licensee submitted a site-specific Part 72 ISFSI application using the VECTRA NUHOMS-MP187 dual purpose cask design. The ISFSI pad is completed and horizontal storage modules delivered. The transportation and storage aspects of the dual purpose cask have been approved. A local public meeting to discuss the licensee's current dismantlement plans was held on June 20, 2000. In July 2000, the licensee received its spent fuel shipping cask. On March 12-15 and April 2-3, 2001, the NRC conducted a team inspection at Rancho Seco to evaluate the pre-operational test activities for the ISFSI. On April 3-13 and 19, 2001, the NRC conducted an inspection of the loading of the first canister into the ISFSI. In general all activities were performed satisfactorily. Further cask loading is awaiting delivery of more casks.

June 2001

SAN ONOFRE - Unit 1

Licensee:	Southern California Edison
Reactor Type:	436 Mw(e) PWR
Containment Type:	Spherical
Vendor:	Westinghouse
Power Level:	Permanently shutdown
CP Issuance Date:	3/2/1964
OL Issuance Date:	3/27/1967
OL Expiration Date:	N/A
Shutdown Date:	11/92

CURRENT DECOMMISSIONING STATUS

The plant was shut down in November 1992. The licensee submitted an updated PSDAR on December 15, 1998. The PSDAR public meeting was held on February 25, 1999. The facility transitioned from SAFSTOR in 1999 and is now in active decommissioning (DECON). Significant dismantlement is currently underway. The licensee has completed demolition of the emergency diesel generator building as part of their effort to make room for an onsite ISFSI. ISFSI construction is expected to begin in 2002. The control and administration building demolition is nearly complete. Dismantlement and removal of the electrical generator and main turbine is also nearly complete. Most major RCS piping cuts for major component removal have been completed. The control room has been relocated and Unit 1 has established its SFP island concept with the rest of the Unit 1 facility cold and dark. Major security modifications to isolate Units 2 and 3 from the Unit 1 are complete. The license is also in the early stages of RV internal segmentation and cutup. The contractor, PCI, has been conducting prototype testing and has begun work onsite. In addition, asbestos removal and abatement is ongoing. Over 70,000 lbs of waste have been shipped to date. The latest decommissioning cost estimate is $459 million (1998 dollars) which includes ISFSI costs. The full amount necessary to complete the plant decommissioning is in the decommissioning trust fund. The expected date of transfer from NRR project management to NMSS project management is expected to take place in mid-2005.

CURRENT ISSUES

Recent licensee schedules indicated ISFSI construction and cask procurement to support fuel movement beginning in 2003. The projected review and approval time for the cask certification is very tight. Vendor application for a certificate of compliance for the cask design to be used by SONGS was submitted to the NRC for approval on September 29, 2000. Seismic capability is expected to be the dominate area of review in licensing of the cask. The cask vendor is TN West.

July 2001

SAXTON

Licensees:	GPU Nuclear and Saxton Nuclear Experimental Corp.
Reactor Type:	28 Mw(th) PWR
Containment Type:	Steel vessel
Power Level:	Permanently shutdown
CP Issuance Date:	2/11/1960
OL Issuance Date:	11/15/1961
OL Expiration Date:	N/A
Shutdown Date:	05/72

CURRENT DECOMMISSIONING STATUS

The plant was shutdown in May 1972, and in February 1975, was placed in SAFSTOR until 1986, when phased dismantlement began with removal of support buildings, contaminated soil, and some material in the containment. The licensees submitted a decommissioning plan in 1996, which became the PSDAR. The licensee submitted a License Termination Plan (LTP) in February 1999, which was returned without review to the licensees because it contained insufficient information to perform a detailed review. The LTP was resubmitted in February 2000, and has passed an acceptance review. The NRC staff approved an amendment request in 1998 to allow dismantlement under 50.59. The licensee has started dismantlement activities. The reactor vessel with internals, steam generator, and pressurizer have been shipped to Barnwell for disposal. The current decommissioning cost estimate is $52 million in 2000 dollars. The remaining decommissioning activities are estimated to cost $14 million. The Saxton owners have provided parent company guarantees of $20 million. The licensees' funding status for decommissioning will be reviewed with the LTP. In March 2001, NRC approved the merger of GPU, Inc. and First Energy Corp. All spent fuel has been removed from site. There is no current plan to transfer project management from NRR to NMSS.

CURRENT ISSUES

The licensee has delayed the estimated completion date of decommissioning activities from late 2001 until mid 2002. The delay is caused by two reasons. First, it was discovered that contamination had spread behind the concrete shielding than lines parts of the containment vessel. The licensee has decided to remove all of the concrete from the containment to ensure that contamination is addressed. Because of the high water table at the site, the area around the containment will be dewatered to prevent the containment from becoming buoyant as weight is removed. Second, the licensee continues characterization of areas associated with the old Saxton Steam Generating Station, a coal fired power plant located next to the Saxton nuclear facility which was demolished in the 1970s. During operation, the nuclear facility sent steam to the generating station's turbine. Liquid radioactive waste was discharged to the environment through the generating station's discharge tunnel. The licensee has found contamination in the discharge tunnel and in sumps in the basement of the generating station (which was filled in with debris during demolishing). The NRC staff continues to evaluate the LTP.

June 2001

THREE MILE ISLAND - Unit 2

Licensee:	GPU Nuclear
Reactor Type:	792 Mw(e) PWR
Containment Type:	Dry Volumetric Pre-stressed
Vendor:	B&W
Power Level:	Permanently shutdown
CP Issuance Date:	11/4/1969
OL Issuance Date:	2/8/1978
OL Expiration Date:	N/A
Shutdown Date:	03/79

CURRENT DECOMMISSIONING STATUS

The operation accident occurred in March 1979. The plant defueling was completed in April 1990. Post Defueling Monitored Storage was approved in 1993. There is no significant dismantlement underway. The plant shares equipment with the other operating unit. TMI-1 was sold to Amergen in 1999. GPU Nuclear will retain the license for TMI-2 and contract to Amergen for maintenance and surveillance activities. Both units are expected to be decommissioned in 2014. The current radiological decommissioning cost estimate is $469 million. The current amount in the decommissioning trust fund is $366 million accumulated per 10 CFR 50.75 (b)(c). The spent fuel was removed except for approximately 900 kg of fuel debris in the NSSS. The fuel debris removed is currently in storage at INEL. DOE has taken title and possession of the fuel debris. The date of transfer from NRR project management to NMSS project management has not been determined.

CURRENT ISSUES

The recent sale of TMI-1 will not interfere with GPU's mothballed TMI-2. GPU is currently considering the formation of a new "Saxton-TMI-2 Oversight Committee." Four license amendments are under review as of this update. One amendment is revision 4 to the PDMS.

April 2001

TROJAN

Licensee:	Portland General Electric
Reactor Type:	1095 Mw(e) PWR
Containment Type:	Dry Volumetric Pre-stressed
Vendor:	Westinghouse
Power Level:	Permanently shutdown
CP Issuance Date:	2/8/1971
OL Issuance Date:	11/21/1975
OL Expiration Date:	N/A
Shutdown Date:	11/9/92

CURRENT DECOMMISSIONING STATUS

The plant was shutdown in November 1992. The DECON decommissioning plan was approved in April 1996. The plant is currently undergoing dismantlement under 10 CFR 50.59. The steam generators and reactor vessel have been shipped to Hanford LLW site. The decommissioning cost was estimated to be approximately $240 million (1997 dollars). The licensee was granted a site-specific Part 72 license for an onsite ISFSI in March 1999. The licensee submitted a License Termination Plan (LTP) in August of 1999. A public meeting on the LTP was held in St. Helens, Oregon on December 7, 1999. License Amendment 206 was issued in February 2001, approving the LTP.

CURRENT ISSUES

The licensee has switched spent fuel cask vendors and revised their schedule for Trojan decommissioning based on problems with the transport licensing and a coatings issue associated with spent fuel casks. The current estimate is that the additional time for licensing of the casks will not permit loading the spent fuel in the casks for about two years. With cask licensing projected for late 2002, completion of the transfer of the spent nuclear fuel from the spent fuel pool to the ISFSI is not expected until 2003. Following decommissioning of the spent fuel pool, Part 50 license termination is projected for 2005.

June 2001

VALLECITOS

Licensee:	General Electric
Reactor Type:	50 MW(t) BWR
Containment Type:	Steel, cylindrical 48' dia, 100' height, hemispherical ends
Vendor:	GE
Power Level:	Permanently shutdown
CP Issuance Date:	5/14/1956
OL Issuance Date:	5/14/1956
OL Expiration Date:	N/A

CURRENT DECOMMISSIONING STATUS

The plant is currently in SAFSTOR. The facility has a PSDAR. The decommissioning cost was estimated to be $9.849 million. GE has a self-guarantee instrument. The spent fuel has been removed from the site. There are no plans to transfer NRR project management to NMSS project management.

CURRENT ISSUES

There are no current issues.

April 2001

YANKEE ROWE

Licensee:	Yankee Atomic
Reactor Type:	167 Mw(e) PWR
Containment Type:	Steel Sphere - Uninsulated
Vendor:	Westinghouse
Power Level:	Permanently shutdown
CP Issuance Date:	
OL Issuance Date:	12/24/1963
OL Expiration Date:	July 9, 2000
Shutdown Date:	10/01/91

CURRENT DECOMMISSIONING STATUS

The plant was permanently shutdown on October 1, 1991. The DECON decommissioning plan was approved in February 1995 and the plant is undergoing dismantlement under 10 CFR 50.59. The steam generators were shipped to Barnwell. The reactor vessel was shipped on April 27, 1997, to Barnwell by truck and rail, in one piece with no internals, and arrived on May 8, 1997. The licensee has removed all of the primary system, secondary side components and switch yard from the site. As of fall 1999, the plant is about 80% dismantled. The containment and other major structures remain. The spent fuel pool building is the only remaining "vital" area and has the appropriate safety related programs, such as safeguards, in place. The spent fuel pool has been segregated from the remaining decontamination and dismantlement activities by providing it with independent and redundant electrical and cooling systems, and multiple sources of cooling water.

A License Termination Plan was submitted on May 15, 1997. Local citizens' groups had filed petitions for leave to intervene on the License Termination Plan. However, the licensee on May 26, 1999, filed a motion to the Commission and ASLB to withdraw the license termination plan amendment request and for termination of the hearing. Under current regulations, the licensee need not submit a new termination plan until 2052.

CURRENT ISSUES

The licensee has determined that a decommissioning operation contract is not economically feasible, and will continue to manage the project. The licensee has completed construction of an on-site ISFSI under a general license. The fuel handling crane capacity has been increased and the crane made single-failure proof so that combined use storage/shipping casks could be safely handled. The licensee has applied, through a cask contractor, for a Part 71 license for a combined use cask. Dry runs of cask loading and transport are scheduled for later this summer.

June 2001

ZION - Units 1 & 2

Licensee:	Exelon Generation Company, LLC
Reactor Type:	3250 MW(t), 3250 MW(t) PWRs
Containment Type:	Large dry
Vendor:	Westinghouse
Power Level:	Permanently shutdown
CP Issuance Date:	
OL Issuance Date:	10/19/1973, 11/14/1973
OL Expiration Date:	N/A
Shutdown Date:	02/13/98

CURRENT DECOMMISSIONING STATUS

Zion Nuclear Power Station (ZNPS) Units 1 and 2 was permanently shut down on February 13, 1998. The fuel was transferred to the spent fuel pool (SFP), and the licensee submitted the certification of fuel transfer on March 9, 1998. There was a public meeting on June 1, 1998, to inform the public of the shutdown plans. The licensee has converted the turbine-generators into synchronous condensers, and they have isolated the SFP within a fuel building “nuclear island,” and placed the plant in SAFSTOR, where it will remain until fuel transfer to DOE in about 2013. Decommissioning costs have been estimated at about $560.4 million. The licensee will continue to collect a per kw-hr fee for decommissioning ZNPS at an annual rate of approximately $9.1 million until 2013. The NRR project management is expected to be transferred to NMSS project management in 2013.

The defueled safety analysis report was submitted in 1998 and, in accordance with 10 CFR 50.75(f)(1), the licensee submitted a report on the status of decommissioning funding on March 31, 1999. The staff approved the defueled emergency plan and issued an exemption from certain emergency preparedness regulations on August 31, 1999. Additionally, the staff issued an exemption from certain portions of 10 CFR Part 73 consistent with the Zion permanently defueled status on October 18, 1999, and an exemption from the insurance coverage and financial protection requirement limits of 10 CFR 50.54(w) and 10 CFR 140.11(a)(4) on December 21, 1999. The permanently defueled Technical Specifications (PDTS) were issued on December 30, 1999, with implementation by January 17, 2000. The licensee submitted the PSDAR, site specific cost estimate, and fuel management plan on February 14, 2000. A public meeting to discuss the PSDAR was held on April 26, 2000.

CURRENT ISSUES

On January 12, 2001, Exelon Generation Company, LLC became the holder of the Zion facility operating licenses formerly held by Commonwealth Edison Company (ComEd) due to the restructuring following the merger between Unicom Corporation and PECO Energy Company.

July 2001

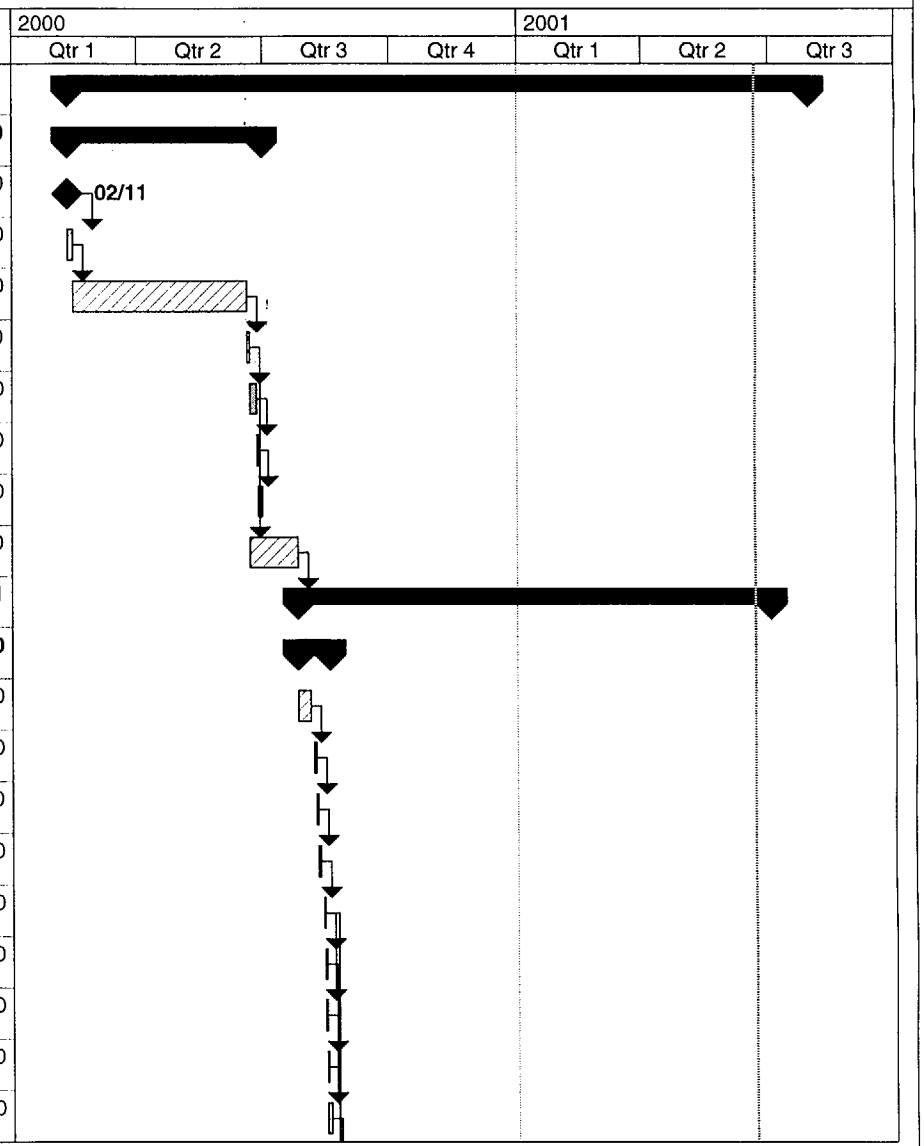
GENERIC LTP REVIEW SCHEDULE

Attachment 13

GENERIC LTP REVIEW SCHEDULE

Thu 06/21/01

ID		Task Name	Duration	Start	Finish
1		**License Termination Plan (LTP) Review**	**382 d**	**Fri 02/11/00**	**Mon 07/30/01**
2		**Acceptance Review**	**101 d**	**Fri 02/11/00**	**Fri 06/30/00**
3		Receive LTP	0 d	Fri 02/11/00	Fri 02/11/00
4		Forward to DCB	2 d	Fri 02/11/00	Mon 02/14/00
5		Conduct Review	90 d	Tue 02/15/00	Mon 06/19/00
6		Draft Memo to NRR	2 d	Tue 06/20/00	Wed 06/21/00
7		Concurrence	3 d	Thu 06/22/00	Mon 06/26/00
8		Issue Memo to NRR	1 d	Tue 06/27/00	Tue 06/27/00
9		Issue to Licensee	3 d	Wed 06/28/00	Fri 06/30/00
10		Develop SOW for PA & EA Contracto	25 d	Thu 06/22/00	Wed 07/26/00
11		**Technical Review**	**243 d**	**Thu 07/27/00**	**Mon 07/02/01**
12		**Develop Task Plan**	**17 d**	**Thu 07/27/00**	**Fri 08/18/00**
13		Prepare Task Plan	7 d	Thu 07/27/00	Fri 08/04/00
14		Review Task Plan	2 d	Mon 08/07/00	Tue 08/08/00
15		Brief BC	1 d	Wed 08/09/00	Wed 08/09/00
16		Revise Task Plan	2 d	Thu 08/10/00	Fri 08/11/00
17		Approve Task Plan	1 d	Mon 08/14/00	Mon 08/14/00
18		Prepare TAR(s)	1 d	Tue 08/15/00	Tue 08/15/00
19		Prepare RFTA	1 d	Tue 08/15/00	Tue 08/15/00
20		Forward RFTA	1 d	Wed 08/16/00	Wed 08/16/00
21		Issue TAR(s)	3 d	Wed 08/16/00	Fri 08/18/00



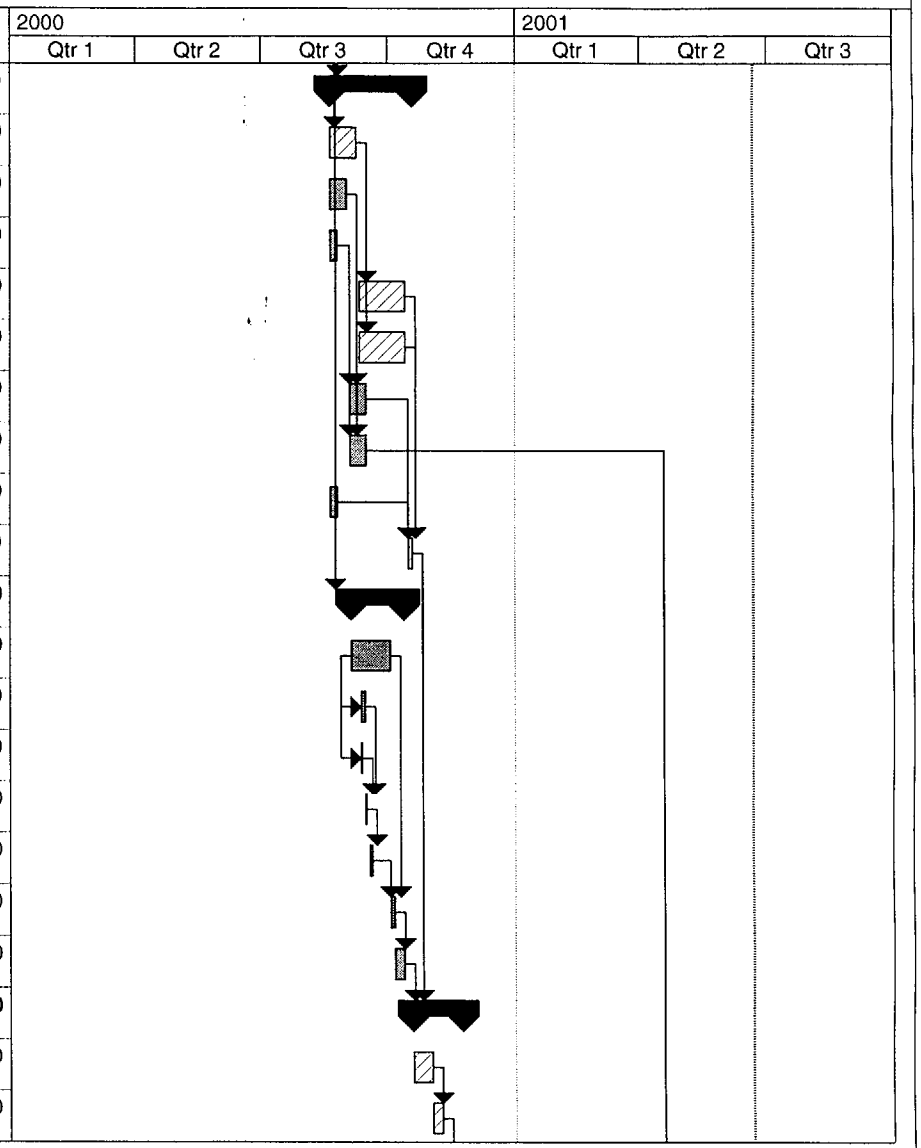
Project: ltp-gen
Date: Thu 06/21/01

Task		Summary		Rolled Up Progress	
Critical Task		Rolled Up Task		Split	
Progress		Rolled Up Critical Task		External Tasks	
Milestone		Rolled Up Milestone		Project Summary	

GENERIC LTP REVIEW SCHEDULE

Thu 06/21/01

ID		Task Name	Duration	Start	Finish
22		**Evaluate LTP**	**43 d**	**Mon 08/21/00**	**Wed 10/18/00**
23		Characterization	15 d	Mon 08/21/00	Fri 09/08/00
24		Dismantlement Activities	10 d	Mon 08/21/00	Fri 09/01/00
25		Remediation Plans	5 d	Mon 08/21/00	Fri 08/25/00
26		Final Radiation Survey Plan	25 d	Mon 09/11/00	Fri 10/13/00
27		Compliance w/LTR	25 d	Mon 09/11/00	Fri 10/13/00
28		Costs	10 d	Mon 09/04/00	Fri 09/15/00
29		Supplement to ER	10 d	Mon 09/04/00	Fri 09/15/00
30		Change Procedure	5 d	Mon 08/21/00	Fri 08/25/00
31		Assemble Comments	3 d	Mon 10/16/00	Wed 10/18/00
32		**Hold Public Meeting**	**28 d**	**Tue 09/05/00**	**Thu 10/12/00**
33		Plan Meeting	4 w	Tue 09/05/00	Mon 10/02/00
34		Prepare Briefing Materials	3 d	Tue 09/12/00	Thu 09/14/00
35		Prepare Handouts	1 d	Tue 09/12/00	Tue 09/12/00
36		Hold Dry Run	1 d	Fri 09/15/00	Fri 09/15/00
37		Revise Materials/Handouts	2 d	Mon 09/18/00	Tue 09/19/00
38		Conduct Meeting	3 d	Tue 10/03/00	Thu 10/05/00
39		Analyze Comments	5 d	Fri 10/06/00	Thu 10/12/00
40		**Develop RAI (first)**	**26 d**	**Thu 10/19/00**	**Thu 11/23/00**
41		Prepare Draft SER	10 d	Thu 10/19/00	Wed 11/01/00
42		Develop Draft RAI	5 d	Thu 11/02/00	Wed 11/08/00



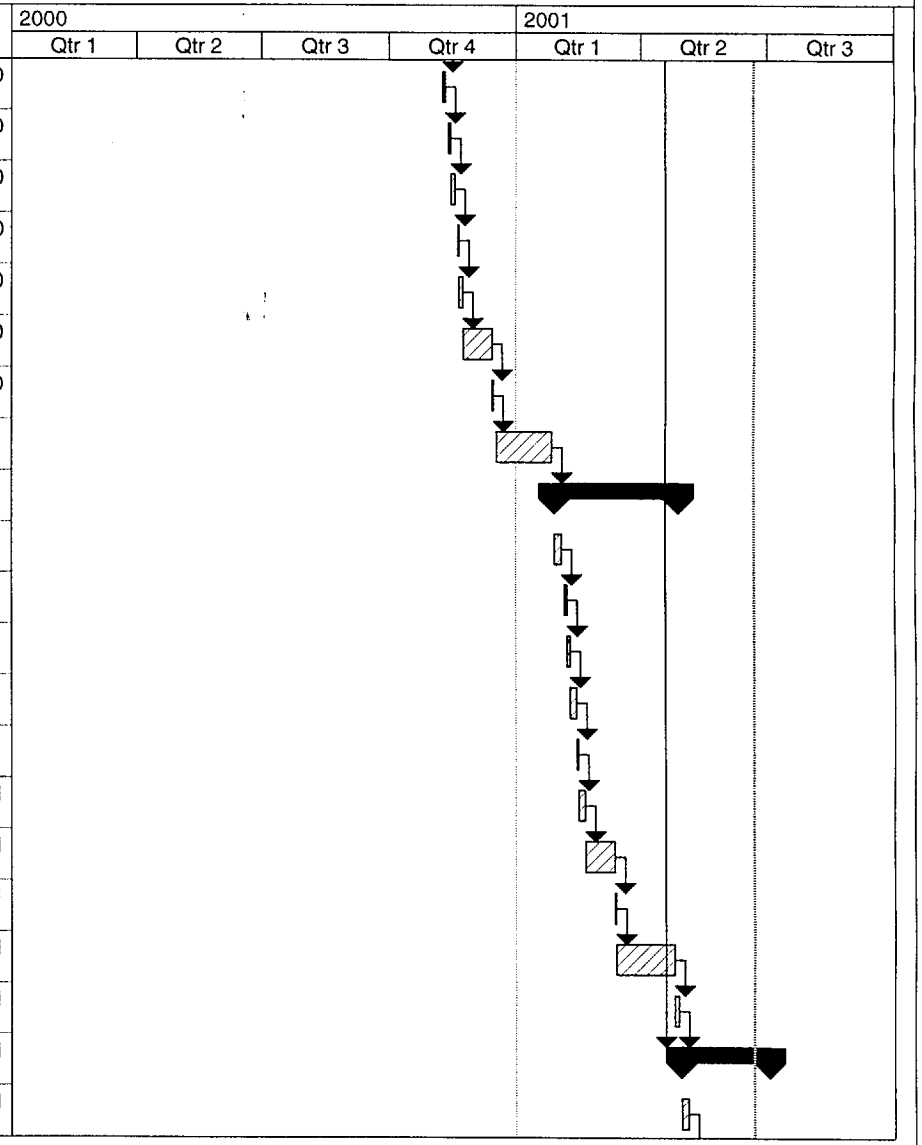
Project: ltp-gen
Date: Thu 06/21/01

Task		Summary		Rolled Up Progress	
Critical Task		Rolled Up Task		Split	
Progress		Rolled Up Critical Task		External Tasks	
Milestone		Rolled Up Milestone		Project Summary	

GENERIC LTP REVIEW SCHEDULE

Thu 06/21/01

ID		Task Name	Duration	Start	Finish
43		Review Draft RAI	2 d	Thu 11/09/00	Fri 11/10/00
44		Revise RAI	2 d	Mon 11/13/00	Tue 11/14/00
45		Concurrence	3 d	Wed 11/15/00	Fri 11/17/00
46		Forward to NRR	1 d	Mon 11/20/00	Mon 11/20/00
47		Transmit to Licensee	3 d	Tue 11/21/00	Thu 11/23/00
48		Licensee Reviews RAI	15 d	Fri 11/24/00	Thu 12/14/00
49		Meet w/Licensee re: RAI	1 d	Fri 12/15/00	Fri 12/15/00
50		Licensee Prepares Response	30 d	Mon 12/18/00	Fri 01/26/01
51		**Develop RAI (second)**	**65 d**	**Mon 01/29/01**	**Fri 04/27/01**
52		Develop Draft RAI	5 d	Mon 01/29/01	Fri 02/02/01
53		Review Draft RAI	2 d	Mon 02/05/01	Tue 02/06/01
54		Revise RAI	2 d	Wed 02/07/01	Thu 02/08/01
55		Concurrence	3 d	Fri 02/09/01	Tue 02/13/01
56		Forward to NRR	1 d	Wed 02/14/01	Wed 02/14/01
57		Transmit to Licensee	3 d	Thu 02/15/01	Mon 02/19/01
58		Licensee Review RAI	15 d	Tue 02/20/01	Mon 03/12/01
59		Meet w/Licensee & Public	1 d	Tue 03/13/01	Tue 03/13/01
60		Licensee Prepares Respons	30 d	Wed 03/14/01	Tue 04/24/01
61		Respond to Licensee	3 d	Wed 04/25/01	Fri 04/27/01
62		**Develop SE/EA**	**46 d**	**Mon 04/30/01**	**Mon 07/02/01**
63		Develop Draft SE/EA	5 d	Mon 04/30/01	Fri 05/04/01



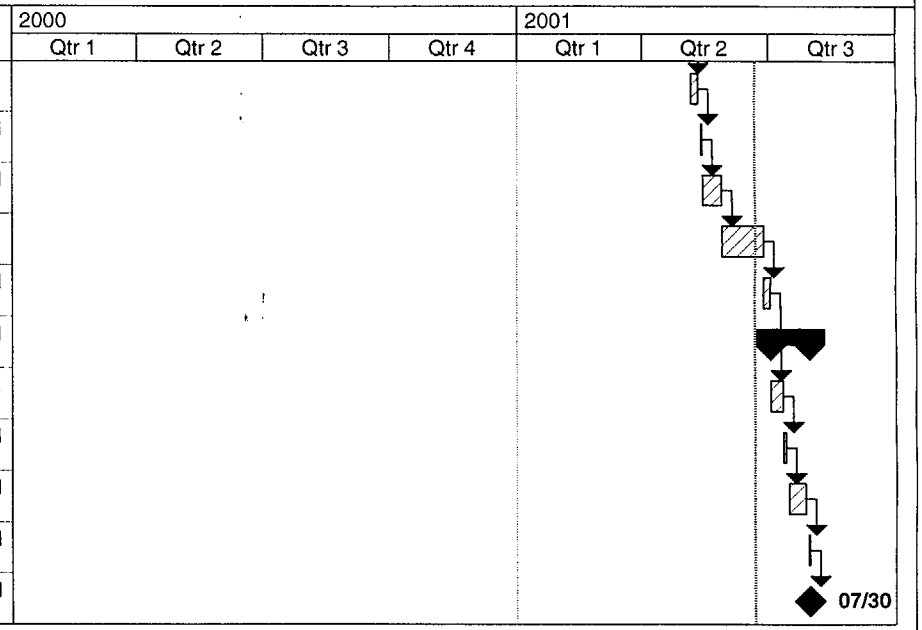
Project: ltp-gen
Date: Thu 06/21/01

Task		Summary		Rolled Up Progress	
Critical Task		Rolled Up Task		Split	
Progress		Rolled Up Critical Task		External Tasks	
Milestone		Rolled Up Milestone		Project Summary	

GENERIC LTP REVIEW SCHEDULE

Thu 06/21/01

ID		Task Name	Duration	Start	Finish
64		Review SEEA (EIS/EA Tear	5 d	Mon 05/07/01	Fri 05/11/01
65		Revise SE/EA	1 d	Mon 05/14/01	Mon 05/14/01
66		Concurrence	2 w	Tue 05/15/01	Mon 05/28/01
67		Review by State	22 d	Tue 05/29/01	Wed 06/27/01
68		Revise SE/EA	3 d	Thu 06/28/01	Mon 07/02/01
69		**Complete LTP Review (NMSS)**	**20 d**	**Tue 07/03/01**	**Mon 07/30/01**
70		Finalize SER/EA/FONSI	7 d	Tue 07/03/01	Wed 07/11/01
71		Review SER/EA/FONSI	2 d	Thu 07/12/01	Fri 07/13/01
72		Concurrence	2 w	Mon 07/16/01	Fri 07/27/01
73		Transmit SER/EA/FONSI to NR	1 d	Mon 07/30/01	Mon 07/30/01
74		Complete NMSS Review	0 d	Mon 07/30/01	Mon 07/30/01



Project: ltp-gen
Date: Thu 06/21/01

Task		Summary		Rolled Up Progress	
Critical Task		Rolled Up Task		Split	
Progress		Rolled Up Critical Task		External Tasks	
Milestone		Rolled Up Milestone		Project Summary	

SCHEDULE FOR REACTOR DECOMMISSIONING ACTIVITIES

Attachment 14

Schedule For Reactor Decommissioning Activities

	Power Plant	PSDAR** Submitted	LTP Submitted	LTP Approved	Transfer to NMSS
1	Big Rock Point	2/95	TBD	TBD	2002*
2	Haddam Neck - CY	8/97	7/00	9/02*	TBD
3	Dresden - Unit 1	6/98	TBD	TBD	TBD
4	Humboldt Bay	2/98	TBD	TBD	2005*
5	Indian Point - Unit 1	1/96	TBD	TBD	TBD
6	Lacrosse	5/91	TBD	TBD	TBD
7	Maine Yankee	9/97	1/00	1/03*	2002*
8	Millstone - Unit 1	6/99	TBD	TBD	TBD
9	Rancho Seco	12/94	TBD	TBD	2002*
10	San Onofre - Unit 1	12/98	TBD	TBD	TBD
11	Saxton	1996	2/00	4/02*	No Plans
12	Three Mile Island - Unit 2	2/79	TBD	TBD	TBD
13	Trojan	1/96	8/99	2/01	2003*
14	Vallecitos	7/66	TBD	TBD	No Plans
15	Yankee Rowe	11/94	6/02*	4/03*	TBD
16	Zion - Units 1 & 2	2/00	TBD	TBD	2013*

* estimated date
** PSDAR or Decommissioning Plan (DP) equivalent

NOTE: Licensees submitted DPs (or equivalent) prior to 1996, and PSDARs from 1996 on.

MAJOR DECOMMISSIONING GUIDANCE DOCUMENTS

Attachment 15

Major Decommissioning Guidance Documents

Guidance Document	Status
U.S. Nuclear Regulatory Commission (NRC) Regulatory Guide (1.184), “Decommissioning of Nuclear Power Reactors”	Issued July 2000
NRC Regulatory Guide (1.185), “Standard Format and Content for Post-Shutdown Decommissioning Activities Report”	Issued July 2000
NRC Regulatory Guide 1.179, “Standard Format and Content of License Termination Plans for Nuclear Power Reactors”	Issued January 1999
NRC Regulatory Guide (1.191), “Fire Protection Program for Nuclear Power Plants During Decommissioning and Permanent Shutdown”	Issued May 2001
NRC Regulatory Guide (DG-4006), “Demonstrating Compliance with the Radiological Criteria for License Termination”	Draft guide issued in August 1998; DG-4006 superceded by NUREG-1727
NRC Regulatory Guide, DG-1085, “Standard Format and Content for Decommissioning Cost Estimates for Nuclear Power Reactors"	Draft scheduled for issuance in September 2001
Standard Review Plan for Evaluating Nuclear Power Reactor License Termination Plans	Issued as NUREG-1700 in April 2000
NRC Standard Review Plan, NUREG-1713, Standard Review Plan for Decommissioning Cost Estimates for Nuclear Power Reactors"	Draft scheduled for issuance in September 2001
NMSS Decommissioning Standard Review Plan	Issued as NUREG-1727, September 2000
NRC Regulatory Issue Summary 2000-09, “Standard Review Plan for Licensee Requests to Extend the Time Periods Established for Initiation of Decommissioning Activities”	Issued June 2000
Division of Waste Management (DWM), “Guidance Document for Streamlining the Decommissioning Program for Fuel Cycle and Material Licensees”	Issued January 1999

Environmental Standard Review Plan for the Office of Nuclear Material Safety and Safeguards	Draft scheduled for issuance in September 2001
NUREG-0586, Supplement 1, “Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities”	Update scheduled for issuance in Fall 2001
NUREG-1307, “Report on Waste Burial Charges, Changes in Decommissioning Waste Disposal Costs at Low-level Waste Burial Facilities,” Rev. 9	Published August 2000
NUREG-1575, “Multi-Agency Radiation Survey and Site Investigation Manual”	Published December 1997; Rev. 1 published August 2000
NUREG-1505, “Nonparametric Statistical Methodology for the Design and Analysis of Final Status Decommissioning Surveys”	Published June 1998
NUREG-1507, “Minimum Detectable Concentrations with Typical Radiation Survey Instruments for Various Contaminants and Field Conditions”	Published June 1998
Draft NUREG-1549, “Decision Methods for Dose Assessment to Comply with Radiological Criteria for License Termination”	Published July 1998
Final User’s Guide on Probabilistic Version of D and D Software, Version 2	Published March 2001
NRC Regulatory Issue Summary 2000-19, Partial Release of Reactor Site for Unrestricted Use Before NRC Approval of the License Termination Plan	Published October 2000