



To: Farrow
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POLICY ISSUE
(Information)

April 25, 2000

SECY-00-0094

FOR: The Commissioners
FROM: William D. Travers
Executive Director for Operations
SUBJECT: STATUS OF DECOMMISSIONING PROGRAM

PURPOSE:

To provide the Commission with a comprehensive overview of decommissioning activities, including the decommissioning of Site Decommissioning Management Plan (SDMP) sites and other complex decommissioning sites, and commercial reactor decommissioning, as requested in the June 23, 1999, Staff Requirements Memorandum (SRM). The status of progress made on the removal of contaminated sites from the SDMP list will be presented as requested in the August 26, 1999, SRM. In addition, the staff will summarize its efforts to rebaseline the decommissioning program and present current schedules for the cleanup of all decommissioning sites.

SUMMARY:

This paper subsumes the annual report to the Commission on SDMP sites and provides a comprehensive overview of the decommissioning program. Consistent with Commission direction, it is the first time that the staff has provided a combined overview of the decommissioning activities within the Office of Nuclear Material Safety and Safeguards (NMSS) and the Office of Nuclear Reactor Regulation (NRR).

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BACKGROUND:

The NMSS staff provided a report on the status of the decommissioning program and progress on the remediation of the SDMP sites in SECY-99-035, "Status of Decommissioning Program and Site Decommissioning Management Plan Sites," dated February 1, 1999. In addition, NMSS staff briefed the Commission on implementation of the License Termination Rule (LTR) and the Program on Complex Decommissioning Cases on July 29, 1999. Further, the NRR staff briefed the Commission on March 17, 1999, regarding commercial reactor decommissioning regulatory issues.

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 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 Commission issued 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. The status of all SDMP and other complex decommissioning sites is addressed in this paper. The Commission also requested that the staff provide a paper that describes and analyzes the issues that need to be considered before the Commission could propose legislation aimed at facilitating the cleanup of sites in non-Agreement States. This latter issue will be the subject of a separate Commission paper.

DISCUSSION:

1. Summary of Decommissioning Program

The function of the decommissioning program is to regulate the decontamination and decommissioning of material and fuel cycle facilities, power reactors, and non-power reactors, resulting in the ultimate goal of license termination. A broad spectrum of activities associated with these program functions are discussed in Attachment 1. Principal program areas focused on licensing casework and 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 setting policies, procedures, and criteria, for routine terminations, and for the termination of licenses that are not routine because the sites require more complex decommissioning activities. Currently, there are 19 nuclear power plants, 9 research reactors, and 29 materials facilities undergoing non-routine decommissioning. Details on these sites are presented in Section 2 below.

NMSS, NRR and the Office of Nuclear Regulatory Research (RES) have responsibility for decommissioning program activities. In general, NRR has 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 contributions 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, as noted in SECY-99-035, the Agency Operating Plan is being used to track and manage major decommissioning issues. In some cases, NMSS tracks RES 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, OGC, and the Regions, serves as an effective mechanism for integrating inter-Office and regional coordination of program activities and issue resolution.

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, respectively. Attachment 2 provides the criteria for placing a site on the SDMP.

The LTR (10 CFR Part 20, Subpart E) authorizes two different sets of cleanup criteria for SDMP sites--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 to August 20, 2000. All other sites must use the dose-based criteria of the LTR.

There are currently 26 SDMP sites and three additional complex decommissioning sites undergoing decommissioning (see Attachment 3). Twenty 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 (see Attachment 5). The NRC is currently committed to removing three sites from the SDMP in fiscal year 2000 (FY00) and FY01. The staff should be able to remove three sites from the SDMP in FY00. However, since the remaining SDMP sites are rather complex decommissioning cases and dose modeling required under the LTR places more demands on licensees, it is likely that fewer sites will be removed from the SDMP in FY01.

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. As a result of the ORNL review, and subsequent follow-up by the Regions, a total of

38 formerly licensed sites were found to have residual contamination levels exceeding NRC's criteria for unrestricted release (see Attachment 6). Seventeen of these sites have been re-released after successful remediation, and 11 have been closed by transfer to Agreement States or a Federal entity. 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 the staff's assessment of site conditions change. The staff continues to work toward review of all remaining ORNL identified sites, with each Region budgeted at 0.1 full-time equivalents (FTEs) per year for this purpose.

In September 1999, the Division of Waste Management (DWM) began rebaselining the materials decommissioning program to determine the current status of each SDMP and complex decommissioning sites, and to develop a comprehensive integrated plan for successfully bringing the sites to closure. To facilitate planning, site status summaries as of December 31, 1999, were developed for each SDMP and complex decommissioning site (see Attachment 7). These summaries indicate the status of each site and identify the technical and regulatory issues impacting removal of the site from the SDMP or completion of decommissioning. 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. The comprehensive plan for each site includes identification of all major milestones and management of the sites, using project management software. 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: assuming a more proactive role in interacting with licensees undergoing decommissioning; implementing procedures to reduce the number of requests for additional information; conducting in-process/side-by-side confirmatory surveys; and, relying more heavily on licensees quality assurance programs rather than conducting large scale confirmatory surveys. Further, the staff is incorporating strategies to achieve the performance goals identified as part of the Agency's strategic planning process and draft Strategic Plan for FY00-05. Examples of strategies being incorporated include: focusing on resolving key issues such as institutional control for restricted release, partial release, and rubbleization; conducting stakeholder workshops to seek licensee, industry, and public input; and, enhancing the decommissioning standard review plan.

A table summarizing the decommissioning schedule for all SDMP and complex decommissioning sites is provided in Attachment 9. The schedules depicted 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) 6 of 29 SDMP and complex decommissioning sites have not yet submitted DPs (the last DP should be submitted in 2002); (2) 3 sites have submitted partial DPs; (3) the NRC has approved 10 of 23 DPs submitted to date [the last DP (Fansteel, Inc.) should be approved by 2009]; and (4) 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 developed independently by the staff,

without formal licensee input, using the standard assumptions presented in Attachment 10 and the site-specific assumptions stated in the site summaries. Changing any of the site-specific or standard assumptions could have a significant impact on the site decommissioning schedules but this approach represents a reasonable model for planning.

The site decommissioning schedules presented in Attachment 9 are based on the assumption that the NRC will retain regulatory responsibility for SDMP and other complex decommissioning sites located in States likely to become Agreement States soon. The staff made this assumption because it represents a worse-case resource and planning requirement for the staff. This approach facilitates planning because it eliminates an unknown. However, it is possible that as many as 16 current SDMP sites may be transferred to Agreement States (Minnesota-1, Oklahoma-5, Pennsylvania-10) in or before 2002. Issues associated with transferring sites to Agreement States are 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, and inspection 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 transferred 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 transferred from the spent fuel pool. In this case, NMSS staff is responsible for reviewing the LTP, and preparing the safety evaluation report, the environmental assessment, and the license termination order or 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 Trojan, Maine Yankee, and Saxton, and expects to receive the LTP for Connecticut Yankee in 2000. The staff has developed a generic schedule for reviewing LTPs (see Attachment 13). Attachment 14 provides a schedule for reactor decommissioning activities.

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 is in the process of developing several guidance documents that will help licensees prepare decommissioning documents, and provide the staff with uniform criteria for reviewing licensee submittals. The staff conducted several workshops with stakeholders to obtain input on the development of the Standard Review Plan (SRP) for decommissioning.

A listing of the decommissioning guidance documents under development and a schedule for completion are presented in Attachment 15. In addition to the Regulatory Guides and SRPs identified in Attachment 15, the staff has also developed building surface concentration screening values and surface soil concentration values to support implementation of the LTR. These values were published in the Federal Register on November 18, 1998, and December 7, 1999, respectively. In addition, DWM provides support to ongoing rulemaking efforts regarding the control of solid materials.

SECY-99-168, dated June 30, 1999, recommended that risk posed by spent fuel pools at decommissioning reactors be assessed and the results of the risk assessments be used as a technical basis for developing an integrated approach to decommissioning reactor rulemaking in the areas of emergency planning, insurance, safeguards, operator staffing and backfit. The SRM for SECY-99-168 was issued on December 21, 1999, and approved the staff's development of an integrated rulemaking plan for decommissioning regulations. A draft technical study on spent fuel pool risks at decommissioning reactors was issued for public comment on February 15, 2000. Based on the decommissioning risks and report recommendations, NRR staff is currently developing regulatory options and will propose a rulemaking plan as required by the SRM for Commission approval by June 30, 2000.

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 sent to the Commission in SECY-00-0023, dated February 2, 2000.

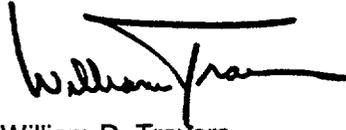
RESOURCES:

The total decommissioning program staff budget for FY00, 01, and 02 is 85 FTEs, 87 FTEs, and 83 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, and development of rules and guidance. Resource breakdown for staff (in FTEs), and contractor support (in \$K), as reflected in the FY01 budget to Congress, by Office follows:

	FY2000		FY2001		FY2002	
	Staff Support (\$K)	Contractor (FTEs)	Staff (FTEs)	Contractor Support (\$K)	Staff (FTEs)	Contractor Support (\$K)
NMSS	31	2823	29	2895	26	3385
NRR	22	740	23	500	21	0
RES	10	2625	11	2357	11	2425
OGC	3		3		3	
Regions	19		21		22	
TOTAL	85	6188	87	5752	83	5810

COORDINATION:

The Office of the General Counsel 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.



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For Operations

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 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. "Decommissioning Guidance Documents Under Development"

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Attachment 1

DECOMMISSIONING PROGRAM ACTIVITIES

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

1.0 DEVELOPMENT OF GUIDANCE AND REGULATIONS

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

2.0 REACTOR DECOMMISSIONING

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

- NMSS has project management and technical review responsibility for Fermi 1 and Peach Bottom Unit 1 power reactors. Status summaries for these reactors are contained in Attachment 11 of this paper. In addition, NMSS is currently reviewing LTPs for Trojan, Maine Yankee, and Saxton.
- NRR has project management and licensing oversight for 17 power plants that have either submitted DPs (or equivalent) or PSDARs (see Attachments 11 and 14).

3.0 MATERIALS AND FUEL CYCLE DECOMMISSIONING

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

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

- Activities associated with the SDMP and complex site decommissioning program include: (1) review of site characterization plans; (2) review and approval of DPs; (3) technical assistance and review of the licensee's quality assurance and decommissioning activities; (4) review of licensee final status survey reports and conduct of confirmatory surveys; (5) preparation of environmental assessments (EAs) and environmental impact statements (EISs); and (6) review of former burials of radioactive material under 10 CFR 20.302 and 10 CFR 20.2002.
- The staff continues to implement the Commission's direction under DSI-9. Three facilities are taking part in the pilot study to perform decommissioning without the submittal of a DP.
- In 1990, the NRC decided to undertake a review of terminated materials licenses to assure that facilities were properly decontaminated and posed no threat to public health and safety. Oak Ridge National Laboratory (ORNL) was contracted to review all materials licenses terminated by the NRC or its predecessor agencies, from inception of material regulation, to (1) identify sites with potential for meaningful residual contamination, based on information in the license documentation; and (2) to identify sealed sources with incomplete or no accounting that could represent a public hazard. ORNL identified approximately 675 loose material licenses and 564 sealed source licenses that required further review by the Regions. Regional staff review ORNL identified sites in accordance with Temporary Instruction 2800/026, "Follow-up Inspection of Formerly Licensed Sites Identified as Potentially Contaminated," dated April 15, 1998. Regional staff continue to review terminated license files and conduct follow-up, as appropriate, within existing resources. The following table revised December 15, 1999, shows the number of licensed sites yet to be reviewed by the Regions.

(Revised 12/15/99)

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

- Staff routinely reviews financial assurance submittals for materials and fuel facilities, and maintains a financial instrument security program. Between 40 and 60 financial assurance submittals are reviewed each year.
- Staff reviews former 10 CFR Part 20.302 and 20.304 burials, and licensee requests for disposal under 10 CFR Part 20.2002.
- NRC's decommissioning responsibilities at the West Valley Demonstration Project (WVDP) and West Valley site are specified under the WVDP Act. Presently this includes: prescribing decontamination and decommissioning criteria; reviewing draft portions of the EIS for decommissioning and closure of the site; reviewing safety analysis reports; and performing periodic onsite monitoring of project activities and records, to assure radiological health and safety. The Commission's draft policy statement regarding decommissioning criteria for the WVDP and West Valley site was issued in December 1999 for public comment. The draft policy statement specified NRC's License Termination Rule as the decommissioning criteria. NRC's final decommissioning criteria will be a significant component of an EIS for decommissioning and closure of the site.
- The staff continues to work with the EPA and ISCORS to resolve issues related to the regulation of radionuclides. This interaction is necessary to avoid unnecessary duplication of regulatory requirements, including risk harmonization, mixed waste, recycle, decommissioning/cleanup, and sewer reconcentration.
- Staff continue to implement the Integrated Licensing and Inspection Plan (ILIP) developed in 1998. The primary objective of the ILIP for decommissioning projects is to ensure that appropriate coordination, planning, documentation, and scheduling of key decommissioning inspection and licensing activities take place. The ILIP is used to track and coordinate pending licensing actions and inspections. The ILIP helps keep management and staff focused on decommissioning activities that in many cases are unique events. Because many decommissioning activities are unique events, and occur on schedules established by licensees/responsible parties, it is important for the NRC staff (project managers and inspectors) to be aware of pending decommissioning activities and licensee schedules, to effectively plan and conduct inspections.
- CRADAL provides the staff with a high-performance computing capability that includes a platform to conduct intensive numerical calculations and parallel computing in support of licensing activities.
- RES continues to provide data and models to NMSS to support assessments of public exposure to environmental releases of radioactive material from site decommissioning. RES will provide NMSS with: (1) data on radionuclide solubilities that will be used to assess releases from ore-processing slags; (2) data on degradation of archeological slags that will be used as the basis for assessing long-term performance of slags as a source of radioactive contamination; (3) guidance on characterization of decommissioning sites containing mineral slags from ore processing; (4) documentation of unsaturated zone-monitoring strategies for use in review of monitoring proposals for licensing actions concerning decommissioning and waste disposal facilities in

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

4.0 ENVIRONMENTAL TASK FORCE¹

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

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

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 will be 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).

To date, no new sites have been added to the SDMP using these criteria.

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	4/02*	LTR-RES	6/03
2	Watertown Mall	Watertown, MA	3/90	4/92	9/93	Action-UNRES	9/00
3	Watertown GSA	Watertown, MA	3/90	10/92	9/93	Action-UNRES	12/03
4	AAR Manufacturing, Inc.	Livonia, MI	8/94	9/99	12/00*	LTR-UNRES	11/02
5	Dow Chemical Co.	Bay City Midland, MI	3/92 3/92	10/95 10/95	7/97 7/97	RES Action-UNRES	2/02 6/00
6	Michigan Department of Natural Resources	Kawkawlin MI	3/90	8/01*	8/04* +	LTR-RES	8/05
7	SCA Services	Kawkawlin, MI	3/92	10/00*	9/03* +	LTR-RES	9/04
8	Minnesota Mining & Manufacturing (3M)	Pine County, MN	3/90	11/99	4/00*	LTR-UNRES	8/00
9	Lake City Army Ammunition Plant	Independence, MO	3/90	4/99	4/00*	Action-UNRES	4/02

	Name	Location	Date Put On SDMP	Date DP Submitted	Date DP Approved	Cleanup Criteria	Projected Removal
10	**Mallinckrodt Chemical Inc.	St. Louis, MO	NA	(Phase 1) 11/97 (Phase 2) 6/00	7/00* 3/03* +	LTR-RES	1/07
11	Heritage Minerals	Lakehurst, NJ	5/92	11/97	8/99	Action-UNRES	9/01
12	Shieldalloy Metallurgical Corp.	Newfield, NJ	3/90	1/02*	10/06* +	LTR-RES	9/10
13	Fansteel, Inc.	Muskogee, OK	3/90	8/99	1/09* +	LTR-RES	8/20
14	Kaiser Aluminum	Tulsa, OK	8/94	(Phase 1) 8/98 (Phase 2) 1/01*	2/00 9/03*	Action-UNRES LTR-RES	6/07
15	Kerr-McGee	Cimarron, OK	3/90	4/95	8/99	Action-UNRES	5/02
16	Kerr-McGee	Cushing, OK	3/90	4/94	8/99	Action-UNRES	12/03
17	Sequoyah Fuels Corp.	Gore, OK	6/93	3/99	8/04* +	LTR-RES	4/09
18	Babcock & Wilcox	Vandergrift, PA	10/93	1/96	10/98	Action-UNRES	12/02
19	Babcock & Wilcox (Shallow Land Disposal Area)	Vandergrift, PA	10/95	12/00*	9/05* +	LTR-RES	8/09
20	Cabot Corp.	Reading, PA	3/90	8/98	9/00*	LTR-UNRES	4/01
21	Cabot Corp.	Revere, PA	3/90	11/97	1/01* +	LTR-UNRES	7/01

Name	Location	Date Put On SDMP	Date DP Submitted	Date DP Approved	Cleanup Criteria	Projected Removal	
22	**Kiski Valley Water Pollution Control Auth.	Vandergrift, PA	NA	1/01*	11/02*	LTR-UNRES	5/05
23	Molycorp, Inc.	Wash., PA (partial) (Disposal cell)	9/93	6/99 12/00*	7/00* 5/05*	Action-UNRES LTR-RES	2/08
24	Molycorp, Inc.	York, PA	3/90	8/95	5/00*	Action-UNRES	12/00
25	Permagrain Products	Karthaus, PA	3/90	4/98	7/98	Action-UNRES	7/02
26	Safety Light Corp.	Bloomsburg, PA	3/90	11/98	9/99	LTR-UNRES	12/04
27	Westinghouse Electric	Waltz Mill, PA	3/90	4/97	1/00*	LTR-UNRES	5/01
28	Whittaker Corp.	Greenville, PA	3/90	12/00*	12/03*	LTR-RES	8/09
29	**Union Carbide	Lawrenceberg, TN (Buildings) (Soil)	NA	8/98	6/00* 12/00*	Action-UNRES LTR-UNRES	12/03

* - 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

NOTE: 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.

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	Anne Arundel County / Curtis Bay	Anne Arundel County, MD	1/93	NA	7/97	Site is currently used for baseball fields and a prison
4	Frome Investments	Detroit, MI	8/94	NA	7/96	Currently operating as a warehouse
5	Allied Signal Aerospace	Teterboro, NJ	3/90	1975	2/92	Aerospace operation still active under new owner (Honeywell), property under owner control.
6	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.
7	Chevron Corp.	Pawling, NY	4/92	1975	6/94	Recreation area controlled by the Department of Interior

	Name	Location	Date On SDMP	Date of Lic. Term.	Date Off SDMP	Current Use
8	Alcoa	Cleveland, OH	3/90	2/61	4/96	ALCOA's Cleveland works remains a large, multiple-function aluminum refining, casting and refinishing facility
9	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
10	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.
11	Clevite Corp.	Cleveland, OH	8/94	NA	9/98	Building used for multiple small businesses and light manufacturing
12	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.

	Name	Location	Date On SDMP	Date of Lic. Term.	Date Off SDMP	Current Use
13	Old Vic	Cleveland, OH	3/92	7/93	12/93	This site is now the location of an ongoing warehousing operation.
14	Babcox & Wilcox	Apollo, PA	9/93	4/97	1/97	Fenced field
15	Budd Co.	Philadelphia, PA	3/90	4/93	4/93	Property secure; under owner control
16	Cabot Corp.	Boyerton, PA	3/90	Active	9/98	Active license
17	Pesses Co. (METCOA)	Pulaski, PA	3/90	7/86	9/99	Abandoned buildings and property controlled inside security fence
18	Schott Glass Technologies	Durea, PA	3/90	4/92	9/98	Security fence maintained around owner controlled area
19	UNC Recovery Systems	Wood River Junction, RI	3/90	9/95	10/95	Property remains under UNC ownership, CERLCA issues being addressed
20	Amax Inc.	Washington, WV	3/90	6/94	6/94	Department of Energy site

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 _{total} Subsurface-50 pCi/g U _{total}	Active decommissioning, estimated completion date-2004. No unforeseen 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 unforeseen 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 unforeseen 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 unforeseen 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 unforeseen 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 unforeseen 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 unforeseen factors delaying decommissioning.
8 Horizons, Inc. Cleveland, OH	8/94	8/99	SDMP	Non-licensee. Active decommissioning. Estimated clean-up completion date 2000. No unforeseen 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 unforeseen factors delaying decommissioning.
10 RMI Titanium Co. Ashtabula, OH	8/91	8/99	SDMP	Active decommissioning. No unforeseen 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

Attachment 6

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	Worcester, 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- successfully remediated
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	International Chemical and Nuclear	West Mifflin, PA	1969	Closed - successfully remediated
26	Nuclear Laundry Rental Services	Jeanette, PA	1973	Closed - successfully remediated
27	Superior Steel	Pittsburgh, PA	1958	Review pending
28	Westinghouse Electric	Blairsville, PA	1961	In process of decommissioning
29	Union Carbide	Lawrenceburg, TN	1974	In process of decommissioning
30	American Smelting & Refining	Houston, TX	1971	Transferred to Texas
31	Dow Chemical	Freeport, TX	1964	Transferred to Texas
32	LTV Corporation	Dallas, TX	1964	Transferred to Texas
33	Marquardt Corp.	Ogden, UT	1971	Transferred to Utah
34	Marquardt Corp.	Hill AFB, UT	1972	Transferred to U.S. Air Force Radioisotope Committee

Name	Location	Date of Lic. Term.	Status	
35	Atlantic Research Corp.	Alexandria, VA	1979	Under Regional review
36	Fostoria Glass	Moundsville, WV	1969	Closed- dose assessment indicated facility below 25mrem/yr
37	Homer Laughlin	Newell, WV	1972	Under Regional review
38	International Mining Co.	Greenville, WY	1961	Under Regional review

In addition, Region 1 has identified 92 sites with minor amounts of contamination and therefore not included on this list. Of these sites, 82 have been remediated and closed, four have been transferred to Agreement States for closure, and six are pending closure.

Site Status Summaries

AAR MANUFACTURING INC.

1.0 SITE IDENTIFICATION

Location: Livonia, MI
License No.: N/A
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 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. 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 a revision to the approved RP. The NRC conducted an acceptance review of the revision, and informed AAR that further remediation at the site would be conducted at its own risk. The NRC is now conducting a technical review of the revised RP. AAR conducted remediation of indoor areas in January 2000.

Involved Parties:

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General Counsel and Secretary
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Mr. David W. Minnaar, Chief
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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 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. To try 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 Paper 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 is now reviewing the revised RP.

Since AAR, the current owner of the site, 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

1. An environmental impact statement (EIS) will not be required.
2. Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 11/02

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

B&W PARKS OPERATING FACILITY

1.0 SITE IDENTIFICATION

Location: Vandergrift, PA
License No.: SNM-414
Docket No.: 07000364
License Status: Active
Project Manager: Dominick Orlando

2.0 SITE STATUS SUMMARY

The BWX Technologies (BWXT) [formerly known as Babcock & Wilcox (B&W)] facility is located in the town of Vandergrift, in Armstrong Co. PA., approximately 37 kilometers (KM) (23 miles) east-northeast of Pittsburgh. Principal 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 been decommissioning the above-grade structures at the site under its license since the mid-1990s.

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
Telephone: 724-842-1472

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Pennsylvania Department of Environmental Protection
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Mr. Roy Woods, Health Physicist
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3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

BWXT has requested NRC approval of a proposal to evaluate radionuclide concentrations in roofing material for two of the three buildings at the site on a volumetric basis. If the staff's evaluation of BWXT's dose assessment indicates that the material will not pose an unacceptable risk if disposed of as requested, the staff will seek Commission approval of the approach. 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

1. Standard assumptions
2. Confirmatory surveys for individual building footprints will be done by Region I as remediation is completed.
3. The site-wide confirmatory survey will be performed by the Oak Ridge Institute of Science and Education (ORISE).

5.0 ESTIMATED DATE OF CLOSURE 12/02

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

B&W PARKS SHALLOW LAND DISPOSAL AREA

1.0 SITE IDENTIFICATION

Location: Vandergrift, PA
License No.: SNM-2001
Docket No.: 07003085
License Status: Active
Project Manager: Dominick Orlando

2.0 SITE STATUS SUMMARY

The BWX Technologies (BWXT) [formerly known as Babcock & Wilcox (B&W)] facility is located in the town of Vandergrift, in 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 fuel fabrication facility. Principal contaminants at the site are natural, enriched, and depleted uranium, and lesser quantities of Am-241, plutonium and thorium.

BWXT will submit the decommissioning plan (DP) on or before December 6, 2000. NRC staff currently anticipates that BWXT will request license termination with restrictions on future site use.

Involved Parties:

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Mr. Roy Woods, Health Physicist
PADEP
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Pittsburgh, PA 15222-4745
Telephone: 412-442-4222

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

NRC staff currently anticipates that BWXT will request license termination, with restrictions on future land use. There is significant public and Congressional interest in the site. The PADEP is also involved in the decommissioning and has stated that it will not assume responsibility 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
Vandergrift, PA 15690

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

4.0 ASSUMPTIONS

1. Standard Assumptions
2. BWXT will request license termination with restrictions on future land use.
3. 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).
4. 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 8/09

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

CABOT PERFORMANCE MATERIALS INC. (CABOT)

1.0 SITE IDENTIFICATION

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

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. The 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. (current owner of the site)] petitioned for a hearing. Issues related to the hearing requests are discussed below. Beyond the Hearing, the public interest in the site is minimal.

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. Cabot plans to respond by mid-February 2000.

Involved Parties:

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Ivna Shanbaky
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Jonathan E. Rinde, Esq. (Attorney for current property owner)
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Carl Engleman (Attorney for City of Reading and Redevelopment Authority)
Rhoda, Stoudt & Bradley
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There are no immediate radiological hazards at the site.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

In the hearing requests, Jobert Inc. indicated that it was concerned that leaving the contamination in place would decrease the value of the property. The City of Reading and the Redevelopment Authority were considering acquiring the site for future commercial/industrial development. The City of Reading also has a proposed roadway right-of-way at the base of the slope and is concerned about contamination in this area, relative to future exposures, should this road become developed. Cabot petitioned and was granted an abeyance in the proceedings until October 15, 1999, to conduct further discussions with the various parties and resolve their issues. Cabot has requested an additional extension until January 15, 2000. The Atomic Safety and Licensing Board is reviewing this request.

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 when the process building was decontaminated in 1977 and 1978. The pile encompassed 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. This is a major technical issue because they did not analyze the default resident farmer. SNL's preliminary review of the DP indicates that doses could be higher if a residential scenario were considered. Staff believes that a resident farmer scenario may not be applicable at this site, considering its urban location. However, staff believes that consideration of a resident gardener scenario is warranted.

Another major technical issue is the slag waste form. Contamination in slag will behave differently than contamination in soil. Contamination in slag tends to be relatively insoluble. In addition, the soil-to-plant transfer factors will be different and are not well documented. 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

1. Cabot's proposal for unrestricted release without remediation is valid.
2. Cabot takes no more than 60 working days to respond to the RAI.
3. Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 7/01

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

CABOT PERFORMANCE MATERIALS INC. (CABOT)

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

Surface and subsurface uranium and thorium contamination in the form of slag in four discrete areas of the site.

Cabot submitted a 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. Public interest in decommissioning activities at this site is minimal.

The DP proposes 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 is scheduled to complete its preliminary review in January 2000. After this evaluation, we plan to submit a request for additional information.

Involved Parties:

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Steffan R. Helbig, PG
ST Environmental Professional, Inc.
RR 4, Box 239 Lutz Road
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Ivna Shanbaky
PADEP- Radiation Protection
555 North Lane, Suite 6010 Lee Park
Conshohocken, PA 19428-2233
Telephone: 610-832-6032

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. The four areas combined encompassed approximately 23,206 cubic meters (820,000 cubic feet). The average total contamination levels for thorium-228, thorium-232, uranium-238, and their progeny are 271 pCi/g. Cabot proposes to leave the material in place without remediation under criteria in the License Termination Rule.

Cabot proposed worker and non-farmer resident scenarios. This is a major technical issue because it did not analyze the default resident farmer. Staff believes that a resident farmer scenario may be applicable at this site, considering its rural location.

Another major technical issue is the slag waste form. Contamination in slag will behave differently than contamination in soil. Contamination in slag tends to be relatively insoluble. In addition, the soil-to-plant transfer factors will be different and are not well-documented. No major offsite environmental or financial assurance issues are associated with this site. A potential financial assurance concern would arise if off-site disposal is required.

4.0 ASSUMPTIONS

1. Cabot's proposal for unrestricted release without remediation is valid.
2. Cabot takes no more than 60 working days to respond to the request for additional information (RAI).
3. Standard assumption

5.0 ESTIMATED DATE FOR CLOSURE 4/01

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

DOW CHEMICAL COMPANY (DOW)

1. SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

Thorium contaminated slag storage piles at Dow's Midland and Bay City, Michigan, sites.

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 partially approved in July 1996, and fully approved in July 1997, for unrestricted release. 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 branch technical position (BTP) Option 1, and the final survey plan, was granted in July 1997.

Remediation at the Midland site has been completed and a confirmatory survey of the site was performed by NRC's Region III office, in May 1997. The Midland site was approved for backfill in August 1997 and Dow is awaiting the release of the Midland site for unrestricted use from the NRC license.

Based on the review of the current status of the remediation and other factors at the Bay City site, Dow has submitted a revised schedule dated December 1, 1999. The schedule indicates that the remaining remediation will be completed by September 2000, and the building structures will be dismantled in November 2000. Dow is planning to contact the NRC to discuss the remaining issues in a meeting either at the NRC Headquarters or at the site before finalizing the proposed approach.

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.

Midland Site

There are no remaining technical or regulatory issues at the Midland site. The NRC needs to prepare the EA, SER, FONSI, and the Federal Register notice to release the site from the license for unrestricted use by Dow.

Bay City Site

Part of the Bay City site is in wetlands. Therefore, there are potential issues with the restricted release, that concern the State of Michigan and the U.S. Army Corps of Engineers authority over wetlands. The staff has not identified any major off-site environmental issues that will not be addressed during decommissioning of the facility.

NRC met with the licensee, in August 1998, to further discuss complications that it is having with the removal of material at the Bay City site and the status of guidance on the License Termination Rule criteria. It indicated that it will probably revise its decommissioning plan to decommission the Bay City site, using the Part 20, Subpart E, decommissioning criteria, and ask for restricted release. It is currently reviewing the new guidance from the NRC, on the License Termination Rule before formally informing the NRC that it intends to change the DP to decommission under restricted release.

Dow is planning to meet with the NRC to discuss decommissioning funding issues and present progress in the preparation of a new estimate for financial assurance. To date, there has been minimal public interest in the decommissioning activities at this facility.

4.0 ASSUMPTIONS

1. The State of Michigan's and the U.S. Army Corps of Engineers's possible concerns with the NRC's release criteria will not be significant enough to unduly delay the project schedule.
2. Dow takes no more than 45 working days to respond to the RAI.
3. Standard assumptions

5.0 ESTIMATED DATES FOR CLOSURE Midland Site: 6/00 Bay City Site: 2/02

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

FANSTEEL INC.

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, scandium, uranium, thorium, 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 August 13, 1999, Fansteel Inc. submitted a DP requesting approval to construct a low-level radioactive waste (LLW) disposal cell on-site in Muskogee, OK. The NRC staff is undertaking a technical review of the DP. Approval of the proposed action would permit Fansteel to excavate the cell area, create the waste monolith, cover the monolith, and release the site area for restricted use under 10 CFR 20.1403.

Involved Parties:

John Hunter
Corporate Manager of
Engineering and Facilities Construction
Fansteel Inc.
Number Ten Tantalum Place
Muskogee, OK 74403-9296
Telephone: 918-687-6303

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

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 tantalum, 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 m³ (594,000 ft³). "Offsite" is defined as any other area and may include areas currently owned by Fansteel and located adjacent to the Eastern Property Area. Current processing operations will reduce the source of much of the existing soil and groundwater contamination. Fansteel is proposing to release the site for restricted use in accordance with the release criteria presented in the License Termination Rule.

On August 13, 1999, the licensee submitted a Decommissioning Funding Plan (DFP) with its amendment request to construct a containment cell. The DFP specifies a total cost estimate of \$4,694,890 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.

There is public interest about the decommissioning of this site. On October 14, 1999, the State of Oklahoma requested a hearing on the DP. The Atomic Licensing Board put the hearing in abeyance pending staff review of the DP. In addition to the State of Oklahoma, the other involved party includes:

Mr. Joe Byrd
Principal Chief
Cherokee Nation
P.O. Box 948
Tahlequah, OK 74465-0948

4. ASSUMPTIONS

1. The Fansteel DP will satisfactorily resolve the issues regarding flood plain, financial assurance, and institutional controls.
2. Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 8/20

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

HERITAGE MINERALS INC. (HMI)

1.0 SITE IDENTIFICATION

Location: Lakehurst, New Jersey
License No.: SMB-1541
Docket No.: 040-08980
License status: Renewed - 3/31/98 (possession/decommissioning only)
Project Manager: Craig Gordon, R I

2.0 SITE STATUS SUMMARY

The HMI FSSP 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, 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 either to an authorized recipient (possibly in Utah) or export it under their NRC export license. HMI conducts routine radiation surveys and security checks of the property. 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
Telephone: (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 m³ (24,717 ft³) tailings pile of monazite-rich sand left behind from the physical separation processes of the mining operation 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 site owner expects to 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. The licensee has been negotiating with the L&T Minerals Company in Malaysia but has encountered several

delays because of Malaysian import restrictions. Currently, it is exploring transfer of the tailings to a domestic company licensed to process the material for its uranium content.

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 tailings pile, to other areas of the site, which contain exempt quantities of uranium and thorium, but do not exceed current 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.

To date, public interest in the decommissioning activities at this site has been minimal. There are no financial assurance issues associated with this site.

4.0 ASSUMPTIONS

1. HMI is able to negotiate transfer of the material to an authorized recipient.
2. Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 9/01

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

JEFFERSON PROVING GROUND

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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. NRC staff participated in "Jefferson Proving Ground Restoration Advisory Board" meetings. The advisory board, which is comprised of community members and technical experts, assesses progress on the remediation of the Jefferson Proving Ground.

The U.S. Army submitted a revised DP in August 1999. NRC staff has reviewed the DP and sent a RAI, in January 2000. The revised DP will be based on 10 CFR Part 20, Subpart E. The staff estimates that it will receive a response to the RAI in April 2000. Because the EIS Team has determined that, at a minimum, a supplemental EIS is needed for this site, NRC estimates the approval on the DP in October 2001.

Involved Parties:

Richard Hill, Co-Chair
Jefferson Proving Ground Restoration Advisory Board
P.O. Box 813
Madison, IN 47250

Kevin Herrom, State Project Manager
Federal Programs Section
Office of Land Quality
Indiana Department of Environmental Management
P.O. Box 6015
Indianapolis, IN 46206

Karen Mason-Smith, Remedial Project Manager
U.S. Environmental Protection Agency
Mail Code SRS-5J
77 West Jackson Blvd.
Chicago, IL 60604

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 not found an entity for long-term institutional control of the site. Plans to transfer the site to the U.S. Fish and Wildlife Service are still in discussion. The licensee is examining the possibility of the Air National Guard as the institutional control.

4.0 ASSUMPTIONS

1. The U.S. Army will choose restricted release.
2. The U.S. Army will find an appropriate agency for long-term institutional control of the site.
3. The request for hearing is approved.
4. 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. This site is surrounded by Federal land containing unexploded ordnance. The surrounding land cannot be released without significant cleanup. Once the EIS is completed, and the DP is approved, the length of time to complete remediation of the site is estimated to be 6 months.

5.0 ESTIMATED DATE FOR CLOSURE 6/03

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

KAISER ALUMINUM SPECIALTY PRODUCTS (KAISER)

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 has concluded that the RP is acceptable, and has prepared an SER, an EA, and a FONSI, to support approval of the plan. Approval of the RP is expected by the end of March 2000.

Kaiser will submit a remediation plan for the Kaiser property (Phase 2) in September 2000.

Involved Parties:

J. W. (Bill) Vinzant, Project Manager
Kaiser Aluminum & Chemical Corp.
9141 Interline Ave., Suite 1A
Baton Rouge, LA 70809
Telephone: 225-231-5116

Henry Morton
Morton Associates
10421 Masters Terrace
Potomac, MD
Telephone: 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 will be 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 "NRC Action Plan to Ensure Timely Cleanup of SDMP Sites," and NRC's BTP, "Disposal or Onsite Storage of Thorium or Uranium Wastes from Past Operations." During Phase 2 remediation Kaiser will dispose of thorium-contaminated soil from the Kaiser

facility. Because of the large volume of contaminated material present [estimated to be between 56,640 - 84,960 m³ (2-3 million ft³)] remediation will be a complex and lengthy process. It is expected that Kaiser will propose on-site disposal with a restricted release. It is likely that an EIS will be required for Phase 2 (Kaiser property) remediation.

Kaiser is expected to propose on-site disposal, with restrictions. The NRC will have to determine the acceptability of on-site disposal. In addition, because of the number of sites proposing on-site disposal in Oklahoma, it is possible that the State may not favor on-site disposal.

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. Region IV and OGC believe that the NRC should require Kaiser to obtain a license, for the following reasons: (1) without a license, there is no formal way to involve the public in the decommissioning process, because there is no opportunity for a public hearing; and (2) without a license, Kaiser is not billed for NRC's regulatory reviews, etc., and the cost for NRC efforts is paid by licensees. This issue is likely to delay the decommissioning of the Kaiser site.

There are no financial assurance issues identified at this time. However, if restricted release at the site is not approved, and the contaminated material at the site must be disposed of, the decommissioning costs could be extremely high. 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

1. Because of the large volume of contaminated material, it is likely that Kaiser will propose restricted release with on-site disposal. Since Kaiser is a non-licensee, there is no need for a hearing. However, it is likely that an EIS will be required, to comply with National Environmental Policy Act (NEPA).
2. For current planning purposes, it is assumed that Kaiser will not become a licensee.
3. Standard assumptions

5.0 ESTIMATED DATES FOR CLOSURE

Phase 1 closure - 11/00

Phase 2 closure - 7/07

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

KERR McGEE - CIMARRON

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 quarterly samples (2 years).

In April 1996, the NRC amended Cimarron's license to release, for unrestricted use, the Phase I subareas of the site - 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 completed its reviews for subareas J and O and performed confirmatory surveys. The staff plans on amending the license to release these sub-areas in February 2000. Other FSSRs under NRC review include Subarea F (concrete rubble); L (surface); I; H; and M.

The site is also licensed for on-site disposal of up to 500,000 cubic feet of Option 2 contaminated soil. Approximately 400,000 cubic feet were emplaced in the first two disposal cells and contaminated soil is currently being emplaced in the third and final cell.

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 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. ODEQ will retain controls over the non-radiological groundwater components.

Cimarron is grandfathered under the provisions of 10 CFR 20.1401.

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

1. There is a site-specific assumption that, as early as October 1, 2001, 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.
2. Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 5/02

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

KERR McGEE - CUSHING REFINERY

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 to 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 this revised DP (license amendment 10, dated August 23, 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.

Involved public interest group:

Steve Cabbage
Citizens Oversight Committee
123 West Boardway
Cushing, OK 74023

4.0 ASSUMPTIONS

1. Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 12/03

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

KISKI VALLEY WATER POLLUTION CONTROL AUTHORITY (KVVWPCA)

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

The KVVWPCA site is located about 40 Km (25 miles) Northeast of Pittsburgh, on the flood plain of the Kiskiminetas River. Approximately 9000 m³ (317,790 ft³) of uranium-contaminated sludge ash, with an average concentration of ~147 pCi/g and ~4 percent enrichment are currently distributed in a 4,000 m² (43,040 ft²) lagoon on-site. 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 KVVWPCA prepare and submit a closure plan. Presently time no plan has been developed; however, KVVWPCA 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 KVVWPCA lagoon. NRC recently developed site-specific remediation guidance, for the KVVWPCA facility, that was sent to KVVWPCA in November of 1999. Selected representatives from the NRC and PADEP staffs plan to meet with KVVWPCA for clarification of the guidance in late January 2000.

Involved Parties:

James Yusko
PADEP Southwest Regional Office
400 Waterfront Drive
Pittsburgh, PA 1522-4745
Telephone: 412-442-4220

Robert Laskey, Engineer
Chester Engineers
600 Clubhouse Drive
Pittsburgh, PA 15108
Telephone: 412-269-5700

Robert Maiers
PADEP Central Office
PADEP
PO Box 8469
Harrisburg, PA 17105-8469

Theodore G. Adams, Proj. Manager
B Koh & Associates, Inc.
11 West Main Street
Springville, NY 14141-1012
Telephone: 716-592-3431

Robert N. Kossak, Manager
Kiski Valley Water Pollution
Control Authority
1200 Pine Camp Road
Leechburg, PA 15656
Telephone: 724-568-3655

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.

Currently, approximately 9000m³ (317,790 ft³) of uranium-contaminated ash, with an average concentration of 147 pCi/g and ~4 percent enrichment, are located in the lagoon on the KVWPCA site. However, 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:

Honorable Senator Rick Santorum
United States Senate
Washington, DC 20510-3804

Senator Patrick J. Stapleton
The William Houston House
581 Philadelphia Street
Indiana, PA 15701

Mr. F. L. (Bud) Shannon
Chairman of the Board of Parks
Township Supervisors
Vandergrift, PA 15690
RD1 Box 645
Telephone: 724-568-3644

4.0 ASSUMPTIONS

1. No EIS will be required.
2. KVWPCA, currently not a licensee, will maintain such status and therefore not require a license amendment.
3. KVWPCA will submit a DP to the NRC one year after meeting with NRC staff to review decommissioning guidance.
4. 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 4000m² (43,040 ft²) lagoon], and it is anticipated that no buildings will require remediation.
5. Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 5/05

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

LAKE CITY ARMY AMMUNITION PLANT (LCAAP)

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 DP 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 it. On August 12, 1998, the licensee submitted a DP for the 549 m (600-yd) bullet catcher and Building-3A areas. The staff expects to complete this review by March 2000.

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 forwarded this agreement to the EPA by letter dated October 20, 1998.

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 m³ (750,000 ft³)]. In addition, this sand material is also potentially contaminated with leachable lead. The licensee is currently evaluating how to best proceed with Area 10 remediation. The options being evaluated are on-site disposal, soil washing, off-site disposal, or delaying further remediation of this area and addressing remediation under a Comprehensive Environmental Response Compensation and Liability Act (CERCLA) process. The licensee plans to perform additional characterization of this area in late 1999. Until the licensee decides how it plans to complete remediation of this area, this remediation effort is on hold.

Involved Parties:

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

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

Don Kerns, Chief
Division of Natural Resources
State of Missouri

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

1. Standard assumptions.
2. The licensee decides how it plans to complete remediation of Area 10 by the end of FY00, and completes remediation of this area by the end of FY01.

5.0 ESTIMATED DATE FOR CLOSURE 3/02

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

MALLINCKRODT CHEMICAL INC. (MALLINCKRODT)

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 an RAI to Mallinckrodt on February 12, 1999. The NRC is currently waiting for Mallinckrodt's response. Mallinckrodt is expected to submit the Phase 2 DP on June 19, 2000.

Involved Parties:

Mark Puett, Manager
Environmental Affairs
Mallinckrodt Chemical, Inc.
Mallinckrodt and Second Streets
P.O. Box 5439
St. Louis, MO 63147
Telephone: 314-539-1344

Henry Morton
Morton Associates
12041 Masters Terrace
Potomac, MD 20852
Telephone: 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.

Another issue at the Mallinckrodt site concerns the use of 10 CFR Part 20, Subpart E, release criteria. Mallinckrodt is one of the first licensees to decommission using the 25 mrem criteria. Therefore, the decommissioning process may be slower than expected because the licensee and the staff have minimal experience in implementing and reviewing a MARSSIM analysis.

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). As a result, 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 Community Advisory Panel (CAP), made up of Mallinckrodt employees and the public, in place for five years. The CAP Chairman is Jack Fraunhoffer of Mallinckrodt (314-539-1112).

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

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

5.0 ESTIMATED DATES FOR CLOSURE Phase 1 - 10/03 License Termination - 9/06

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

MICHIGAN DEPARTMENT OF NATURAL RESOURCES (MDNR)

1.0 SITE IDENTIFICATION

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

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 and uranium. 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 2001. 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. The licensee indicated an interest to remediate the site for restricted release. The Michigan Department of Environmental Quality (MDEQ) manages the funds for decommissioning this site.

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

James C. Forney, Director - Closed Sites
Waste Management
19200 West 8 Mile Road
Southfield, MI 48075

Steve Masciulli, Health Physicist-Industrial Hygienist
Cabrera Services, Inc.
809 Main Street
East Hartford, CT 06108

Cole T. Jacobson, Senior Environmental Scientist
Harding Lawson Associates
39255 Country Club Drive, Suite B-25
Farmington Hills, MI 48331

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. The licensee is licensed to possess 2.6 Ci of thorium, 0.26 Ci of uranium; and sealed sources for calibration.

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 Option 1 level of the 1981 BTP.

In 1984, the 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 MDEQ, 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) 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 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.

4.0 ASSUMPTIONS

1. MDNR will choose restricted release.
2. MDNR, a State agency, is appropriate for long-term institutional control of the site.
3. Standard assumptions

The probability for a hearing is low if the licensee satisfies the restricted or 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 may be needed if

the restricted release option is selected. Once the EIS is completed and the DP is approved, the length of time to complete remediation of the site is estimated to be 6 months.

5.0 ESTIMATED DATE FOR CLOSURE 8/05

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

MINNESOTA MINING AND MANUFACTURING CO. (3M)

1.0 SITE IDENTIFICATION

Location: Pine County, MN
License No.: SNM-764, SMB-239 (terminated)
Docket No.: 040001020
License Status: Terminated
Project Manager: Kristina Banovac

2.0 SITE STATUS SUMMARY

Contamination at the site consists of uranium (U)- and thorium (Th)- contaminated scrap materials (lockers, piping duct work, and other scrap) sealed in steel drums and buried under a minimum of 1.2 meters (4 feet) of soil conducted in accordance with former 10 CFR 20.304 regulations. The total amount of waste estimated to be buried at the site is 55.9 megaBecquerel (Mba) (1.51 millicuries (mCi)) of Th-232, 115.1MBq (3.11 mCi) of U-238 natural; and 443.6MBq (11.99 mCi) of U-235 (93 percent enriched).

The 3M site was brought to the attention of U.S. Nuclear Regulatory Commission (NRC) in 1989 by the Minnesota Pollution Control Agency (MPCA). MPCA inquired about NRC jurisdiction over sites where waste was buried in accordance with 10 CFR 20.304. In August 1990, NRC's Office of the General Counsel concluded that the NRC does have jurisdiction over material buried under 10 CFR 20.304, even if the license had been previously terminated.

During 1992 and 1993, the NRC performed dose assessments (using the RESRAD code) to determine whether additional remediation would be required to release the 3M site for unrestricted use. On October 14, 1994, the NRC provided a copy of the dose assessment to 3M for review and comment. 3M responded to NRC's dose assessment on January 31, 1995, calling the assessment flawed. In May 1995, the NRC notified 3M that a decision on overall site management of the 3M site would be deferred pending promulgation of the rulemaking on "Radiological Criteria for Decommissioning" and completion of the Shieldalloy draft environmental impact statement (DEIS). On August 20, 1997, the NRC notified 3M that the Shieldalloy DEIS did not provide information directly applicable to the 3M site. In addition, the NRC requested that 3M provide a schedule for decommissioning the site.

On February 25, 1998, 3M submitted the dose assessment to demonstrate that site remediation was not necessary. The NRC notified 3M, on March 22, 1999, that the dose assessment was inadequate, and that 3M should provide the NRC with a remediation plan (RP) and schedule for decommissioning the site by May 6, 1999. 3M requested, and received, approval to delay submitting its RP until November 1, 1999, so that additional site-specific hydrologic data could be collected. On October 28, 1999, 3M submitted hydrologic data supporting a revised dose assessment that complies with 10 CFR 20.1402 unrestricted release criteria. Staff reviewed the dose assessment and concluded that more information was needed before it could accept the dose assessment as demonstration that unrestricted-release criteria were met. A meeting was held with 3M on December 14, 1999, to discuss NRC's review of the 3M dose assessment and 3M's request for being removed from the site decommissioning management plan (SDMP) list. There are no immediate radiological hazards at the site.

Involved Parties:

1. Duane C. Hall, Manager
Ionizing Radiation, Health Physics Services
Minnesota Mining and Manufacturing Co.
3M Center, Building 220-3W-06
P.O. Box 33283
St. Paul, MN 55133-32383

Day-to-day contact: Fred Entwhistle, 612-736-0740

2. Timothy Donakowski
Minnesota Department of Health
Division of Environmental Health
121 E. Seventh Place, Suite 220
P.O. Box 64975
St. Paul, MN 55164-0975
Telephone: 612-215-0935

Release Criteria: limits specified in 10 CFR Part 20, Subpart E

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

3M is not currently licensed by the NRC.

Based on an agreement between 3M and the MPCA, 3M has recorded use restrictions on the property, and MPCA has proposed removal of the 3M site from its Permanent List of Priorities (public comment period ends December 23, 1999).

3M has not submitted a decommissioning plan because 3M believes that the site meets the unrestricted-release criteria in 10 CFR 20.1402, and, therefore, decommissioning is not necessary. 3M is now in the process of determining site-specific Kd values to support its dose assessment. 3M has requested to be removed from the SDMP list.

4.0 ASSUMPTIONS

1. Site-specific Kd values will support 3M's dose assessment.
2. Remediation at the site will not be required.

5.0 ESTIMATED DATE FOR CLOSURE 8/00

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

MOLYCORP INC.

1.0 SITE IDENTIFICATION

Location: Washington, PA
License No.: SMB-1393
Docket No.: 04008778
License Status: Timely renewal
Project Manager: LeRoy Person

2.0 SITE STATUS SUMMARY

This site is located 56.3 Km (35 mi) southwest of the City of Pittsburgh in Canton Township, 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 m³ (10,000 yd³). Thorium is the primary contaminant. However, the unprocessed 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 up 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 m³ (60,000 - 150,000 yd³).

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. NRC staff began a review of the ER, before the finalization of the LTR. The ER review is on hold pending its revision to address the new LTR.

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 completed an acceptance review of the Part I DP on October 19, 1999. The licensee also committed to provide Part II of the DP for review by April 16, 2000.

Molycorp has submitted a request to amend its license to construct and operate an interim storage facility, at its Washington site, for decommissioning waste from its York facility, pending a decision on its proposed onsite disposal cell.

Involved Parties:

George W Dawes, Supervisor
Laboratory & Environmental Eng
Molycorp, Inc.
300 Caldwell Ave
Washington, PA 15301

James Yusko
Commonwealth of Pennsylvania
PADEP
400 Waterfront Dr
Pittsburgh, PA 15222

Canton Township Supervisors
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

Because the Molycorp Washington site will be reviewed in two parts, with different sets of criteria for each part (concentration limits from the SDMP Action Plan for Part I and dose limits from the new LTR for Part II), an assessment must be made of the possibility and extent of exposure an individual could receive simultaneously from both areas.

The disposal impoundment would be a restricted release and the preliminary dose assessment indicates that an intruder dose (i.e., resulting from failure of institutional controls) could exceed 100 mrem/yr, thereby requiring durable institutional controls and 5-year rechecks [10 CFR Part 20.1403(e)(2)].

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. Representatives from both the City of Washington and Canton Township have filed a request for a hearing concerning the amendment request for temporary storage of York waste on the Washington site.

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 the staff's review.

The licensee has submitted a "parent company guarantee in the amount of \$4.7 million as financial assurance for decommissioning the Washington site. At this time the parent company guarantee is being updated and no problems are anticipated with the instrument.

4.0 ASSUMPTIONS

1. The Part II DP will propose a restricted release requiring durable institutional controls and 5-year rechecks.
2. Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 2/08

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

MOLYCORP INC.

1.0 SITE IDENTIFICATION

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

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 concentrations of thorium and uranium. Although thorium is the primary contaminant, small quantities of uranium may be present. A DP, submitted in August of 1995, proposed clean-up of the site to meet the SDMP Action Plan criteria for unrestricted use (10 pCi/g thorium and natural uranium) and storage of the waste generated, in a temporary storage cell on the Washington site, until approval is granted for disposal of the waste in an impoundment on the Washington site. A significant portion of the site was remediated before approval of the Washington DP.

Molycorp has submitted a request to amend its Washington, PA, license to construct and operate an interim storage facility at its Washington site for decommissioning waste from its York facility, pending a decision regarding its proposed on-site disposal cell at Washington.

Involved Parties:

George W Dawes, Supervisor
Laboratory & Environmental Eng.
Molycorp, Inc.
300 Caldwell Ave
Washington, PA 15301

James Kopenhaver
Commonwealth of Pennsylvania
PADEP
909 Elmerton Ave.
Harrisburg, PA 17110

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 has been asked to provide additional uranium groundwater sampling data before the NRC makes a decision on approval of the DP.

Decommissioning waste at the York facility will not be removed until a decision is reached on the Washington storage amendment.

Molycorp has submitted two bonds totaling \$1.5 million as assurance for decommissioning the site. This amount is considered sufficient for carrying out the proposed alternative.

Public interest appears minimal, at the present time, which probably reflects a lull in significant licensing activity while the staff obtains information from the licensee that was requested by the State of Pennsylvania. One member of the public inquired about and was provided the site characterization report for the York facility.

4.0 ASSUMPTIONS

1. Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 12/00

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

PERMAGRAIN PRODUCTS INC. (PPI)

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 greenfield the site. 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
Telephone: 610-353-8801

William Kirk
Bureau of Radiation Protection
Rachel Carson State Office Building
P.O. Box 8469
Harrisburg, PA 17105
Telephone: 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
Telephone: 717-787-7316

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATE FOR CLOSURE 7/02

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

SAFETY LIGHT CORPORATION (SLC)

1.0 SITE IDENTIFICATION

Location: Bloomsburg, PA
License No.: 37-00030-02
Docket No.: 030-05980
License Status: Active
Project Manager: Jim Kottan, 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.

SLC submitted a Site Characterization Plan, immediately followed by the Decontamination and Decommissioning (D&D) Plan, for NRC review, in November 1998. The D&D Plan describes the licensee's site remediation activities to be performed in sequence on a task basis. Individual tasks include removal of contaminated material from underground storage silos, soil remediation, and decontamination and removal of contaminated building materials. SLC initiated the D&D Plan by beginning to remove radioactive material from the silos in October 1999. It is anticipated that material removal should be completed by the end of March 2000. In June 2000, SLC will reassess its plans for remediation of the site.

The current license expires at the end of 1999. SLC submitted a license renewal for a period of 5 years, primarily to implement the D&D Plan, and proposes unrestricted release after site remediation is completed. The NRC review of the renewal application indicates that financial assurance was inadequate to cover all the necessary tasks identified in the D&D Plan. The NRC staff has recommended Commission approval of the renewal, despite the lack of sufficient financial assurance to cover decommissioning costs.

Involved Parties:

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

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

Bob Maiers
Bureau of Radiation Protection
PADEP
P.O. Box 8469
Harrisburg, PA 17105-8469
Telephone: 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. In the renewal application a request was made for exemption from the financial assurance requirements of 10 CFR 30.35. The licensee has available approximately \$1.9 million for site remediation, but the total estimated clean-up cost is approximately \$14 million. The NRC staff's recommendation to renew the license is to allow SLC to perform the initial tasks identified in the D&D Plan and contribute certain funds to a financial trust account.

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 hazards at the site. Building and groundwater contamination also contributes to issues that require technical review.

To date, public interest in the 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 site.

4.0 ASSUMPTIONS

1. There will be Commission approval of the SLC renewal request.
2. After removal of contaminated material from the silos, the length of time to complete subsequent remediation tasks cannot be determined.
3. SLC will continue to request unrestricted release.
4. Standard assumptions

5.0 ESTIMATED DATES FOR CLOSURE

License Termination - 12/04 Off SDMP - Indefinite

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

SCA SERVICES (SCA)

1.0 SITE IDENTIFICATION

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

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 October 2000. The remediation of the site will start after the DP is approved. 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 Option 1 level of the 1981BTP. 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 does not have to perform additional site characterization. The licensee is licensed to possess 40 metric tons of thorium and 5 metric tons of uranium.

After the radiological survey, the licensee undertook encapsulation 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 MDEQ, 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 of 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.

4.0 ASSUMPTIONS

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

The probability for a hearing is low if the licensee satisfies the restricted or 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 may be needed if the restricted-release option is selected. Once the EIS is completed and the DP is approved, the length of time to complete remediation of the site is estimated to be 6 months.

5.0 ESTIMATED DATE FOR CLOSURE 9/04

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

SEQUOYAH FUELS CORPORATION (SFC)

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 pCi/g to more than 500 pCi/g of (primarily) uranium and thorium. Uranium concentration in the groundwater ranges from ~200 - 30,000 pCi/l. Radium concentration in the raffinate sludges are about 300 - 350 pCi/g. There is also process system waste comprising piping, vessels, and building materials contaminated with uranium in various chemical forms such as yellowcake, uranyl nitrate, and uranium hexafluoride. The total radiological and hazardous waste volume is estimated to be 141,600 - 311,520 m³ (5 - 11 million ft³).

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. A contractor will perform much of the EIS.

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
Telephone: 918-489-2291

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

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

Michael Hebert, PE
Enforcement Officer, EPA, Region 4
1445 Ross Ave.
Dallas, TX 75202-2733
Telephone: 918-456-0671 x2704

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

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

In the 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; SFC has appealed to the Commission.

SFC proposes "monitored natural attenuation" as the remediation alternative for groundwater. SFC plans to stabilize all other material and place it in an on-site cell under criteria in the LTR. SFC proposed the default resident-farmer scenario, but did not propose penetration of the disposal cell.

Other issues include the following:

In addition to Oklahoma's hearing request, 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
Telephone: 508-751-4615

Environment As Related To Health (EARTH)
JoKay Dowell, NRMNC Site Manager
PO Box 73
Park Hill, OK 74451
Telephone: 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
Telephone: 918 489 5784

Total financial assurance is a certificate of deposit for \$750,000 to meet the requirements of the formula value identified in the NRC financial assurance rule; \$5.4 million from a "parent company guarantee" that resulted from settlement of an NRC Order, and a written promise, from the licensee, to devote its resources to decommissioning activities; also as settlement of the Order. The licensee estimate to decommission the site is \$85 million, of which approximately \$22 million is direct remediation cost, and \$2 million to a fund for long-term site control and monitoring.

EPA RVI 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, between the EPA, who has issued an AOC under the RCRA, and the NRC, for the limited funds available for decommissioning the site. There is close coordination between the agencies on this issue.

4.0 ASSUMPTIONS

1. SFC's proposal for restricted-release, based on licensee plans and limited financial resources, is valid.
2. Standing will be granted to the State of Oklahoma, and a Subpart L hearing will be held; it will not impact the decommissioning schedule.
3. 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.
4. Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 4/09

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

SHIELDALLOY METALLURGICAL CORPORATION (SHIELDALLOY)

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 m³ (635,580 ft³) of slag and approximately 15,000 m³ (529,650 ft³) 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 October 19, 1999, 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 still active and has not specified a date for submission of a DP.

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 under CERCLA, 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 the past bankruptcy situation, the Shieldalloy, NJ, site 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 October 19, 1999, 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

1. The site would be released under restricted-use conditions, because Shieldalloy is proposing on-site stabilization. This assumes that the licensee's institutional controls would be approved by the NRC.
2. 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. Unrestricted release of the site would then be an option.
3. Shieldalloy will elect to begin decommissioning in 2002.
4. Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 9/10

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

UNION CARBIDE CORPORATION

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

An RP 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 RP was delayed until July 1999. The NRC completed its review of the RP and discussed the results of its review with UCAR in August and December 1999. The RP proposes unrestricted release of the site, based on the 10 CFR Part 20, Subpart E release criteria for soil contamination and the "Guideline for Decommissioning of Facilities," for buildings and structures. An RAI will be submitted to UCAR in February 2000.

Involved parties:

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

Phil Brandt
Nuclear Fuel Services, Inc.
1205 Banner Hill Road
Erwin, TN 37650
Telephone: 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
Telephone: 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 RP, 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 RP will be approved in two phases. In Phase 1, the NRC will approve decommissioning activities associated with building remediation. In Phase 2, the NRC will approve decommissioning activities associated with soil remediation. A two-phase approach is being used because UCAR is proposing to use the cleanup criteria found in the 1993 "Guideline for Decommissioning of Facilities" for buildings and structures. UCAR is "grandfathered," and thus able to use these criteria for buildings if the NRC approves the RP before August 20, 2000.

One issue that will affect the timeliness of remediation at the UCAR site is the derived soil concentration guideline (DCGL), which is based on 10 CFR Part 20 - Subpart E. The RP included dose assessment in support of the DCGL. Concerns about the dose assessment, such as site-specific values for sensitive model parameters, will need to be resolved before the soil-release guideline is approved. The approved soil-release guideline will affect the extent of soil remediation.

Another issue involves the final survey methodology needed to closeout the site. Concerns about the final survey methodology will need to be resolved before the RP is approved.

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

1. UCAR's proposed soil-release guideline is valid.
2. No more than 90 days are required to resolve issues identified in the RAI.
3. Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 12/03

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

WATEROWN, GSA

1.0 SITE IDENTIFICATION

Location: Watertown, MA
License No.: NA
Docket No.: 040-WT/GSA
License Status: Expired
Project Manager: Marie Miller, RI

2.0 SITE STATUS SUMMARY

The GSA-controlled property does not have a specific license. The GSA agreed to accept responsibility to perform the required site remediation of contaminated soils and groundwater in areas previously used by the Army for burning uranium scrap and storage of radioactive waste. The New England District (NED) of the Army Corps of Engineers, under agreement with GSA, assumed management of the site decommissioning activities in 1992. On behalf of GSA, the NED submitted, to NRC, several work plans pertaining to characterization, remediation, and decommissioning for unrestricted release of the site. Subsurface material comprises approximately 80 percent building rubble. The final characterization survey submitted in 1996 includes a groundwater contamination assessment. The Corps expects to complete a risk assessment study, for the site, to determine radiological doses from source-term contributions. Additional documents related to site characterization of the burnpit and isolated surface areas are under NRC review.

Involved Party:

Dave Waskiewicz, Project Manager
670 Arsenal St.
Watertown, MA 02172
Telephone: 978-318-8607

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

There are no immediate public health and safety threats from the radiological hazards associated with intrusion of groundwater contamination, because of the low concentrations and insolubility of the levels of uranium identified. The high water table causes occasional flooding of most property areas. The high water table and presence of significant amounts of building rubble at or near surfaces impede efficient characterization of contamination. Some local public interest has been shown, because of the proximity of the site to a residential community. The Watertown Redevelopment Board provides a forum for public interest regarding the Watertown GSA site.

There are no major off-site environmental issues that will not be addressed during decommissioning of the site. There are no financial assurance issues.

4.0 ASSUMPTIONS

1. The Corps completes the feasibility study by December 2000.
2. The Corps is able to complete decommissioning without requesting restricted release, by the end of 2001.
3. Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 12/02

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

WATERTOWN MALL

1.0 SITE IDENTIFICATION

Location: Watertown, MA
License Nos.: 20-01010-04; SUB-238; SNM-244
Docket No.: 04002253
License Status: Active (possession only)
Project Manager: Marie Miller, RI

2.0 SITE STATUS SUMMARY

Slightly elevated levels of subsurface uranium contamination in areas used by the Army for uranium processing operations were identified and remediated. A termination survey of the Arsenal property was followed by an ORISE confirmatory survey completed in 1996. The Commission approved release of the Arsenal property for unrestricted use in July 1997. A risk assessment and report on the Mall site was submitted by the Corp of Engineers in July 1998 to address potentially contaminated drain lines remaining on the property. The ORISE confirmatory survey performed in August 1999 is currently under review and should provide the basis for release of the Mall site for unrestricted use. The Watertown Mall site will be released in accordance with the release criteria presented in the SDMP Action Plan.

Involved Party:

Dave Waskiewicz, Project Manager
676 Virginia Rd.
Concord, MA 01742

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

There are no immediate radiological hazards, financial assurance issues, or public concerns at the Watertown Mall site. The Watertown Redevelopment Board provides a forum for public interest, regarding the Watertown sites.

The staff has not identified any major off-site environmental issues that will not be addressed during remediation of the site.

4.0 ASSUMPTIONS

1. Dose-assessment results for drain lines show no impact on public health and safety.
2. Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 9/00

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

WESTINGHOUSE WALTZ MILL

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 sources 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), that the NRC received 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 expects to start moving soil when the weather permits.

Involved Parties:

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

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

Richard K. Smith
Director, Environmental Remediation
CBS Corporation
11 Stanwix Street
Pittsburgh, PA 15222
Telephone: 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
Telephone: 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 intends 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

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

5.0 ESTIMATED DATE FOR CLOSURE 8/01

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

WHITTAKER CORPORATION

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 NRC found the licensee's previous groundwater monitoring efforts to be inadequate. After the licensee made program changes, the NRC approved the revised program, in June 1999. The licensee was unable to strategically locate additional wells, in certain locations, because an adjacent property owner would not allow the wells to be placed on his property. The licensee submitted an updated plan in December 1999, and proposed to implement the plan in 2000. A meeting was held with the licensee on December 15, 1999, to discuss the NRC review of the Whittaker contractor's risk assessment of different methods of site release.

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.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

The licensee has not submitted a DP. The estimated volume of contaminated material is 14,160 m³ (500,000 ft³). Contaminated waste was apparently dumped off the edge of a steep hill and has accumulated into soil and adjacent groundwater.

Whittaker 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:

Lynn Brickner, Vice President and General Counsel
Whittaker Corporation
1955 N. Surveyor Ave.
Simi Valley, CA 93063-3386
Telephone: 805-526-5700 x 6648

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATE FOR CLOSURE 8/09

The estimated closure date is based on the staff's knowledge of the site through interactions with the licensee. However, this date may not reflect the views of the licensee.

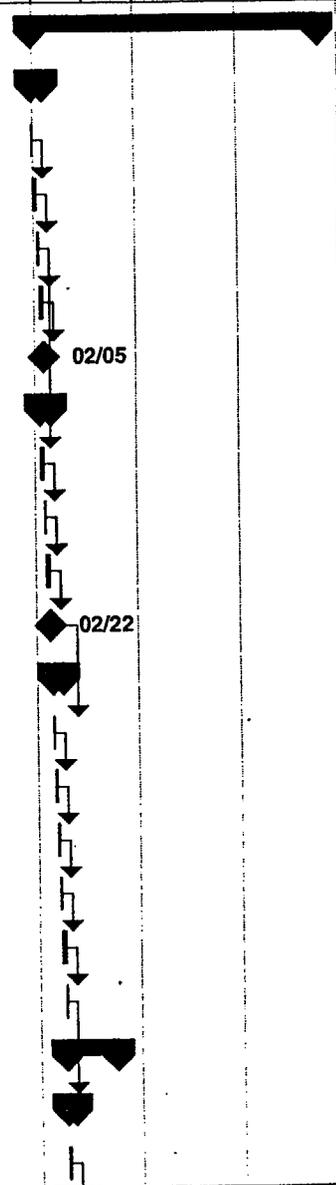
Attachment 8

EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		2008
				H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1
1	Review Phase 1 RAI	06/10/99	0 days			◆	06/10															
2	FRN - EA-FONSI	09/09/99	117 days			■																
3	PM - Draft FRN	09/09/99	5 days			↓																
4	LA - Review of FRN	09/16/99	3 days			↓																
5	Concurrence	09/21/99	25 days			■																
6	Publish FRN	02/14/00	5 days				◆	02/14														
7	Site Decommissioning	02/21/00	270 days			■																
8	Kaiser Performs Cleanup	02/21/00	240 days			■																
9	Region in process confirmatory survey	10/30/00	60 days					■														
10	Kaiser prepare FSSR	01/22/01	30 days					■														
11	Review Final Site Survey Report (FSSR)	03/05/01	70 days					■														
12	FSSR - Acceptance Review	03/05/01	26 days					■														
13	PM - Acceptance Review	03/05/01	10 days					↓														
14	PM - Draft Letter	03/19/01	5 days					↓														
15	Concurrence	03/26/01	10 days					↓														
16	Issue letter to Kaiser	04/09/01	1 day					◆	04/09													
17	FSSR - Technical Review	03/19/01	60 days					■														
18	PM - Technical Review	03/19/01	60 days					■														
19	PM - Draft Letter	03/19/01	5 days					↓														
20	Concurrence	03/26/01	10 days					↓														
21	Issue letter to Kaiser	04/09/01	1 day					◆	04/09													
22	Site Acceptable for Release	04/10/01	1 day					◆	04/10													

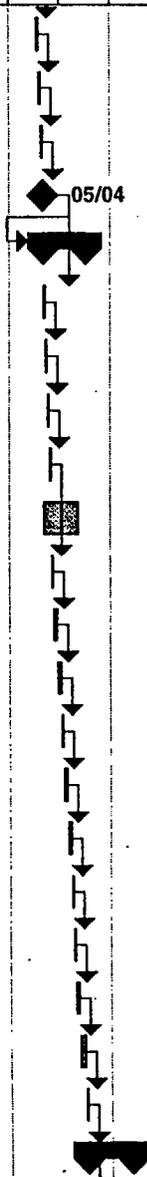
EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		2008
				H1	H2	H1																
23	Phase II DP - Review	12/29/00	735 days																			
24	DP - Acceptance Review	12/29/00	27 days																			
25	Receive DP	12/29/00	1 day																			
26	PM - Acceptance Review	01/01/01	10 days																			
27	PM - Draft Letter	01/15/01	5 days																			
28	Concurrence	01/22/01	10 days																			
29	Issue letter to Kaiser	02/05/01	1 day																			
30	Publish Federal Register Notice (FRN)	01/22/01	28 days																			
31	PM - Draft FRN	01/22/01	10 days																			
32	LA - Review of FRN	02/05/01	3 days																			
33	Concurrence	02/08/01	10 days																			
34	Publish FRN	02/22/01	5 days																			
35	Prepare 20.1405 Letters	03/01/01	26 days																			
36	Prepare letter recipient list	03/01/01	2 days																			
37	Prepare draft letters	03/05/01	5 days																			
38	Review draft letters	03/12/01	5 days																			
39	Revise draft letters	03/19/01	3 days																			
40	Concurrence on draft letters	03/22/01	10 days																			
41	Distribute draft letters	04/05/01	1 day																			
42	DP - Technical Review	04/06/01	131 days																			
43	Develop Review Plan	04/06/01	21 days																			
44	PM - Prepare Task Plan	04/06/01	5 days																			



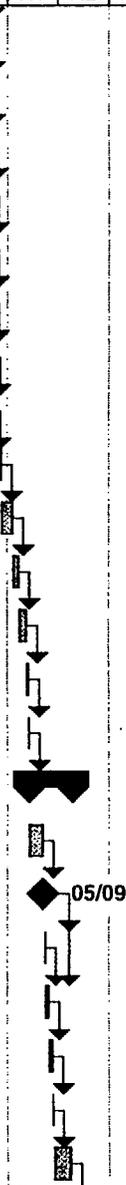
EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		2008
				H1	H2	H1																
45	SL - Review Task Plan	04/13/01	5 days																			
46	PM - Prepare TAR	04/20/01	5 days																			
47	TAR concurrence	04/27/01	5 days																			
48	Issue TAR	05/04/01	1 day																			
49	Evaluate Decommissioning Plan	05/07/01	110 days																			
50	Review SRP 1 - Executive Summary	05/07/01	5 days																			
51	Review SRP 2 - Facility Operating Hi	05/14/01	5 days																			
52	Review SRP 3 - Facility Description	05/21/01	5 days																			
53	Review SRP 4 - Facility Radiological	05/28/01	5 days																			
54	Review SRP 5 - Dose Assessment	05/07/01	90 days																			
55	Review SRP 6 - Alternatives Analysis	06/04/01	5 days																			
56	Review SRP 7 - ALARA	06/11/01	10 days																			
57	Review SRP 8 - Planned Decom Acti	06/25/01	10 days																			
58	Review SRP 9 - Project Management	07/09/01	5 days																			
59	Review SRP 10 - Health & Safety Pla	07/16/01	10 days																			
60	Review SRP 11 - Envir. Monitoring PI	07/30/01	10 days																			
61	Review SRP 12 - Rad Waste Mgnt	08/13/01	5 days																			
62	Review SRP 13 - QA Program	08/20/01	5 days																			
63	Review SRP 14 - Radiation Surveys	08/27/01	10 days																			
64	Review SRP 15 - Financial Assuranc	09/10/01	15 days																			
65	Review SRP 16 - Restricted Use	10/01/01	5 days																			
66	Conduct EIS Scoping	10/08/01	118 days																			



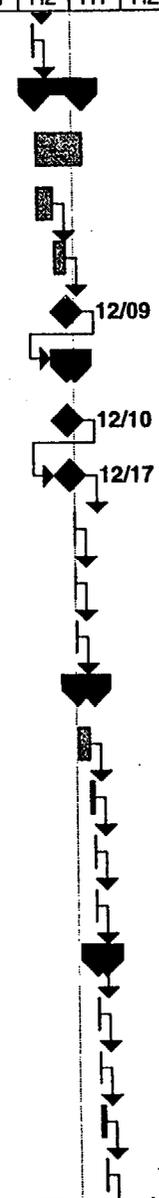
EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		2008
				H1	H2	H1																
67	Prepare agenda/attendees list	10/08/01	2 days																			
68	Arrange location and date	10/10/01	1 day																			
69	Prepare briefing materials	10/11/01	5 days																			
70	Prepare press release	10/18/01	3 days																			
71	Conduct pre-brief	10/23/01	1 day																			
72	Hold dry run	10/24/01	1 day																			
73	Revise briefing materials	10/25/01	3 days																			
74	Conduct scoping meeting	10/30/01	1 day																			
75	Scoping comment period	10/31/01	30 days																			
76	Evaluate scoping comments	12/12/01	30 days																			
77	Develop scoping report	01/23/02	15 days																			
78	Review scoping report	02/13/02	20 days																			
79	Revise scoping report	03/13/02	5 days																			
80	Issue scoping report	03/20/02	1 day																			
81	Develop RAI / Resolve Comments	03/21/02	112 days																			
82	Develop TER	03/21/02	35 days																			
83	Review TER	05/09/02	5 days																			
84	Meet with Kaiser to discuss concerns	05/16/02	1 day																			
85	Draft questions/comments	05/17/02	10 days																			
86	Review questions/comments	05/31/02	10 days																			
87	Issue comment letter	06/14/02	1 day																			
88	Kaiser review RAI	06/17/02	45 days																			



EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		2008
				H1	H2	H1																
89	Review Kaiser response to RAI	08/19/02	5 days																			
90	Prepare DEIS	08/26/02	120 days																			
91	Prepare draft DEIS	08/26/02	120 days																			
92	Review draft DEIS	08/26/02	45 days																			
93	Revise draft DEIS	10/28/02	30 days																			
94	Issue DEIS	12/09/02	1 day																			
95	Publish Notice of Availability (NOA)	12/10/02	20 days																			
96	Prepare draft NOA	12/10/02	5 days																			
97	Review draft NOA	12/17/02	10 days																			
98	Revise draft NOA	12/31/02	3 days																			
99	Publish NOA	01/03/03	1 day																			
100	File DEIS with EPA	01/06/03	1 day																			
101	Prepare Safety Eval. Report (SER)	01/07/03	44 days																			
102	Prepare draft SER	01/07/03	30 days																			
103	Review draft SER	02/18/03	10 days																			
104	Revise draft SER	03/04/03	3 days																			
105	Finalize SER	03/07/03	1 day																			
106	Conduct Public Meeting on DEIS	03/10/03	25 days																			
107	Prepare agenda / attendees list	03/10/03	5 days																			
108	Arrange location / date	03/17/03	1 day																			
109	Prepare briefing materials	03/18/03	10 days																			
110	Prepare press release	04/01/03	3 days																			

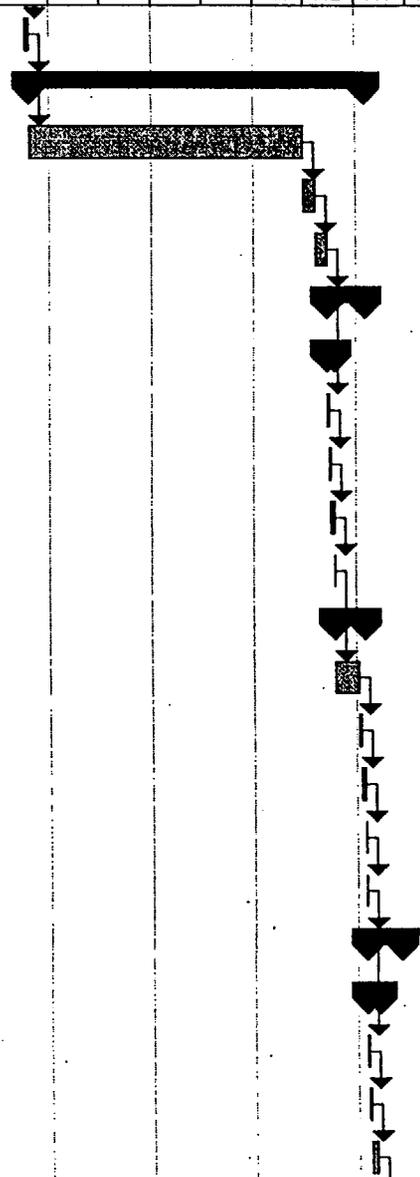


EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		2008
				H1	H2	H1																
111	Conduct pre-brief	04/04/03	1 day																			
112	hold dry run	04/07/03	1 day																			
113	Revise briefing materials	04/08/03	3 days																			
114	Conduct public meeting	04/11/03	1 day																			
115	Review Public Comments	04/14/03	10 days																			
116	Evaluate public comments	04/14/03	5 days																			
117	Summarize public comments	04/21/03	5 days																			
118	Prepare FEIS	04/28/03	88 days																			
119	Revise DEIS	04/28/03	60 days																			
120	Review draft FEIS	07/21/03	10 days																			
121	Finalize FEIS	08/04/03	3 days																			
122	Issue FEIS	08/07/03	15 days																			
123	Publish Notice of Availability (NOA)	08/28/03	13 days																			
124	Prepare draft NOA	08/28/03	5 days																			
125	Review draft NOA	09/04/03	5 days																			
126	Finalize NOA	09/11/03	1 day																			
127	Publish NOA	09/12/03	1 day																			
128	File FEIS with EPA	09/15/03	1 day																			
129	Prepare Record of Decision (ROD)	09/16/03	28 days																			
130	Prepare draft ROD/Commission Paper	09/16/03	5 days																			
131	Review draft ROD/Commission Paper	09/23/03	10 days																			
132	Revise draft ROD/Commission Paper	10/07/03	3 days																			

EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		200
				H1	H2	H1																
133	Concurrence	10/10/03	10 days																			
134	Site Decommissioning	10/24/03	856 days																			
135	Kaiser performs cleanup	10/24/03	700 days																			
136	Region in-process confirmatory survey	06/30/06	30 days																			
137	Kaiser prepares FSSR	08/11/06	30 days																			
138	Review FSSR	09/22/06	96 days																			
139	FSSR - Acceptance Review	09/22/06	19 days																			
140	PM - acceptance review	09/22/06	5 days																			
141	PM - draft letter	09/29/06	3 days																			
142	Concurrence	10/04/06	10 days																			
143	Issue letter to Kaiser	10/18/06	1 day																			
144	FSSR - Technial review	10/19/06	76 days																			
145	PM - technial review	10/19/06	60 days																			
146	PM - draft letter	01/11/07	5 days																			
147	Concurrence	01/18/07	10 days																			
148	Issue letter to Kaiser	02/01/07	1 day																			
149	Site acceptable for release	02/02/07	1 day																			
150	Remove Site From SDMP	02/05/07	88 days																			
151	Prepare Commission Paper	02/05/07	33 days																			
152	PM - prepare Commission Paper Outline	02/05/07	3 days																			
153	Management review	02/08/07	5 days																			
154	PM - draft Commission Paper	02/15/07	15 days																			



EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		200
				H1	H2	H1																
155	Concurrence	03/08/07	10 days																			
156	Prepare FRN to remove site from SDMP	03/22/07	18 days																			
157	PM - draft FRN	03/22/07	5 days																			
158	LA - review FRN	03/29/07	3 days																			
159	Concurrence	04/03/07	10 days																			
160	Prepare Letters to State & EPA	04/17/07	15 days																			
161	PM - draft letter to State/EPA	04/17/07	5 days																			
162	Concurrence	04/24/07	10 days																			
163	Issue Commission Paper	05/08/07	1 day																			
164	Commission Review	05/09/07	15 days																			
165	Publish FRN & issue letters	05/30/07	5 days																			
166	Release site	06/06/07	1 day																			



Attachment 9

SCHEDULE FOR TERMINATION OF SDMP AND COMPLEX DECOMMISSIONING SITES

Site Name	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Jefferson Proving Ground (Dept. Of Army) (R)							8/99		4/02		6/03							
Watertown Mall	4/92	9/93						9/00										
Watertown GSA	10/92	9/93									12/03							
AAR Manufacturing, Inc.							9/99	12/00		11/02								
Dow Chemical Co. (R)			10/95		7/97		6/00 Midland		2/02 Bay City									
SCA Services (R)								10/00			9/03	9/04						
Michigan Dept. of Natural Resources (R)								8/01			8/04	8/05						
Minnesota Mining & Manufacturing (3M)							11/99	4/00	8/00									
Lake City Army Ammunition Plant							4/99	4/00		4/02								
**Mallinckrodt Chemical Inc. (R)					11/97		Phase 1	Phase 1	7/00		3/03				1/07			
Heritage Minerals					11/97		8/99		9/01									
Shieldalloy Metallurgical Corp. (R)									1/02					10/06				9/10
Fansteel, Inc. (R)							8/99										1/09	8/20
Kaiser Aluminum (R)						8/98	Phase 1	Phase 1	2/00	1/01	Phase 2	9/03	Phase 2		6/07			

DP Submitted
 DP Approved
 Site Removal from SDMP Anticipated
 DP Submittal Anticipated
 DP Approval Anticipated

(R) Staff anticipates that licensee will request restricted release
 Anticipated dates are staff estimates

Attachment 9

SCHEDULE FOR TERMINATION OF SDMP AND COMPLEX DECOMMISSIONING SITES

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Kerr-McGee (Cimarron)			4/95 ■				8/99 ◆			5/02 △								
Kerr-McGee (Cushing)		4/94 ■					8/99 ◆				12/03 △							
Sequoyah Fuels Corp. (R)							3/99 ■					8/04 ◇					4/09 △	
Babcock & Wilcox (Parks Township)				1/96 ■		10/98 ◆					12/02 △							
Babcock & Wilcox (R) (Shallow Land Disposal Area)									12/00 □				9/05 ◇				8/09 △	
Cabot Corp. (Reading)						8/98 ■		9/00 ◇	4/01 △									
Cabot Corp. (Revere)					11/97 ■			1/01 ◇	7/01 △									
**Kiski Valley WPCA								1/01 □		11/02 ◇			5/05 △					
Molycorp Inc. (Washington) (R)						6/99 Partial ■		7/00 Partial ◇	12/00 Cell □				5/05 Cell ◇			2/08 △		
Molycorp Inc. (York)			8/95 ■					5/00 ◇	12/00 △									
Permagrain Products						4/98 ■	7/98 ◆				7/02 △							
Safety Light Corp.						11/98 ■	9/99 ◆					12/04 △						
Westinghouse Electric					4/97 ■			1/00 ◇	5/01 △									
Whittaker Corp. (R)								12/00 □				12/03 ◇					8/09 △	
**Union Carbide						8/98 ■	Building	6/00 ◇	12/00 Soil ◇			12/03 △						

1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010

DP Submitted
 DP Approved
 DP Submittal Anticipated
 DP Approval Anticipated
 Site Removal from SDMP Anticipated

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.
- The budget will provide adequate resources [FTEs and contractor (\$)] to support decommissioning activity schedules.
- The decommissioning Standard Review Plan (SRP) will be completed and will provide sufficient guidance to evaluate 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 (SL/BC) concurrence will be no more than 5 days.
- Staff will use acceptance review checklists to perform acceptance reviews.

"Notice of Intent" (NOI) Federal Register Notices (FRN's):

- Staff will always prepare an NOI/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.
- SL/BC concurrence will be no more than 5 days.
- OGC review not needed for NOI FRN.
- There will be FRNs will be published within 7 days of being sent to the Publications Branch.

Develop DP Review Plan:

- SL 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.
- SL/BC concurrence will be no more than 5 days.
- Staff will use acceptance review checklists to perform acceptance reviews.

"Notice of Intent" Federal Register Notices:

- Staff will always prepare an NOI/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.
- SL/BC concurrence will be no more than 5 days.
- OGC review will not be needed for NOI FRN.
- FRNs will be published within 7 days of being sent to the Publications Branch.

10 CFR 20.1405 Letters:

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

Develop DP Review Plan:

- SL review/approval only.

DP Evaluation (including EIS development):

- One scoping meeting will be held to support the development of the EIS.
- EIS team will be the lead for developing the EIS and will be supported by Decommissioning Branch (DCB) staff.
- EIS team will prepare FRN - "Intent to Develop EIS."
- Staff will prepare the Safety Evaluation Report during the 90-day draft EIS (DEIS) comment period.
- 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

EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		2008
				H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1
1	Review Phase 1 RAI	06/10/99	0 days	◆	06/10																	
2	FRN - EA-FONSI	09/09/99	117 days			■																
3	PM - Draft FRN	09/09/99	5 days																			
4	LA - Review of FRN	09/16/99	3 days																			
5	Concurrence	09/21/99	25 days																			
6	Publish FRN	02/14/00	5 days			◆	02/14															
7	Site Decommissioning	02/21/00	270 days			■																
8	Kaiser Performs Cleanup	02/21/00	240 days			■																
9	Region in process confirmatory survey	10/30/00	60 days					■														
10	Kaiser prepare FSSR	01/22/01	30 days					■														
11	Review Final Site Survey Report (FSSR)	03/05/01	70 days					■														
12	FSSR - Acceptance Review	03/05/01	26 days					■														
13	PM - Acceptance Review	03/05/01	10 days					■														
14	PM - Draft Letter	03/19/01	5 days					■														
15	Concurrence	03/26/01	10 days					■														
16	Issue letter to Kaiser	04/09/01	1 day					◆	04/09													
17	FSSR - Technical Review	03/19/01	60 days					■														
18	PM - Technical Review	03/19/01	60 days					■														
19	PM - Draft Letter	03/19/01	5 days					■														
20	Concurrence	03/26/01	10 days					■														
21	Issue letter to Kaiser	04/09/01	1 day					◆	04/09													
22	Site Acceptable for Release	04/10/01	1 day					◆	04/10													

EXAMPLE: Kaiser Aluminum & Chemical Corporation

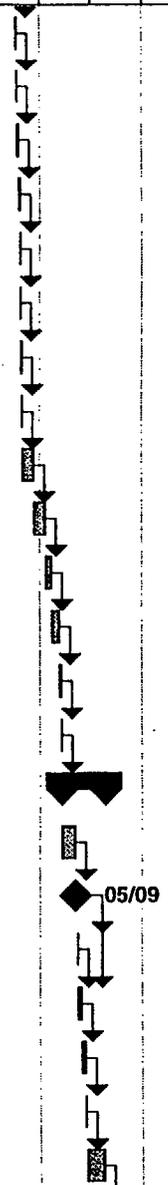
ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		200
				H1	H2	H1																
23	Phase II DP - Review	12/29/00	735 days																			
24	DP - Acceptance Review	12/29/00	27 days																			
25	Receive DP	12/29/00	1 day																			
26	PM - Acceptance Review	01/01/01	10 days																			
27	PM - Draft Letter	01/15/01	5 days																			
28	Concurrence	01/22/01	10 days																			
29	Issue letter to Kaiser	02/05/01	1 day																			
30	Publish Federal Register Notice (FRN)	01/22/01	28 days																			
31	PM - Draft FRN	01/22/01	10 days																			
32	LA - Review of FRN	02/05/01	3 days																			
33	Concurrence	02/08/01	10 days																			
34	Publish FRN	02/22/01	5 days																			
35	Prepare 20.1405 Letters	03/01/01	26 days																			
36	Prepare letter recipient list	03/01/01	2 days																			
37	Prepare draft letters	03/05/01	5 days																			
38	Review draft letters	03/12/01	5 days																			
39	Revise draft letters	03/19/01	3 days																			
40	Concurrence on draft letters	03/22/01	10 days																			
41	Distribute draft letters	04/05/01	1 day																			
42	DP - Technical Review	04/06/01	131 days																			
43	Develop Review Plan	04/06/01	21 days																			
44	PM - Prepare Task Plan	04/06/01	5 days																			

EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		2008
				H1	H2	H1																
45	SL - Review Task Plan	04/13/01	5 days																			
46	PM - Prepare TAR	04/20/01	5 days																			
47	TAR concurrence	04/27/01	5 days																			
48	Issue TAR	05/04/01	1 day																			
49	Evaluate Decommissioning Plan	05/07/01	110 days																			
50	Review SRP 1 - Executive Summary	05/07/01	5 days																			
51	Review SRP 2 - Facility Operating Hi	05/14/01	5 days																			
52	Review SRP 3 - Facility Description	05/21/01	5 days																			
53	Review SRP 4 - Facility Radiological	05/28/01	5 days																			
54	Review SRP 5 - Dose Assessment	05/07/01	90 days																			
55	Review SRP 6 - Alternatives Analysis	06/04/01	5 days																			
56	Review SRP 7 - ALARA	06/11/01	10 days																			
57	Review SRP 8 - Planned Decom Acti	06/25/01	10 days																			
58	Review SRP 9 - Project Management	07/09/01	5 days																			
59	Review SRP 10 - Health & Safety Pla	07/16/01	10 days																			
60	Review SRP 11 - Envir. Monitoring PI	07/30/01	10 days																			
61	Review SRP 12 - Rad Waste Mgnt	08/13/01	5 days																			
62	Review SRP 13 - QA Program	08/20/01	5 days																			
63	Review SRP 14 - Radiation Surveys	08/27/01	10 days																			
64	Review SRP 15 - Financial Assuranc	09/10/01	15 days																			
65	Review SRP 16 - Restricted Use	10/01/01	5 days																			
66	Conduct EIS Scoping	10/08/01	118 days																			

EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		200
				H1	H2	H1																
67	Prepare agenda/attendees list	10/08/01	2 days																			
68	Arrange location and date	10/10/01	1 day																			
69	Prepare briefing materials	10/11/01	5 days																			
70	Prepare press release	10/18/01	3 days																			
71	Conduct pre-brief	10/23/01	1 day																			
72	Hold dry run	10/24/01	1 day																			
73	Revise briefing materials	10/25/01	3 days																			
74	Conduct scoping meeting	10/30/01	1 day																			
75	Scoping comment period	10/31/01	30 days																			
76	Evaluate scoping comments	12/12/01	30 days																			
77	Develop scoping report	01/23/02	15 days																			
78	Review scoping report	02/13/02	20 days																			
79	Revise scoping report	03/13/02	5 days																			
80	Issue scoping report	03/20/02	1 day																			
81	Develop RAI / Resolve Comments	03/21/02	112 days																			
82	Develop TER	03/21/02	35 days																			
83	Review TER	05/09/02	5 days																			
84	Meet with Kaiser to discuss concerns	05/16/02	1 day																			
85	Draft questions/comments	05/17/02	10 days																			
86	Review questions/comments	05/31/02	10 days																			
87	Issue comment letter	06/14/02	1 day																			
88	Kaiser review RAI	06/17/02	45 days																			



EXAMPLE: Kaiser Aluminum & Chemical Corporation

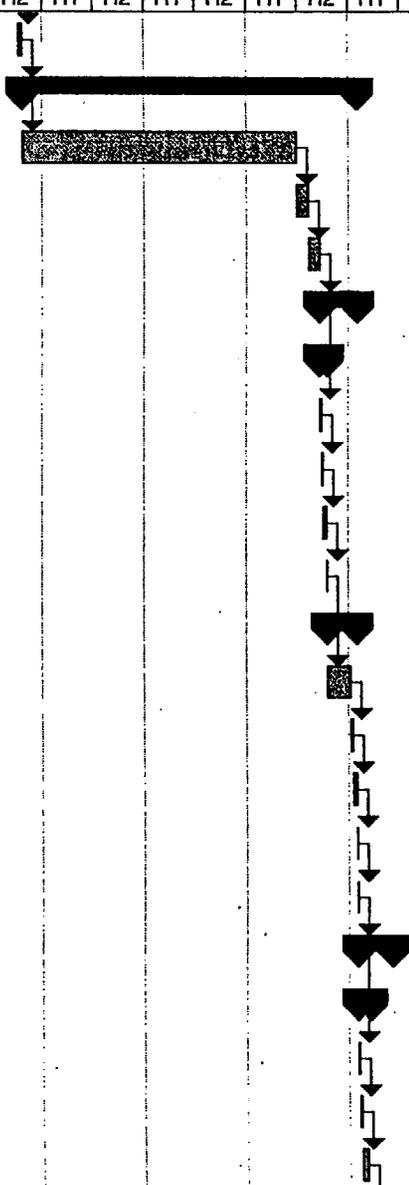
ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		2008
				H1	H2	H1																
89	Review Kaiser response to RAI	08/19/02	5 days																			
90	Prepare DEIS	08/26/02	120 days																			
91	Prepare draft DEIS	08/26/02	120 days																			
92	Review draft DEIS	08/26/02	45 days																			
93	Revise draft DEIS	10/28/02	30 days																			
94	Issue DEIS	12/09/02	1 day																			
95	Publish Notice of Availability (NOA)	12/10/02	20 days																			
96	Prepare draft NOA	12/10/02	5 days																			
97	Review draft NOA	12/17/02	10 days																			
98	Revise draft NOA	12/31/02	3 days																			
99	Publish NOA	01/03/03	1 day																			
100	File DEIS with EPA	01/06/03	1 day																			
101	Prepare Safety Eval. Report (SER)	01/07/03	44 days																			
102	Prepare draft SER	01/07/03	30 days																			
103	Review draft SER	02/18/03	10 days																			
104	Revise draft SER	03/04/03	3 days																			
105	Finalize SER	03/07/03	1 day																			
106	Conduct Public Meeting on DEIS	03/10/03	25 days																			
107	Prepare agenda / attendees list	03/10/03	5 days																			
108	Arrange location / date	03/17/03	1 day																			
109	Prepare briefing materials	03/18/03	10 days																			
110	Prepare press release	04/01/03	3 days																			

EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		200
				H1	H2	H1																
111	Conduct pre-brief	04/04/03	1 day																			
112	hold dry run	04/07/03	1 day																			
113	Revise briefing materials	04/08/03	3 days																			
114	Conduct public meeting	04/11/03	1 day																			
115	Review Public Comments	04/14/03	10 days																			
116	Evaluate public comments	04/14/03	5 days																			
117	Summarize public comments	04/21/03	5 days																			
118	Prepare FEIS	04/28/03	88 days																			
119	Revise DEIS	04/28/03	60 days																			
120	Review draft FEIS	07/21/03	10 days																			
121	Finalize FEIS	08/04/03	3 days																			
122	Issue FEIS	08/07/03	15 days																			
123	Publish Notice of Availability (NOA)	08/28/03	13 days																			
124	Prepare draft NOA	08/28/03	5 days																			
125	Review draft NOA	09/04/03	5 days																			
126	Finalize NOA	09/11/03	1 day																			
127	Publish NOA	09/12/03	1 day																			
128	File FEIS with EPA	09/15/03	1 day																			
129	Prepare Record of Decision (ROD)	09/16/03	28 days																			
130	Prepare draft ROD/Commission Paper	09/16/03	5 days																			
131	Review draft ROD/Commission Paper	09/23/03	10 days																			
132	Revise draft ROD/Commission Paper	10/07/03	3 days																			

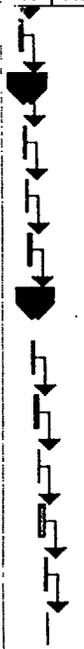
EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		2008
				H1	H2	H1																
133	Concurrence	10/10/03	10 days																			
134	Site Decommissioning	10/24/03	856 days																			
135	Kaiser performs cleanup	10/24/03	700 days																			
136	Region in-process confirmatory survey	06/30/06	30 days																			
137	Kaiser prepares FSSR	08/11/06	30 days																			
138	Review FSSR	09/22/06	96 days																			
139	FSSR - Acceptance Review	09/22/06	19 days																			
140	PM - acceptance review	09/22/06	5 days																			
141	PM - draft letter	09/29/06	3 days																			
142	Concurrence	10/04/06	10 days																			
143	Issue letter to Kaiser	10/18/06	1 day																			
144	FSSR - Technial review	10/19/06	76 days																			
145	PM - technial review	10/19/06	60 days																			
146	PM - draft letter	01/11/07	5 days																			
147	Concurrence	01/18/07	10 days																			
148	Issue letter to Kaiser	02/01/07	1 day																			
149	Site acceptable for release	02/02/07	1 day																			
150	Remove Site From SDMP	02/05/07	88 days																			
151	Prepare Commission Paper	02/05/07	33 days																			
152	PM - prepare Commission Paper Outline	02/05/07	3 days																			
153	Management review	02/08/07	5 days																			
154	PM - draft Commission Paper	02/15/07	15 days																			



EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		200
				H1	H2	H1																
155	Concurrence	03/08/07	10 days																			
156	Prepare FRN to remove site from SDMP	03/22/07	18 days																			
157	PM - draft FRN	03/22/07	5 days																			
158	LA - review FRN	03/29/07	3 days																			
159	Concurrence	04/03/07	10 days																			
160	Prepare Letters to State & EPA	04/17/07	15 days																			
161	PM - draft letter to State/EPA	04/17/07	5 days																			
162	Concurrence	04/24/07	10 days																			
163	Issue Commission Paper	05/08/07	1 day																			
164	Commission Review	05/09/07	15 days																			
165	Publish FRN & issue letters	05/30/07	5 days																			
166	Release site	06/06/07	1 day																			



Attachment 9

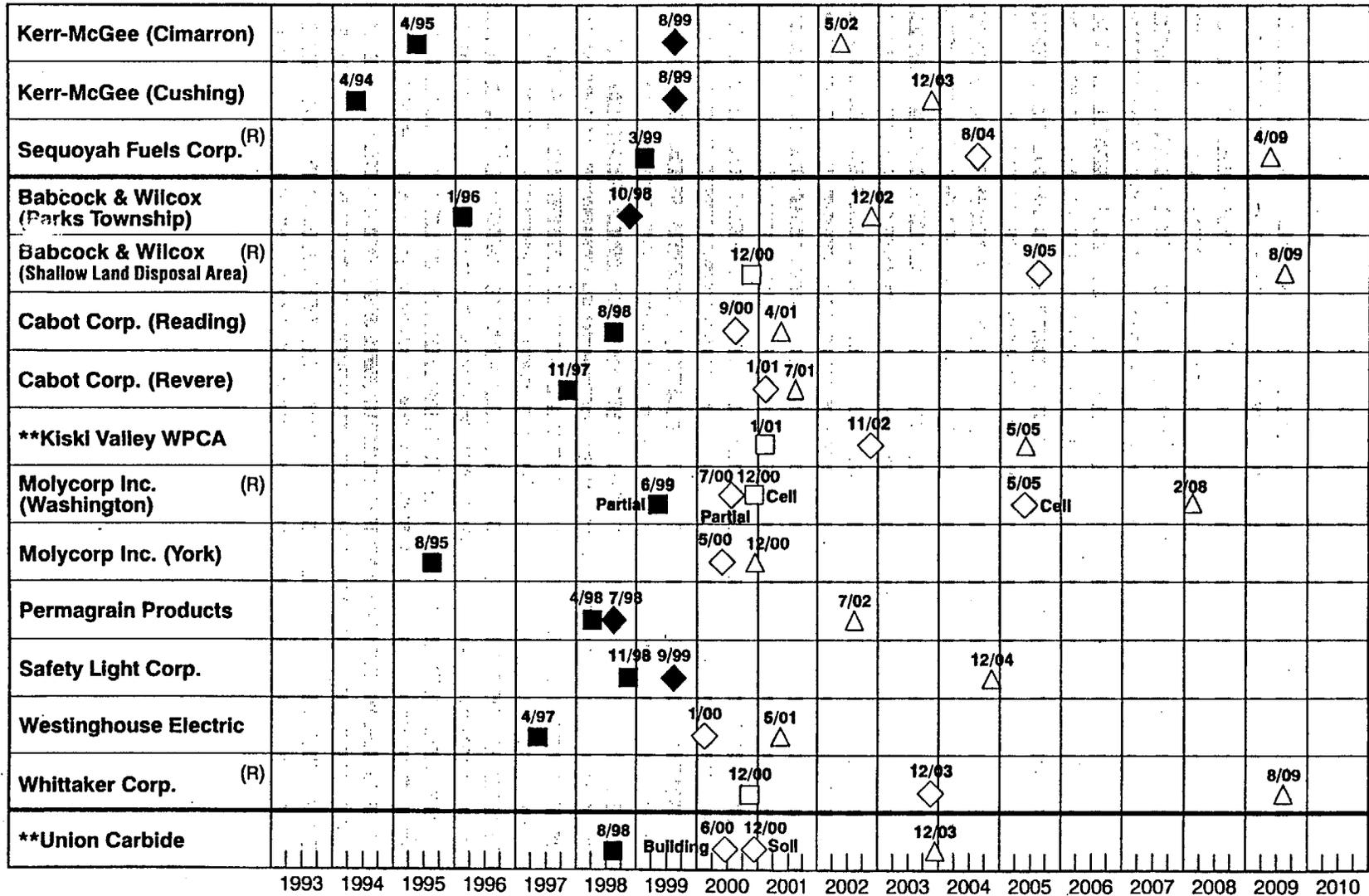
SCHEDULE FOR TERMINATION OF SDMP AND COMPLEX DECOMMISSIONING SITES

Site Name	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Jefferson Proving Ground (Dept. Of Army) (R)							8/99			4/02	6/03							
Watertown Mall		4/92	9/93						9/00									
Watertown GSA		10/92	9/93								12/03							
AAR Manufacturing, Inc.							9/99	12/00		11/02								
Dow Chemical Co. (R)			10/95	7/97			6/00	Midland	2/02	Bay City								
SCA Services (R)								10/00		9/03	9/04							
Michigan Dept. of Natural Resources (R)									8/01		8/04	8/05						
Minnesota Mining & Manufacturing (3M)							11/99	4/00	8/00									
Lake City Army Ammunition Plant							4/99	4/00		4/02								
**Mallinckrodt Chemical Inc. (R)					11/97	Phase 1	Phase 1	7/00	3/03	Phase 2	1/07							
Heritage Minerals					11/97		8/99		9/01									
Shieldalloy Metallurgical Corp. (R)									1/02					10/06				9/10
Fansteel, Inc. (R)							8/99										1/09	8/20
Kaiser Aluminum (R)						8/98	Phase 1	2/00	1/01	Phase 2	9/03	Phase 2		6/07				

DP Submitted
 DP Approved
 Site Removal from SDMP Anticipated
 DP Submittal Anticipated
 DP Approval Anticipated
 (R) Staff anticipates that licensee will request restricted release
 Anticipated dates are staff estimates

Attachment 9

SCHEDULE FOR TERMINATION OF SDMP AND COMPLEX DECOMMISSIONING SITES



■ DP Submitted
□ DP Submittal Anticipated

◆ DP Approved
◇ DP Approval Anticipated

△ Site Removal from SDMP Anticipated

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.
- The budget will provide adequate resources [FTEs and contractor (\$)] to support decommissioning activity schedules.
- The decommissioning Standard Review Plan (SRP) will be completed and will provide sufficient guidance to evaluate 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 (SL/BC) concurrence will be no more than 5 days.
- Staff will use acceptance review checklists to perform acceptance reviews.

"Notice of Intent" (NOI) Federal Register Notices (FRN's):

- Staff will always prepare an NOI/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.
- SL/BC concurrence will be no more than 5 days.
- OGC review not needed for NOI FRN.
- There will be FRNs will be published within 7 days of being sent to the Publications Branch.

Develop DP Review Plan:

- SL 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.
- SL/BC concurrence will be no more than 5 days.
- Staff will use acceptance review checklists to perform acceptance reviews.

"Notice of Intent" Federal Register Notices:

- Staff will always prepare an NOI/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.
- SL/BC concurrence will be no more than 5 days.
- OGC review will not be needed for NOI FRN.
- FRNs will be published within 7 days of being sent to the Publications Branch.

10 CFR 20.1405 Letters:

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

Develop DP Review Plan:

- SL review/approval only.

DP Evaluation (including EIS development):

- One scoping meeting will be held to support the development of the EIS.
- EIS team will be the lead for developing the EIS and will be supported by Decommissioning Branch (DCB) staff.
- EIS team will prepare FRN - "Intent to Develop EIS."
- Staff will prepare the Safety Evaluation Report during the 90-day draft EIS (DEIS) comment period.
- 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

BIG ROCK POINT

Licensee: Consumers Energy Company
Reactor Type: 67 Mw(e) BWR
Containment Type: 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 shutdown on August 30, 1997. Fuel was transferred to the spent fuel pool on September 20, 1997. The licensee submitted certification of permanent cessation of operations on June 26, 1997, certification of permanent fuel removal on September 23, 1997. The licensee submitted decommissioning plan (DP) on February 27, 1995. The DP is considered to be the PSDAR. The PSDAR public meeting held on November 13, 1997. The licensee selected DECON option. Under the current schedule, the Part 50 license would be terminated in 2007. The current decommissioning cost estimate is \$304 million (1999 dollars). The current amount in the decommissioning trust fund is \$245.5 million less 68.5 million withdrawn to cover decommissioning expenditures to date.

CURRENT ISSUES

The licensee is planning to use a general 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 2006 due to a pending license amendment request to establish a solid material free release limit.

EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		2008
				H1	H2	H1																
1	Review Phase 1 RAI	06/10/99	0 days																			
2	FRN - EA-FONSI	09/09/99	117 days																			
3	PM - Draft FRN	09/09/99	5 days																			
4	LA - Review of FRN	09/16/99	3 days																			
5	Concurrence	09/21/99	25 days																			
6	Publish FRN	02/14/00	5 days																			
7	Site Decommissioning	02/21/00	270 days																			
8	Kaiser Performs Cleanup	02/21/00	240 days																			
9	Region in process confirmatory survey	10/30/00	60 days																			
10	Kaiser prepare FSSR	01/22/01	30 days																			
11	Review Final Site Survey Report (FSSR)	03/05/01	70 days																			
12	FSSR - Acceptance Review	03/05/01	26 days																			
13	PM - Acceptance Review	03/05/01	10 days																			
14	PM - Draft Letter	03/19/01	5 days																			
15	Concurrence	03/26/01	10 days																			
16	Issue letter to Kaiser	04/09/01	1 day																			
17	FSSR - Technical Review	03/19/01	60 days																			
18	PM - Technical Review	03/19/01	60 days																			
19	PM - Draft Letter	03/19/01	5 days																			
20	Concurrence	03/26/01	10 days																			
21	Issue letter to Kaiser	04/09/01	1 day																			
22	Site Acceptable for Release	04/10/01	1 day																			

EXAMPLE: Kaiser Aluminum & Chemical Corporation

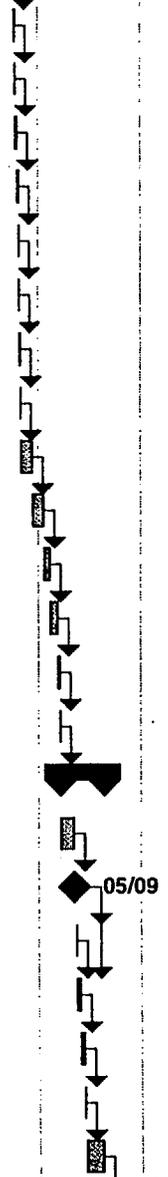
ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		2008
				H1	H2	H1																
23	Phase II DP - Review	12/29/00	735 days																			
24	DP - Acceptance Review	12/29/00	27 days																			
25	Receive DP	12/29/00	1 day																			
26	PM - Acceptance Review	01/01/01	10 days																			
27	PM - Draft Letter	01/15/01	5 days																			
28	Concurrence	01/22/01	10 days																			
29	Issue letter to Kaiser	02/05/01	1 day																			
30	Publish Federal Register Notice (FRN)	01/22/01	28 days																			
31	PM - Draft FRN	01/22/01	10 days																			
32	LA - Review of FRN	02/05/01	3 days																			
33	Concurrence	02/08/01	10 days																			
34	Publish FRN	02/22/01	5 days																			
35	Prepare 20.1405 Letters	03/01/01	26 days																			
36	Prepare letter recipient list	03/01/01	2 days																			
37	Prepare draft letters	03/05/01	5 days																			
38	Review draft letters	03/12/01	5 days																			
39	Revise draft letters	03/19/01	3 days																			
40	Concurrence on draft letters	03/22/01	10 days																			
41	Distribute draft letters	04/05/01	1 day																			
42	DP - Technical Review	04/06/01	131 days																			
43	Develop Review Plan	04/06/01	21 days																			
44	PM - Prepare Task Plan	04/06/01	5 days																			

EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		2008
				H1	H2	H1																
45	SL - Review Task Plan	04/13/01	5 days																			
46	PM - Prepare TAR	04/20/01	5 days																			
47	TAR concurrence	04/27/01	5 days																			
48	Issue TAR	05/04/01	1 day																			
49	Evaluate Decommissioning Plan	05/07/01	110 days																			
50	Review SRP 1 - Executive Summary	05/07/01	5 days																			
51	Review SRP 2 - Facility Operating Hi	05/14/01	5 days																			
52	Review SRP 3 - Facility Description	05/21/01	5 days																			
53	Review SRP 4 - Facility Radiological	05/28/01	5 days																			
54	Review SRP 5 - Dose Assessment	05/07/01	90 days																			
55	Review SRP 6 - Alternatives Analysis	06/04/01	5 days																			
56	Review SRP 7 - ALARA	06/11/01	10 days																			
57	Review SRP 8 - Planned Decom Acti	06/25/01	10 days																			
58	Review SRP 9 - Project Management	07/09/01	5 days																			
59	Review SRP 10 - Health & Safety Pla	07/16/01	10 days																			
60	Review SRP 11 - Envir. Monitoring PI	07/30/01	10 days																			
61	Review SRP 12 - Rad Waste Mgnt	08/13/01	5 days																			
62	Review SRP 13 - QA Program	08/20/01	5 days																			
63	Review SRP 14 - Radiation Surveys	08/27/01	10 days																			
64	Review SRP 15 - Financial Assuranc	09/10/01	15 days																			
65	Review SRP 16 - Restricted Use	10/01/01	5 days																			
66	Conduct EIS Scoping	10/08/01	118 days																			

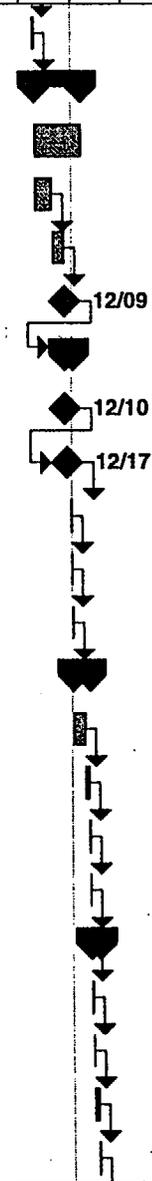
EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		200
				H1	H2	H1																
67	Prepare agenda/attendees list	10/08/01	2 days																			
68	Arrange location and date	10/10/01	1 day																			
69	Prepare briefing materials	10/11/01	5 days																			
70	Prepare press release	10/18/01	3 days																			
71	Conduct pre-brief	10/23/01	1 day																			
72	Hold dry run	10/24/01	1 day																			
73	Revise briefing materials	10/25/01	3 days																			
74	Conduct scoping meeting	10/30/01	1 day																			
75	Scoping comment period	10/31/01	30 days																			
76	Evaluate scoping comments	12/12/01	30 days																			
77	Develop scoping report	01/23/02	15 days																			
78	Review scoping report	02/13/02	20 days																			
79	Revise scoping report	03/13/02	5 days																			
80	Issue scoping report	03/20/02	1 day																			
81	Develop RAI / Resolve Comments	03/21/02	112 days																			
82	Develop TER	03/21/02	35 days																			
83	Review TER	05/09/02	5 days																			
84	Meet with Kaiser to discuss concerns	05/16/02	1 day																			
85	Draft questions/comments	05/17/02	10 days																			
86	Review questions/comments	05/31/02	10 days																			
87	Issue comment letter	06/14/02	1 day																			
88	Kaiser review RAI	06/17/02	45 days																			



EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		2008
				H1	H2	H1																
89	Review Kaiser response to RAI	08/19/02	5 days																			
90	Prepare DEIS	08/26/02	120 days																			
91	Prepare draft DEIS	08/26/02	120 days																			
92	Review draft DEIS	08/26/02	45 days																			
93	Revise draft DEIS	10/28/02	30 days																			
94	Issue DEIS	12/09/02	1 day																			
95	Publish Notice of Availability (NOA)	12/10/02	20 days																			
96	Prepare draft NOA	12/10/02	5 days																			
97	Review draft NOA	12/17/02	10 days																			
98	Revise draft NOA	12/31/02	3 days																			
99	Publish NOA	01/03/03	1 day																			
100	File DEIS with EPA	01/06/03	1 day																			
101	Prepare Safety Eval. Report (SER)	01/07/03	44 days																			
102	Prepare draft SER	01/07/03	30 days																			
103	Review draft SER	02/18/03	10 days																			
104	Revise draft SER	03/04/03	3 days																			
105	Finalize SER	03/07/03	1 day																			
106	Conduct Public Meeting on DEIS	03/10/03	25 days																			
107	Prepare agenda / attendees list	03/10/03	5 days																			
108	Arrange location / date	03/17/03	1 day																			
109	Prepare briefing materials	03/18/03	10 days																			
110	Prepare press release	04/01/03	3 days																			

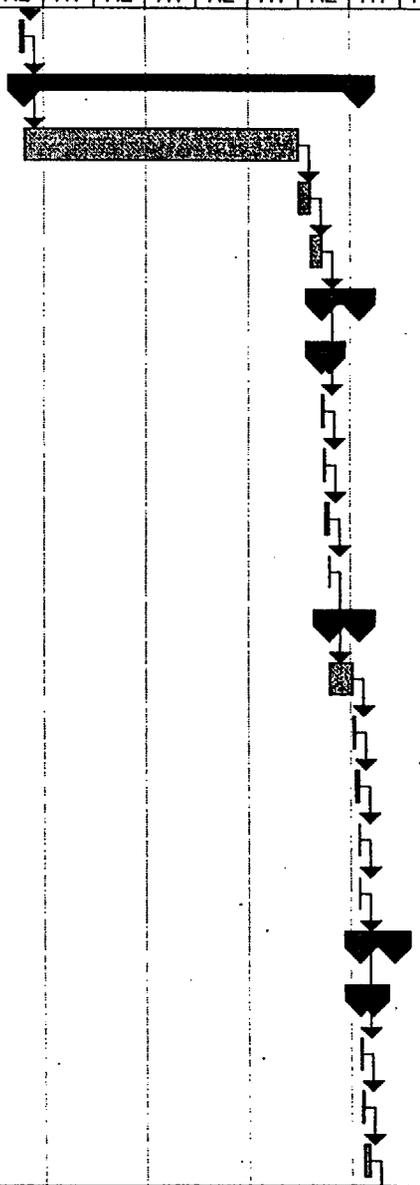


EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		2008
				H1	H2	H1																
111	Conduct pre-brief	04/04/03	1 day																			
112	hold dry run	04/07/03	1 day																			
113	Revise briefing materials	04/08/03	3 days																			
114	Conduct public meeting	04/11/03	1 day																			
115	Review Public Comments	04/14/03	10 days																			
116	Evaluate public comments	04/14/03	5 days																			
117	Summarize public comments	04/21/03	5 days																			
118	Prepare FEIS	04/28/03	88 days																			
119	Revise DEIS	04/28/03	60 days																			
120	Review draft FEIS	07/21/03	10 days																			
121	Finalize FEIS	08/04/03	3 days																			
122	Issue FEIS	08/07/03	15 days																			
123	Publish Notice of Availability (NOA)	08/28/03	13 days																			
124	Prepare draft NOA	08/28/03	5 days																			
125	Review draft NOA	09/04/03	5 days																			
126	Finalize NOA	09/11/03	1 day																			
127	Publish NOA	09/12/03	1 day																			
128	File FEIS with EPA	09/15/03	1 day																			
129	Prepare Record of Decision (ROD)	09/16/03	28 days																			
130	Prepare draft ROD/Commission Paper	09/16/03	5 days																			
131	Review draft ROD/Commission Paper	09/23/03	10 days																			
132	Revise draft ROD/Commission Paper	10/07/03	3 days																			

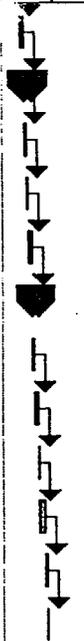
EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		200
				H1	H2	H1																
133	Concurrence	10/10/03	10 days																			
134	Site Decommissioning	10/24/03	856 days																			
135	Kaiser performs cleanup	10/24/03	700 days																			
136	Region in-process confirmatory survey	06/30/06	30 days																			
137	Kaiser prepares FSSR	08/11/06	30 days																			
138	Review FSSR	09/22/06	96 days																			
139	FSSR - Acceptance Review	09/22/06	19 days																			
140	PM - acceptance review	09/22/06	5 days																			
141	PM - draft letter	09/29/06	3 days																			
142	Concurrence	10/04/06	10 days																			
143	Issue letter to Kaiser	10/18/06	1 day																			
144	FSSR - Technical review	10/19/06	76 days																			
145	PM - technical review	10/19/06	60 days																			
146	PM - draft letter	01/11/07	5 days																			
147	Concurrence	01/18/07	10 days																			
148	Issue letter to Kaiser	02/01/07	1 day																			
149	Site acceptable for release	02/02/07	1 day																			
150	Remove Site From SDMP	02/05/07	88 days																			
151	Prepare Commission Paper	02/05/07	33 days																			
152	PM - prepare Commission Paper Outline	02/05/07	3 days																			
153	Management review	02/08/07	5 days																			
154	PM - draft Commission Paper	02/15/07	15 days																			



EXAMPLE: Kaiser Aluminum & Chemical Corporation

ID	Task Name	Start	Duration	1999		2000		2001		2002		2003		2004		2005		2006		2007		200
				H1	H2	H1																
155	Concurrence	03/08/07	10 days																			
156	Prepare FRN to remove site from SDMP	03/22/07	18 days																			
157	PM - draft FRN	03/22/07	5 days																			
158	LA - review FRN	03/29/07	3 days																			
159	Concurrence	04/03/07	10 days																			
160	Prepare Letters to State & EPA	04/17/07	15 days																			
161	PM - draft letter to State/EPA	04/17/07	5 days																			
162	Concurrence	04/24/07	10 days																			
163	Issue Commission Paper	05/08/07	1 day																			
164	Commission Review	05/09/07	15 days																			
165	Publish FRN & issue letters	05/30/07	5 days																			
166	Release site	06/06/07	1 day																			



Attachment 9

SCHEDULE FOR TERMINATION OF SDMP AND COMPLEX DECOMMISSIONING SITES

Site Name	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Jefferson Proving Ground (Dept. Of Army) (R)							8/99			4/02	6/03							
Watertown Mall		4/92	9/93						9/00									
Watertown GSA		10/92	9/93									12/03						
AAR Manufacturing, Inc.							9/99	12/00		11/02								
Dow Chemical Co. (R)			10/95		7/97		6/00	Midland		2/02	Bay City							
SCA Services (R)								10/00			9/03	9/04						
Michigan Dept. of Natural Resources (R)									8/01			8/04	8/05					
Minnesota Mining & Manufacturing (3M)							11/99	4/00	8/00									
Lake City Army Ammunition Plant							4/99	4/00		4/02								
**Mallinckrodt Chemical Inc. (R)					11/97	Phase 1	Phase 1	7/00	Phase 2	6/00	3/03	Phase 2			1/07			
Heritage Minerals					11/97		8/99		9/01									
Shieldalloy Metallurgical Corp. (R)										1/02				10/06				9/10
Fansteel, Inc. (R)							8/99										1/09	8/20
Kaiser Aluminum (R)						8/98	Phase 1	2/00	1/01	Phase 2	9/03	Phase 2			6/07			

■ DP Submitted

◆ DP Approved

△ Site Removal from SDMP Anticipated

□ DP Submittal Anticipated

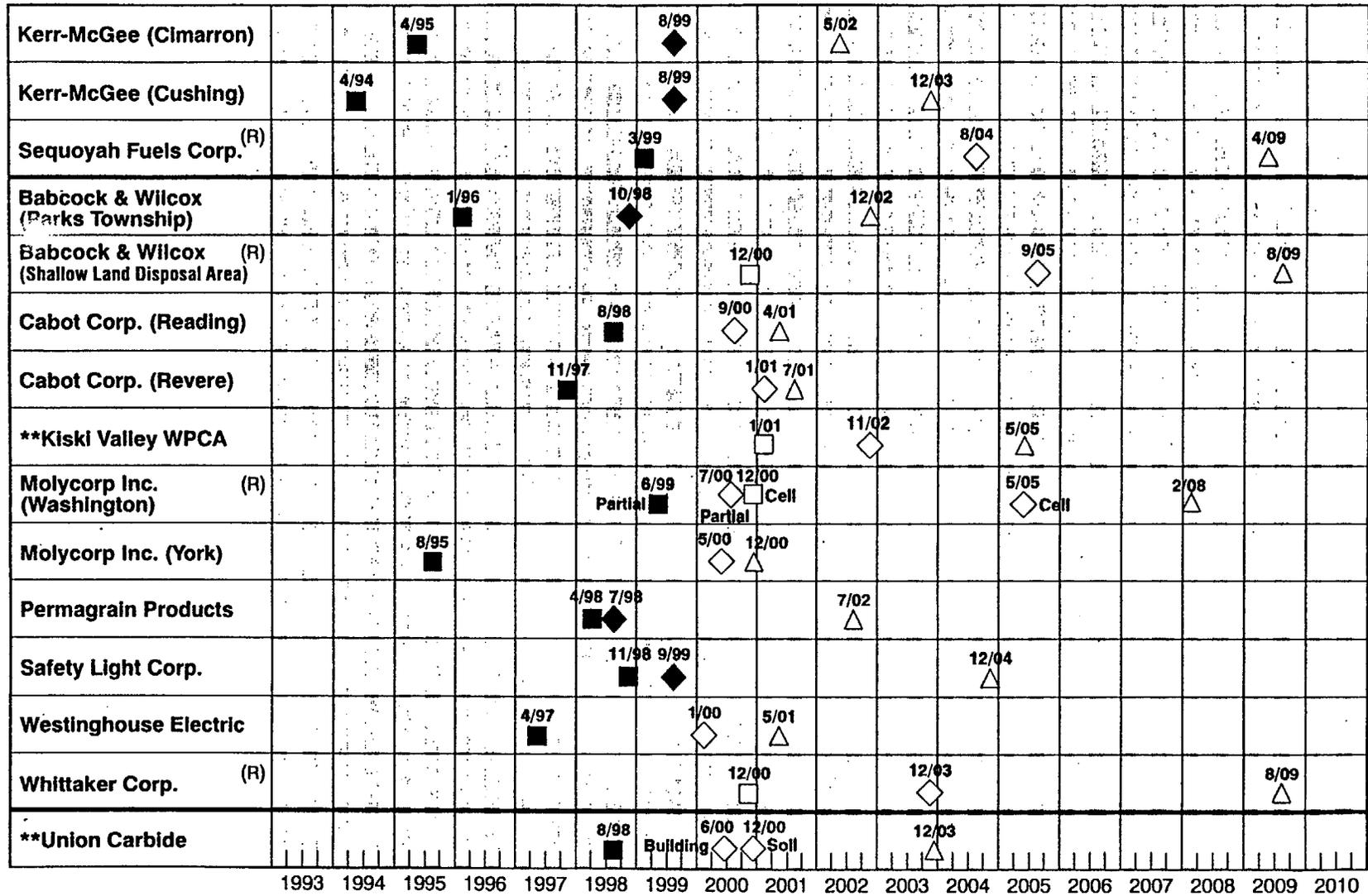
◇ DP Approval Anticipated

(R) Staff anticipates that licensee will request restricted release

Anticipated dates are staff estimates

Attachment 9

SCHEDULE FOR TERMINATION OF SDMP AND COMPLEX DECOMMISSIONING SITES



DP Submitted
 DP Submittal Anticipated

DP Approved
 DP Approval Anticipated

Site Removal from SDMP Anticipated

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.
- The budget will provide adequate resources [FTEs and contractor (\$)] to support decommissioning activity schedules.
- The decommissioning Standard Review Plan (SRP) will be completed and will provide sufficient guidance to evaluate 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 (SL/BC) concurrence will be no more than 5 days.
- Staff will use acceptance review checklists to perform acceptance reviews.

"Notice of Intent" (NOI) Federal Register Notices (FRN's):

- Staff will always prepare an NOI/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.
- SL/BC concurrence will be no more than 5 days.
- OGC review not needed for NOI FRN.
- There will be FRNs will be published within 7 days of being sent to the Publications Branch.

Develop DP Review Plan:

- SL 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.
- SL/BC concurrence will be no more than 5 days.
- Staff will use acceptance review checklists to perform acceptance reviews.

"Notice of Intent" Federal Register Notices:

- Staff will always prepare an NOI/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.
- SL/BC concurrence will be no more than 5 days.
- OGC review will not be needed for NOI FRN.
- FRNs will be published within 7 days of being sent to the Publications Branch.

10 CFR 20.1405 Letters:

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

Develop DP Review Plan:

- SL review/approval only.

DP Evaluation (including EIS development):

- One scoping meeting will be held to support the development of the EIS.
- EIS team will be the lead for developing the EIS and will be supported by Decommissioning Branch (DCB) staff.
- EIS team will prepare FRN - "Intent to Develop EIS."
- Staff will prepare the Safety Evaluation Report during the 90-day draft EIS (DEIS) comment period.
- 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**

BIG ROCK POINT

Licensee: Consumers Energy Company
Reactor Type: 67 Mw(e) BWR
Containment Type: 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 shutdown on August 30, 1997. Fuel was transferred to the spent fuel pool on September 20, 1997. The licensee submitted certification of permanent cessation of operations on June 26, 1997, certification of permanent fuel removal on September 23, 1997. The licensee submitted decommissioning plan (DP) on February 27, 1995. The DP is considered to be the PSDAR. The PSDAR public meeting held on November 13, 1997. The licensee selected DECON option. Under the current schedule, the Part 50 license would be terminated in 2007. The current decommissioning cost estimate is \$304 million (1999 dollars). The current amount in the decommissioning trust fund is \$245.5 million less 68.5 million withdrawn to cover decommissioning expenditures to date.

CURRENT ISSUES

The licensee is planning to use a general 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 2006 due to a pending license amendment request to establish a solid material free release limit.

HADDAM NECK - CONNECTICUT YANKEE

Licensee: Connecticut Yankee Atomic Power Company
Reactor Type: 1 825 MWt 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

The plant was shutdown on July 22, 1996. The fuel was removed from the reactor vessel on November 15, 1996. The licensee submitted certification of permanent cessation of operations on December 5, 1996. The PSDAR was submitted on August 22, 1997. The PSDAR public meeting was held on October 27, 1997. The licensee is using the DECON option. Chemical decontamination of primary system is complete. Bechtel Power Corp. was selected as Decommissioning Operations Contractor (DOC) in April 1999. Steam generators, RCPs and the pressurizer have been removed from containment. Reactor internals segmentation and fuel inspections are underway. Building demolition has begun. The date of transfer from NRR project management to NMSS project management has not been determined, however, the licensee plans to begin operation of an ISFSI in 2003. The licensee has 1016 spent fuel assemblies stored in the spent fuel pool.

CURRENT ISSUES

The licensee plans to submit its LTP in April 2000. NAC plans to submit a license amendment in March 2000 to use its dry storage cask at Haddam Neck. Negotiations with AES Corporation are underway to use the site for a natural gas fired electric plant. CY wants to release its parking lot area for unrestricted use to build the natural gas plant. The staff is developing a method to do a partial site release, which is not provided for in the regulations.

DRESDEN - Unit 1

Licensee: Commonwealth Edison
Reactor Type: 200 Mw(e) 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 shutdown in October 1978. The plant is 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 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 Holtec HISTAR 100 dual purpose cask and HISTORM concrete overpack to store spent fuel. HISTAR 100 draft Certificate of Compliance SER issued in September 1998. The HISTORM final rule is expected in June 2000. The licensee has scheduled practice offloading for 2000.

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 was replaced with a 50-ft vent stack that is less vulnerable to seismic induced damage. An updated PSDAR was submitted on February 27, 1998. In September 1997, the licensee successfully repaired groundwater leaks into reactor building caisson. The grout injection effort reduced inleakage from about 7000 gal/day to less than 15 gal/day. The current decommissioning cost estimate is \$197.6 million (including ISFSI). There is currently \$202.5 million in the decommissioning trust fund. PG&E believes that sufficient funds are in the decommissioning trust fund to ensure successful decommissioning in 2015. The expected date of transfer from NRR project management to NMSS project management is 2005.

CURRENT ISSUES

The licensee is planning to submit an ISFSI application in the fall of 2000, 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 early in the year 2005.

INDIAN POINT - UNIT 1

Licensee: Consolidated Edison
Reactor Type: 257 Mw(e) PWR
Containment Type:
Vendor:
Power Level: Permanently shutdown
CP Issuance Date:
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. IP2 fuel may also be stored in IP1 unit but final decision has not been made. IP1 may be sold to Entergy Corp; and ConEd's purchase of NU is under regulatory procedures.

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 shutdown 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 the licensee plans to stay in SAFSTOR for years.

CURRENT ISSUES

The licensee is coordinating with the Goshute Indian tribe in Utah for MRS. The licensee has no plans for an on site ISFSI.

MAINE YANKEE

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

CURRENT DECOMMISSIONING STATUS

The plant was shutdown on December 6, 1996. The transfer of fuel to the spent fuel pool was completed on June 20, 1997. Certification of permanent cessation of operations was submitted on August 7, 1997. The PSDAR was submitted on August 27, 1997 and the PSDAR public meeting was held on November 6, 1997. The licensee selected DECON as decommissioning option. The site characterization is complete. 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. The licensee's contractor has commenced removal of hot spots and contaminated equipment from containment and the primary auxiliary building. Some contaminated equipment (including the three steam generators and the pressurizer) is being shipped to GTS Duratek in Memphis, Tennessee, 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. Currently, the decommissioning trust fund has \$212.7 million. The licensee is adding \$36.4 million each year. The expected date of transfer from NRR project management to NMSS project management is 2002, upon completion of fuel transfer to the ISFSI.

CURRENT ISSUES

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 April 2001 to August 2002..

MILLSTONE - UNIT 1

Licensee: Northeast Nuclear Energy (NNECO)
Reactor Type: 652 MW(e) BWR
Containment Type:
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)
OL Expiration Date: N/A
Shutdown Date: 11/04/95

CURRENT DECOMMISSIONING STATUS

Unit 1 was shutdown on November 4, 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, but they kept the option open for DECON without placing part of the facility in SAFSTOR. Project management transfer within NRR occurred on December 7, 1998. 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. The decommissioning trust fund amount is \$273.4 million as of 12/98. The expected date of transfer from NRR project management to NMSS project management has not been determined.

CURRENT ISSUES

The licensee has requested an exemption to 10 CFR 140.11(a)(4), secondary financial indemnity requirements on September 29, 1999. The exemption request references a site specific SFP hazards analysis. An updated analysis summary was forwarded to the staff on March 2, 2000, in response to a request for Additional Information dated January 19, 2000. A request for an exemption to certain physical security regulations is planned to be submitted in the near future in support of a realignment of the protected area to exclude portions of Unit 1. 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.

RANCHO SECO

Licensee: Sacramento Municipal Utility District
Reactor Type: 2772 MW(t) PWR
Containment Type:
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 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 \$128 million. 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 2001.

CURRENT ISSUES

On 10-4-91, the licensee submitted a site-specific Part 72 ISFSI application using the VECTRA NUHOMS-MP187 dual purpose cask design. This cask has design issues include hydrogen generation. The ISFSI pad is completed and horizontal storage modules delivered. The transportation aspects of the dual purpose cask have been approved. The NRC's review of storage is still in process. The licensee expects to load fuel into ISFSI in early 2000.

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 shutdown 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 is in a transition from SAFSTOR to active decommissioning (DECON). No major dismantlement is currently underway, however, the licensee plans significant decommissioning activities in 2000 including the removal of the EDG buildings to make room for an ISFSI; major security modifications; and preparations to go cold and dark. 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 has not been determined.

CURRENT ISSUES

Recent licensee schedules indicated ISFSI construction and cask procurement by mid 2003. The projected review and approval time for the cask certification is very tight. The licensee anticipates completing the Unit 1 spent fuel moved into ISFSI dry cask storage in mid 2004. GTCC waste will also be stored in ISFSI. Seismic issues related to ISFSI licensing will need to be resolved. The licensee is still developing its security plan changes to Unit 1 and continuing to dialog with the NRC.

SAXTON

Licensees: GPU Nuclear and Saxton Nuclear Experimental Corp.
Reactor Type: 28 Mw(th) PWR
Containment Type: Steel vessel
Vendor:
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. DWM reviewed the reactor vessel waste classification and approved the proposed classification. The current decommissioning cost estimate is \$36 million in 1998 dollars, including funds to bring site to greenfield condition. The current amount in the licensee decommissioning trust fund is \$25.9 million. Because Pennsylvania collections ended in December 1998, sufficient deposits to the decommissioning trust fund are not being made. In reply to a staff request for additional information, the licensees stated that the \$6.1 million unfunded balance will be paid by Saxton's owners. The licensees' submission is undergoing review by the NRC staff. 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 expects to complete decommissioning so the license can be terminated in 2001. With the sale of nuclear electrical generating assets, GPU Nuclear is planning changes in their corporate structure and expects to submit a license amendment request for changes to the administrative requirements of the technical specifications.

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, which will be 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 currently expected to be decommissioned together in 2014. The current radiological decommissioning cost estimate is \$421 million. The current amount in the decommissioning trust fund is \$274.9 million. The licensee expects an annual rate of collection of \$10.3 million until the totally funded. The spent fuel was removed except for some 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 eyeing the formation of a new "Saxton-TMI-2 Oversight Committee."

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: 11/91

CURRENT DECOMMISSIONING STATUS

The plant was shutdown in November 1991. The DECON decommissioning plan was approved in April 1996. The plant is currently undergoing dismantlement under 50.59. The steam generators have been shipped to Hanford LLW site. The licensee received approvals from NRC, DOT, and State of Washington to ship the reactor vessel in one piece with internals as its own transportation package. The reactor vessel shipment was completed in August, 1999. The decommissioning cost was estimated to be \$240 million (1997 dollars). The current amount in the decommissioning trust fund is \$80.5 million (1997). The licensee has access to sufficient funds to complete decommissioning. On 3-26-96, the licensee submitted a site-specific Part 72 ISFSI application using SNC TranStor Cask System. The licensee was granted a Part 72 license for an onsite ISFSI in March 1999. The licensee submitted a License Termination Plan that is currently under review. A public meeting on the LTP was held in St. Helens, Oregon on December 7, 1999. Attendance was light and no significant issues regarding the LTP were raised.

CURRENT ISSUES

The licensee has revised their schedule for Trojan decommissioning based on problems with the transport licensing of the spent fuel casks. Following the identification of problems with the drop testing and analysis for the casks, the vendor, has withdrawn the transport license application. The current estimate is that the additional time for transport 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.

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. There are tentative plans to conduct a PSDAR meeting in the late spring of 2000. 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.

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. The licensee has initiated the final site survey and the staff has performed three confirmatory inspections of the final site survey work. Local citizens' groups had filed petitions for leave to intervene on the License Termination Plan. The ASLB then initiated the hearing process and a pre-hearing conference was held on January 26 & 27, 1999. 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. The ASLB issued a license termination order on July 28, 1999. Under current regulations, the licensee need not submit a new termination plan until the middle of the next century (2052).

CURRENT ISSUES

Dismantlement of remaining structures is tentatively scheduled from 1999 through 2002. The licensee has elected to construct an on-site ISFSI under a general license and is to start construction mid year 2000. 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.

NRR is currently processing a Quality Assurance (QA) Program license amendment which is a completely revised QA program to be called the Defueled QA Program.

ZION - Units 1 & 2

Licensee: Commonwealth Edison
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

On January 15, 1998, the licensee announced that Zion Nuclear Power Station (ZNPS) Units 1 and 2 would be permanently shutdown. The plants permanently ceased operation 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 stated that they will isolate the SFP. The plant will be placed in SAFSTOR until about 2013, when the decommissioning trust fund will be sufficient to conduct decommissioning. The decommissioning costs calculated in accordance with 10 CFR 50.75(c) are about \$560.4 million. As of December 31, 1998 there was \$393 million in the decommissioning trust fund. Under Illinois PUC requirements, Commonwealth Edison Company will collect a per kw-hr fee for decommissioning ZNPS at an annual rate of approximately \$9.1 million until 2013. In accordance with 10 50.75(f)(1) the licensee submitted a report on the status of decommissioning funding on March 31, 1999. A detailed estimate of decommissioning costs has not been submitted. The licensee will isolate the SFP and retain the fuel until it is accepted by Department of Energy during 2015-2030. The NRR project management is expected to be transferred to NMSS project management in 2031.

CURRENT ISSUES

The permanently defueled Technical Specifications (PDTs) license amendment application submitted in October 1998, and revised in April 1999 to supply missing information is under review. The staff expects to issue the PDTs by the end of 1999. The defueled safety analysis report was submitted in 1998. 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.

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

FERMI - UNIT 1

1.0 SITE IDENTIFICATION

Location: Monroe, Michigan
License No.: 50-16
Docket No.: DPR-9
Licensing Status: Active/Decommissioning
Project Manager: S. 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 10 CFR 50.59. PSDAR public meeting was held on April 22, 1998. Current decommissioning cost estimate is \$28-31 million (1998 dollars). Current amount in trust fund is \$32 million.

Involved Parties:

Lynn Goodman
Detroit Edison Company

3.0 MAJOR TECHNICAL AND REGULATORY ISSUES None

4.0 ASSUMPTIONS

The licensee will maintain its facility in SAFSTOR until 2020 and submits its license termination plan (LTP) in 2018.

5.0 ESTIMATED DATE FOR CLOSURE 3/25

PEACH BOTTOM - UNIT 1

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

Facility is in a SAFSTOR condition. Spent fuel has been removed from the site. PSDAR meeting was held on June 29, 1998. Final decommissioning is 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/year (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:

Jerry Phillabaum
PECO Energy Company

3.0 MAJOR TECHNICAL AND 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

Attachment 13

GENERIC LTP REVIEW SCHEDULE

04/19/00

ID	Task Name	Duration	Start	Finish	2000		Qtr 2, 2000			Qtr 3, 2000			Qtr 4, 2000			Qtr 1, 2001			Qtr 2,				
					Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr				
1	License Termination Plan (LTP) Review	302 d	02/11/00	04/09/01																			
2	Acceptance Review	21 d	02/11/00	03/10/00																			
3	Receive LTP	0 d	02/11/00	02/11/00																			
4	Forward to DCB	2 d	02/11/00	02/14/00																			
5	Conduct Review	10 d	02/15/00	02/28/00																			
6	Draft Memo to NRR	2 d	02/29/00	03/01/00																			
7	Concurrence	3 d	03/02/00	03/06/00																			
8	Issue Memo to NRR	1 d	03/07/00	03/07/00																			
9	Issue to Licensee	3 d	03/08/00	03/10/00																			
10	Develop SOW for PA & EA Contracto	25 d	03/02/00	04/05/00																			
11	Technical Review	243 d	04/06/00	03/12/01																			
12	Develop Task Plan	17 d	04/06/00	04/28/00																			
13	Prepare Task Plan	7 d	04/06/00	04/14/00																			
14	Review Task Plan	2 d	04/17/00	04/18/00																			
15	Brief BC	1 d	04/19/00	04/19/00																			
16	Revise Task Plan	2 d	04/20/00	04/21/00																			
17	Approve Task Plan	1 d	04/24/00	04/24/00																			
18	Prepare TAR(s)	1 d	04/25/00	04/25/00																			
19	Prepare RFTA	1 d	04/25/00	04/25/00																			
20	Forward RFTA	1 d	04/26/00	04/26/00																			
21	Issue TAR(s)	3 d	04/26/00	04/28/00																			

Project: ltp-gen
Date: 04/19/00

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

04/19/00

ID	Task Name	Duration	Start	Finish	2000		Qtr 2, 2000			Qtr 3, 2000			Qtr 4, 2000			Qtr 1, 2001			Qtr 2,	
					Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	
22	Evaluate LTP	43 d	05/01/00	06/28/00																
23	Characterization	15 d	05/01/00	05/19/00																
24	Dismantlement Activities	10 d	05/01/00	05/12/00																
25	Remediation Plans	5 d	05/01/00	05/05/00																
26	Final Radiation Survey Plan	25 d	05/22/00	06/23/00																
27	Compliance w/LTR	25 d	05/22/00	06/23/00																
28	Costs	10 d	05/15/00	05/26/00																
29	Supplement to ER	10 d	05/15/00	05/26/00																
30	Change Procedure	5 d	05/01/00	05/05/00																
31	Assemble Comments	3 d	06/26/00	06/28/00																
32	Hold Public Meeting	28 d	05/16/00	06/22/00																
33	Plan Meeting	4 w	05/16/00	06/12/00																
34	Prepare Briefing Materials	3 d	05/23/00	05/25/00																
35	Prepare Handouts	1 d	05/23/00	05/23/00																
36	Hold Dry Run	1 d	05/26/00	05/26/00																
37	Revise Materials/Handouts	2 d	05/29/00	05/30/00																
38	Conduct Meeting	3 d	06/13/00	06/15/00																
39	Analyze Comments	5 d	06/16/00	06/22/00																
40	Develop RAI (first)	26 d	06/29/00	08/03/00																
41	Prepare Draft SER	10 d	06/29/00	07/12/00																
42	Develop Draft RAI	5 d	07/13/00	07/19/00																

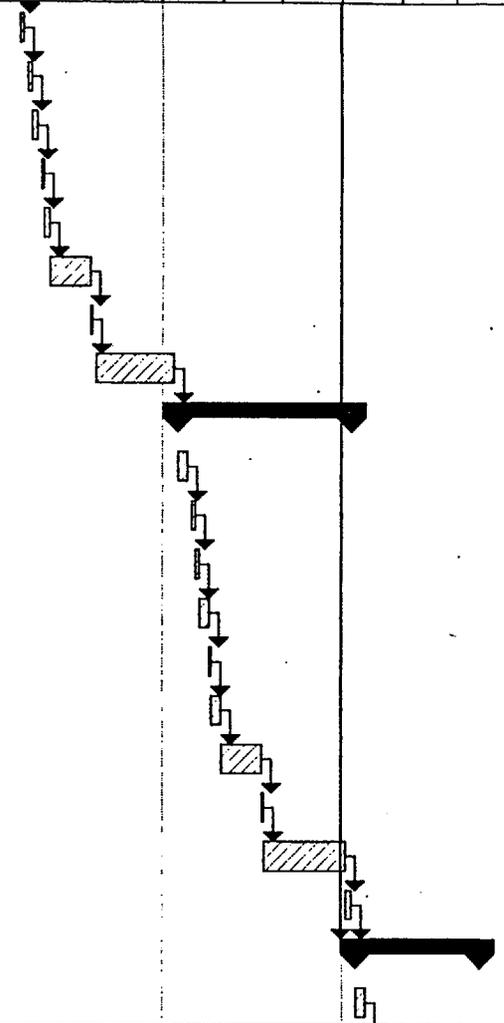
Project: ltp-gen
Date: 04/19/00

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

04/19/00

ID	Task Name	Duration	Start	Finish	2000		Qtr 2, 2000			Qtr 3, 2000			Qtr 4, 2000			Qtr 1, 2001			Qtr 2,
					Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
43	Review Draft RAI	2 d	07/20/00	07/21/00															
44	Revise RAI	2 d	07/24/00	07/25/00															
45	Concurrence	3 d	07/26/00	07/28/00															
46	Forward to NRR	1 d	07/31/00	07/31/00															
47	Transmit to Licensee	3 d	08/01/00	08/03/00															
48	Licensee Reviews RAI	15 d	08/04/00	08/24/00															
49	Meet w/Licensee re: RAI	1 d	08/25/00	08/25/00															
50	Licensee Prepares Response	30 d	08/28/00	10/06/00															
51	Develop RAI (second)	65 d	10/09/00	01/05/01															
52	Develop Draft RAI	5 d	10/09/00	10/13/00															
53	Review Draft RAI	2 d	10/16/00	10/17/00															
54	Revise RAI	2 d	10/18/00	10/19/00															
55	Concurrence	3 d	10/20/00	10/24/00															
56	Forward to NRR	1 d	10/25/00	10/25/00															
57	Transmit to Licensee	3 d	10/26/00	10/30/00															
58	Licensee Review RAI	15 d	10/31/00	11/20/00															
59	Meet w/Licensee & Public	1 d	11/21/00	11/21/00															
60	Licensee Prepares Response	30 d	11/22/00	01/02/01															
61	Respond to Licensee	3 d	01/03/01	01/05/01															
62	Develop SE/EA	46 d	01/08/01	03/12/01															
63	Develop Draft SE/EA	5 d	01/08/01	01/12/01															

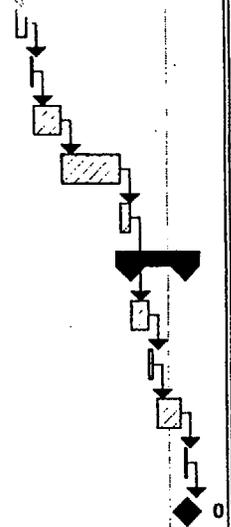


Project: ltp-gen Date: 04/19/00	Task		Summary		Rolled Up Progress	
	Critical Task		Rolled Up Task		Split	
	Progress		Rolled Up Critical Task		External Tasks	
	Milestone		Rolled Up Milestone		Project Summary	

GENERIC LTP REVIEW SCHEDULE

04/19/00

ID	Task Name	Duration	Start	Finish	2000		Qtr 2, 2000			Qtr 3, 2000			Qtr 4, 2000			Qtr 1, 2001			Qtr 2
					Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
64	Review SEEA (EIS/EA Tear	5 d	01/15/01	01/19/01															
65	Revise SE/EA	1 d	01/22/01	01/22/01															
66	Concurrence	2 w	01/23/01	02/05/01															
67	Review by State	22 d	02/06/01	03/07/01															
68	Revise SE/EA	3 d	03/08/01	03/12/01															
69	Complete LTP Review (NMSS)	20 d	03/13/01	04/09/01															
70	Finalize SER/EA/FONSI	7 d	03/13/01	03/21/01															
71	Review SER/EA/FONSI	2 d	03/22/01	03/23/01															
72	Concurrence	2 w	03/26/01	04/06/01															
73	Transmit SER/EA/FONSI to NR:	1 d	04/09/01	04/09/01															
74	Complete NMSS Review	0 d	04/09/01	04/09/01															



Project: ltp-gen
Date: 04/19/00

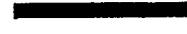
Task



Summary



Rolled Up Progress



Critical Task



Rolled Up Task



Split



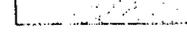
Progress



Rolled Up Critical Task



External Tasks



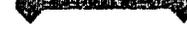
Milestone



Rolled Up Milestone



Project Summary



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	2001
2	Haddam Neck - CY	8/97	3/00*	11/00*	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	9/01*	2004
8	Millstone - Unit 1	6/99	TBD	TBD	TBD
9	Rancho Seco	12/94	TBD	TBD	2001
10	San Onofre - Unit 1	12/98	TBD	TBD	2005
11	Saxton	1996	2/00	10/00*	No Plans
12	Three Mile Island - Unit 2	2/79	TBD	TBD	TBD
13	Trojan	1/96	8/99	6/00*	2003
14	Vallecitos	7/66	TBD	TBD	No Plans
15	Yankee Rowe	11/94	9/01*	5/02*	TBD
16	Zion - Units 1 & 2	2/00*	TBD	TBD	2031

* estimated date

** PSDAR or Decommissioning Plan (DP) equivalent

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

Attachment 15

DECOMMISSIONING GUIDANCE DOCUMENTS UNDER DEVELOPMENT

Guidance Document	Status
U.S. Nuclear Regulatory Commission (NRC) Regulatory Guide (DG-1067), "Decommissioning of Nuclear Power Reactors"	Draft guide issued for comment in June 1997; final guide scheduled for issuance by July 2000
NRC Regulatory Guide (DG-1071), "Standard Format and Content for Post-Shutdown Decommissioning Activities Report"	Draft guide issued for comment in December 1997; final guide scheduled for issuance by July 2000
NRC Regulatory Guide 1.179, "Standard Format and Content of License Termination Plans for Nuclear Power Reactors"	Final guide issued in January 1999
NRC Regulatory Guide (DG-1069), "Fire Protection Program for Permanently Shutdown and Decommissioning Nuclear Power Plants"	Draft guide issued in July 1998; final guide scheduled for issuance in November 2000
NRC Regulatory Guide (DG-4006), "Demonstrating Compliance with the Radiological Criteria for License Termination"	Draft guide issued in August 1998; DG-4006 will be incorporated into SRP for decommissioning, due in July 2000
NRC Regulatory Guide, "Cost Estimates Required by 10 CFR 50.82"	Draft guide scheduled for issuance in FY2000
NRC Standard Review Plan (SRP), "Evaluating Nuclear Power Reactor License Termination Plans"	Draft issued for comment in December 1998; final scheduled for issuance as NUREG-1700 in April 2000
NRC SRP, "Cost Estimates Required by 10 CFR 50.82"	Draft scheduled for issuance in FY2000
NRC SRP, "Review of Decommissioning Plans and Other Information Submitted to Support the Release of Nuclear Facilities" (commonly known as SRP for Decommissioning)	Drafts issued for comment in 1999/2000
NRC SRP, "Licensee Requests to Delay Initiation of Decommissioning Activities"	Draft issued for comment in August 1999; final scheduled for issuance as Information Notice in March 2000. Will be incorporated into Decommissioning Handbook.
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 June 2000
NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual"	Published December 1997
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
"Preliminary Guidelines for Evaluating Dose Assessments in Support of Decommissioning"	Published March 1999