

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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Lansing, MI 48906
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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
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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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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
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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
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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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Steffan R. Helbig, PG
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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)
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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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Ivna Shanbaky
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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:

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Michigan Department of Environmental Quality
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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:

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Stephen L. Jantzen
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2300 N. Lincoln Blvd., Suite 112
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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:

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Pat Gardner, Supervisor
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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:

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Theodore G. Adams, Proj. Manager
B Koh & Associates, Inc.
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Telephone: 716-592-3431

Robert N. Kossak, Manager
Kiski Valley Water Pollution
Control Authority
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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
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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:

Rosalene 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
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Mallinckrodt and Second Streets
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Telephone: 314-539-1344

Henry Morton
Morton Associates
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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 Frauenhoffer 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
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David W. Minnaar, Chief
Radiological Protection Section
Drinking Water and Radiological Protection Division
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James C. Forney, Director - Closed Sites
Waste Management
19200 West 8 Mile Road
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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
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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 an 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
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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:

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Craig Harlin, Director of Regulatory Affairs
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Gore, Oklahoma 74435
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Pat Gwin
Associate Director for Environmental Health, Cherokee Nation
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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:

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Harrisburg, PA 17105-8469
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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
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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.