

Site Status Summaries

AAR MANUFACTURING INC.
(Updated May 29, 2001)

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

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

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

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

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

Involved Parties:

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Dr. Barry Koh, President
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Mr. David W. Minnaar, Chief
Licensing and Registration Section
Division of Radiological Health
Michigan Department of Public Health
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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, Inc.

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

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

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

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

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

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

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATE FOR CLOSURE 5/05

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

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

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

Involved Parties:

BWX Technologies, Inc
Richard Bartosik, Licensing Manager
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Vandergrift, PA 15690

Mr. Robert Maiers, Chief, Decommissioning Section
Pennsylvania Department of Environmental Protection
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Mr. James Yusko, Site Coordinator
Pennsylvania Department of Environmental Protection
Bureau of Radiation Protection
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Mr. Roy Woods, Health Physicist
Pennsylvania Department of Environmental Protection
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400 Waterfront Drive
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3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

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

Involved politicians/interest groups

Carmen Scialabba
c/o Honorable John Murtha
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The Kiski Coalition to Save Our Children
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Mr. Bud Shannon
Chairman, Parks Township Board of Supervisors
RD 1, Box 645
Vandergrift, PA 15690

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

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATE OF CLOSURE 7/03

B&W PARKS SHALLOW LAND DISPOSAL AREA

(Updated May 24, 2001)

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

Involved Parties:

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Mr. Roy Woods, Health Physicist
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3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

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

Involved Politicians/Interest Groups:

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

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

Mr. Bud Shannon, Chairman
Parks Township Board of Supervisors
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Citizens Action for a Safe Environment
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4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATE OF CLOSURE 3/09

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

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

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

Involved Parties:

Cabot Performance Material, Inc.
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Steffan R. Helbig, PG
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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

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

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

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

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

4.0 ASSUMPTIONS

- Cabot's proposal for unrestricted release without remediation is valid.
- Cabot's site characterization is acceptable.
- Cabot takes no more than 60 working days to respond to the RAI.
- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 2/03

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

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

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

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

Involved Parties:

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There are no immediate radiological hazards at the site.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

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

Based on inventory records, Cabot estimates that a maximum of 0.0065 Ci of thorium and 0.016 Ci of uranium remain at the site, spread over the four locations. The thorium and uranium are contained in slag fragments which are distributed with building debris and uncontaminated slag in the four areas. A total volume of 820,000 ft³ (23,000 m³), and a total mass of approximately 46.4 x 10⁶ kilograms of affected material remains at the site. The staff questions Cabot's volume estimates. The staff's independent analysis indicates that the site is acceptable for release if a lower, more realistic, volume estimate is used in the dose modeling.

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

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATE FOR CLOSURE 9/01

KERR McGEE - CIMARRON
(Updated May 24, 2001)

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

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

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

Involved Party:

Cimarron Corporation
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Oklahoma City, OK

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

There are no immediate radiological hazards at the site.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

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

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

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATE FOR CLOSURE - 6/04

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

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

Involved Parties:

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3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

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

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Cushing, OK 74023

4.0 ASSUMPTIONS

- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 12/03

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

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

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

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

Involved party:

Dave Minnar
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3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

There are no immediate radiological hazards at the site.

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

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

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATES FOR CLOSURE 7/03

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

FANSTEEL INC.
(Updated May 30, 2001)

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

Involved Parties:

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

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

Contaminants at the site include natural uranium and decay products, and natural thorium and decay products; metals including 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 are located adjacent to the Eastern Property Area. Current processing operations will reduce the source of much of the existing soil and groundwater contamination.

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

4.0 ASSUMPTIONS

- Fansteel will request restricted release
- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 8/20

HERITAGE MINERALS INC.
(Updated June 14, 2001)

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

Involved Parties:

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

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

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

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

The site contains a 700 m³ (24,717 ft³) tailings pile of monazite-rich sand from the physical separation processes used to isolate rare minerals. The licensee cleaned and decontaminated mill buildings used during processing of feed material (sand) containing monazite, leaving remediation activities to clean up the tailings pile. The entire site covers a large area in central New Jersey, while the licensed material is secured within a very small area. The property is owned by a building company that could develop the land for residential use after license termination. Financial assurance instruments were revised in 1999.

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

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

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATE FOR CLOSURE 6/02

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

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

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

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

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

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

Involved Parties:

Joyce Kuykendall (site RSO)
U.S. Army Soldier and Biological Chemical Command
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5183 BlackHawk Road
Aberdeen Proving Ground
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Paul Cloud
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Richard Hill, Co-Chair
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Karen Mason-Smith, Remedial Project Manager
U.S. Environmental Protection Agency
Mail Code SRS-5J
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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 signed a memorandum of agreement with the Department of the Interior (Fish and Wildlife) and the Department of Defense (Air Force) for long-term institutional control of the site.

4.0 ASSUMPTIONS

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

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

5.0 ESTIMATED DATE FOR CLOSURE 1/06

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

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

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

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

Involved Parties:

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

Henry Morton
Morton Associates
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Tel:301-983-0365

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

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

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

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

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

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

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

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATES FOR CLOSURE

Phase 1 closure - 11/01

Phase 2 closure - 11/06

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

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

The 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) on-site lagoon. The contamination resulted from the incineration and subsequent re-concentration of effluents released (within regulatory limits) from the nearby Babcox & Wilcox facilities. In July of 1997, PADEP requested that KVVWPCA prepare and submit a closure plan. 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 developed site-specific remediation guidance, for the KVVWPCA facility, that was sent to KVVWPCA in November 1999. Representatives from the NRC and PADEP met with KVVWPCA for clarification of the guidance in late March 2000. As of March 2001, B&W, BWXT and KVVWPCA finalized an interim settlement agreement which provides arrangements for the preparation of a Decommissioning Plan (DP) for the contaminated lagoon. The parties have appointed a team to oversee development of the DP. Work toward developing the DP began in April 2001 and is expected to be completed in November 2001. The DP will be submitted to NRC in March 2002.

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

Involved Parties:

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

Robert N. Kossak, Manager
Kiski Valley Water Pollution
Control Authority
1200 Pine Camp Road
Leechburg, PA 15656
Tel: (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.

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

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

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

Involved Politicians/Public Interest:

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

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

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

4.0 ASSUMPTIONS

- EIS will be required to support restricted release of the site.
- KVVWPCA, currently not a licensee, will maintain such status and therefore not require a license amendment.
- KVVWPCA will submit a DP to the NRC in March 2002.
- Remediation is estimated to take 350 days (one-half of the 700 days in the generic scenario) because contamination is limited to a spatially small area [a 4000m² (43,040 ft²) lagoon], and it is anticipated that no buildings will require remediation.
- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 12/10

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

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

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

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

During the remediation of Area 10, the licensee determined that the amount of depleted uranium (DU)-contaminated sand material was much greater than it had estimated [potentially an increase of about 21,225 m³ (750,000 ft³)]. In addition, this sand material is also potentially contaminated with leachable lead. The EPA, the State of Missouri, and NRC were able to develop a framework for transferring regulatory oversight of the Area 10 remediation to EPA once the licensee has prepared an Engineering Evaluation/Cost Analysis and a draft Action Memorandum. Once the licensee has produced these documents, EPA is willing to assume regulatory oversight of Area 10 under the provisions of Comprehensive Environmental Response Compensation and Liability Act (CERCLA), similar to our October 20, 1998, deferral

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

Involved Parties:

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

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

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

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

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

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATE FOR CLOSURE 9/01

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

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

Contaminants at the Mallinckrodt site are:

U-238; U-235; U-234 and progeny; Th-230; Ra-226;
Th-232; Th-228 and progeny; Ra-228; and K-40.

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

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

Involved Parties:

Mark Puett, Manager
Environmental Affairs
Mallinckrodt Chemical, Inc.
Mallinckrodt and Second Streets
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St. Louis, MO 63147
Tel: 314-539-1344

Henry Morton
Morton Associates
12041 Masters Terrace
Potomac, MD 20852
Tel: 301-983-0365

There are no immediate radiological hazards at the site.

MICHIGAN DEPARTMENT OF NATURAL RESOURCES (MDNR)

(Updated May 31, 2001)

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

Involved Parties:

Timothy Bertram, Environmental Quality Analyst
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David W. Minnaar, Chief
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Steve Masciulli, Health Physicist-Industrial Hygienist
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Rick Dunkin, 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.

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

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

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

4.0 ASSUMPTIONS

- Standard assumptions for unrestricted release

5.0 ESTIMATED DATE FOR CLOSURE 7/08

MOLYCORP INC.
(Updated May 30, 2001)

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

This site is located 56.3 Km (35 mi) southwest of the City of Pittsburgh in Canton Township, PA less than 0.8 Km (0.5 mi) southwest of the City of Washington, PA. Molycorp produced a ferrocolumbium alloy from an ore that contained natural thorium. The operation resulted in the production of thorium-bearing slag that was used as fill over portions of the site and stored in an above-ground, vegetated slag pile 7641 m³ (10,000 yd³). Thorium is the primary contaminant. However, the ore may have contained small amounts of uranium. Average thorium concentrations over most of the site are between 100 and 200 pCi/g. In some locations, the contamination extends down to 3 m (10 ft) in the subsurface soil. The average concentration of thorium in the slag pile is 1200 pCi/g. Estimates of total waste volumes range from 45,846 - 114,615 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.

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

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

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

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

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

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

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

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

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

Involved Parties:

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717-783-8965 (FAX)

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

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

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

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

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

4.0 ASSUMPTIONS

- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE To be determined after NRC receives and approves the updated schedule.

MOLYCORP INC.
(Updated July 16, 2001)

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

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

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

Involved Parties:

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215-814-2082

There are no immediate radiological hazards at the site.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

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

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

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

4.0 ASSUMPTIONS

- Standard assumptions

5.0 ESTIMATED DATE FOR CLOSURE 10/02

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

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

Involved Parties:

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

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

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

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

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

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

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATE FOR CLOSURE 7/03

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

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

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

Involved Parties:

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Tel: 570-784-4344

Safety Light Corporation
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3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

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

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

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

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATES FOR CLOSURE

License Termination - 12/04 Off SDMP - Indefinite

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

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

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

Involved Parties:

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Saginaw Bay District Office
MDEQ
503 N. Euclid Avenue
Bay City, MI 48706

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

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

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

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

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

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

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

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

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATE FOR CLOSURE 2/11

SEQUOYAH FUELS CORPORATION (SFC)

(Updated May 25, 2001)

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

The contamination was generated during the processing of uranium oxide (yellowcake) to uranium hexafluoride, from 1970 through 1992, and treatment of the process raffinate. Soil contamination levels range from about 5 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 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. EIS development was initiated in May 2000.

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

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

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

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

There are no immediate radiological hazards at the site.

Involved Parties:

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Craig Harlin, Director of Regulatory Affairs
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Gore, Oklahoma 74435
Tel: 918-489-2291

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Assistant Attorney General, Environmental Protection Unit
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Pat Gwin
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Tahlequah, Oklahoma 74464
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Enforcement Officer, EPA, Region 6
1445 Ross Ave.
Dallas, TX 75202-2733
Tel: (214) 665-8315

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

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

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

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

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

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

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

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

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

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

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

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

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

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

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

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATE FOR CLOSURE 4/09

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

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

During the manufacturing process, the facility generates slag, and baghouse dust. Currently, there is approximately 18,000 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 April 20, 2000, which assumes on-site stabilization of the slag pile and baghouse dust, similar to the proposal approved for the Shieldalloy Cambridge, Ohio site. SMC is no longer active, and has until September, 2001 to notify the NRC if they plan to resume operations. They have informally told the NRC that they do not plan to resume operations and will submit a site DP mid-year 2002.

Involved Parties:

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Shieldalloy Metallurgical Corporation
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Newfield, New Jersey 08344

Jill Lipoti, PhD., Assistant Director
for Radiation Protection Programs
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3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

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

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

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

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATE FOR CLOSURE 9/10

UNION CARBIDE CORPORATION
(Updated May 29, 2001)

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

The contaminant at the Union Carbide site is enriched uranium

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

Involved parties:

Juanita Bursley, Manager
Corporate Environmental Manager
UCAR
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Phil Brandt
Nuclear Fuel Services, Inc.
1205 Banner Hill Road
Erwin, TN 37650
Tel: 423-743-9141

Mr. L. Edward Nannie, Director
Tennessee Dept. of Environment and Conservation
Division of Radiological Health
L&C Annex, Third Floor
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There are no immediate radiological hazards at the site.

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

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

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

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATE FOR CLOSURE 1/05

WESTINGHOUSE WALTZ MILL
(Updated June 18, 2001)

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

Involved Parties:

A. Joseph Nardi, Supervisory Engineer
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Wayne Vogel, Radiation Safety Officer
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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 intend to submit a Commission Paper requesting removal of the site from the SDMP list, after successful implementation of the RP and licensee demonstration and NRC confirmation that DCGL targets have been met.

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

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATE FOR CLOSURE 8/02

WATERTOWN GSA
(Updated June 14, 2001)

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

Involved Parties:

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MaryEllen Iorio, Project Manager
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3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

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

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

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

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

4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATE FOR CLOSURE 12/02

WHITTAKER CORPORATION
(Updated June 18, 2001)

1.0 SITE IDENTIFICATION

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

2.0 SITE STATUS SUMMARY

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

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

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

3.0 MAJOR TECHNICAL OR REGULATORY ISSUES

The licensee has not submitted a DP. The estimated volume of contaminated material is 14,160 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:

Eric Lardiere, Vice President and General Counsel
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4.0 ASSUMPTIONS

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

5.0 ESTIMATED DATE FOR CLOSURE 8/09