



DOCKET NUMBER

BYPRODUCTS

30-05980, et al. - OM/OM-2 + 30-5980/5982-ML/ML-2

14411

14412

14413

UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

October 18, 1993

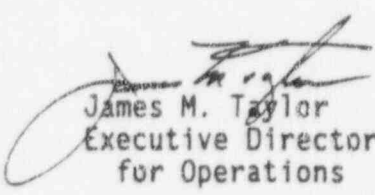
'93 OCT 25 A9:58

MEMORANDUM FOR: Commissioner Remick

FROM: James M. Taylor  
Executive Director for Operations

SUBJECT: RESPONSES TO QUESTIONS ABOUT TRANSFER OF SITES TO THE  
ENVIRONMENTAL PROTECTION AGENCY (SECY 93-235)

I am responding to your questions on SECY 93-235 regarding possible transfer of the Safety Light Corporation site to the Environmental Protection Agency for remediation under the Superfund program and related matters. The staff's answers to your questions are provided in the enclosure. Please contact Robert Bernero at 504-3352 if you have any additional questions.



James M. Taylor  
Executive Director  
for Operations

Enclosure: As stated

cc: The Chairman  
Commissioner Rogers  
Commissioner de Planque  
OGC  
SECY  
OCA  
OPA  
Safety Light Service List

9311080162

XA

2/5/97

1007

MLTP2

Answers to Commissioner Remick's Questions Regarding  
Transfers of Sites to the Environmental Protection Agency (EPA)  
for Remediation under Superfund and Related Matters (SECY 93-235)

QUESTION 1: Have any other NRC-licensed sites ever been referred to the EPA for remediation under Superfund? If so, what has been the outcome of the transfers?

ANSWER: Two Site Decommissioning Management Plan (SDMP) sites have been referred in some manner to EPA: the Pesses site in Pulaski, PA, and the West Lake Landfill site in St. Louis, MO. EPA actually asserted control over the Pesses site in 1987 after the former licensee abandoned the site, declared bankruptcy, and failed to comply with a 1986 order from the Nuclear Regulatory Commission. We have attached the current SDMP report summaries for both of these sites.

Also, in a decommissioning action that predated the development of the SDMP, the NRC sought funding from EPA under Superfund for decontamination of the John C. Haynes Company site in Newark, Ohio in 1984. EPA provided the funding for cleanup under Superfund and contracted with Battelle Memorial Laboratories and Oak Ridge Associated Universities to do the decontamination, which was completed in accordance with NRC standards in July 1985.

There are also a handful of NRC- and Agreement State-licensed sites on EPA's National Priority List (NPL) for remediation under the Superfund program. Although EPA has generally deferred to NRC's regulatory program for sites with active licenses, the sites have been included in the Superfund program for a variety of reasons. In some cases, the sites were added to the NPL while licensed by an Agreement State (e.g., uranium mills in Homestake, NM, and Uravan, CO). In other cases, the sites have been included on the NPL for contaminants other than radionuclides (e.g., Lake City Army Ammunition Plant in Independence, MO). The Lake City site is also being decommissioned under NRC's SDMP.

Although remediation typically proceeds slowly under the Superfund program, some progress has been made at these sites in controlling and removing environmental contamination and in characterizing the sites.

QUESTION 2. Are there other NRC-licensed sites that have conditions, both technical and financial, similar to the Safety Light site at Bloomsburg, that might be candidates for referral to the EPA for remediation under Superfund? If so, which sites are they?

ANSWER: Determining which NRC-licensed sites are candidates for remedial action under Superfund is highly speculative and should be addressed on a case-by-case basis. Application of NRC's existing radiological criteria for decommissioning, as described in the SDMP Action Plan (57 FR 13389), may pose large financial challenges to the responsible parties for some of the SDMP sites. The challenge is particularly great for sites with large volumes of soils or residues that are contaminated by thorium. In most cases, the licensees did not set aside sufficient decommissioning funds, as the contaminated soils or residues were produced, to pay for remediation and proper disposal of the contamination in accordance with current criteria. In addition, NRC is currently completing its review of former materials facilities, whose licenses were terminated between about 1965 and 1981. The staff has also initiated a reevaluation of licenses terminated prior to 1965 and after about 1981. It is possible that some of the sites identified through these reviews may also be candidates for referral to EPA for remediation under Superfund. The staff will consult with the Commission on preferred decommissioning options for these sites on a case-by-case basis in conjunction with ongoing reviews of decommissioning plans and environmental assessments.

QUESTION 3. Are there other NRC-licensed sites whose conditions are not similar to Safety Light's but, in the opinion of the staff, might be candidates for referral to the EPA for remediation under Superfund?

ANSWER: Not at this time.

QUESTION 4. SECY-93-235 notes that the EPA's remediation goals are generally concentration levels that represent a lifetime cancer probability for an individual of between  $10^{-4}$  to  $10^{-6}$ . These levels of risks equate to an annual incremental dose of approximately 0.02 to 2 mrem per year. What is the staff's views on whether agreeing to these risk levels for the Safety Light site might influence the results of the staff's ongoing enhanced participatory rulemaking on establishing criteria for decommissioning and decontamination?

ANSWER: Transfer of the Safety Light site to EPA for remediation under Superfund does not constitute NRC agreement with the  $10^{-4}$  to  $10^{-6}$  risk levels for remediation goals. These goals are implemented under Superfund on a site-specific basis considering the general framework and procedures in the National Contingency Plan, including applicable or relevant and appropriate requirements (ARARs; see 40 CFR §300.430(e)).

The NRC staff has been cooperating with the EPA in the parallel development of the enhanced participatory rulemaking and EPA's cleanup standards for radioactive contamination. NRC and EPA staffs have been discussing the application and appropriateness of lifetime risk levels in the range of  $10^{-4}$  to  $10^{-6}$  among other rulemaking alternatives in the context of the two rulemakings. These discussions are not being driven by application of the Superfund risk range at any one site. In fact at most Superfund sites involving remediation of radioactive contamination, as described in SECY 93-235, EPA has selected ARARs, which typically pose risks far in excess of the  $10^{-4}$  lifetime risk level. For example, the 5 pCi/g level for remediation of soils contaminated with  $^{226}\text{Ra}$  corresponds to a lifetime risk level of approximately  $10^{-2}$ . This observation is based on EPA's recent review of Records of Decision (RODs) at Superfund sites with radioactive contamination. NRC staff used this information in preparing the background case studies on decommissioning, which were provided to participants in advance of the enhanced participatory rulemaking workshops earlier this year.

QUESTION 5. The staff paper notes that the staff understands that the EPA does not view the Bloomsburg site as warranting immediate remedial action under Superfund. If this is so, does the staff see any near-term public health and safety benefit to transferring the site to the EPA now rather than at a later date?

ANSWER: The Safety Light site does not represent an immediate threat to health and safety as long as the site is being controlled and access is restricted. While transfer of the site to the EPA Superfund program may result in the site being given a lower priority for remediation than what NRC gives it, transfer of the Bloomsburg site would better ensure a source of funding for continued control, characterization, and remediation of the site. As described in SECY 93-235, transfer of the site to EPA for remediation under Superfund would also conserve NRC resources and allow the application of these resources to other decommissioning projects that would provide near-term (and long-term) public health benefits. The licensee's resources may also be conserved by eliminating extensive litigation and hearings now that may ultimately be rendered moot by the licensee's inability to pay for remediation and that may require transfer to EPA in the future after some resources have been consumed in litigation. In addition, transfer of the site to EPA may also provide an incentive for other licensees, who are currently financially capable, to make progress with NRC-licensed decommissioning actions to avoid the stigma and liabilities associated with remedial actions under Superfund.

Pesses Company (Metcoa)

1. Site Identification

Pesses Company (Metcoa)  
Pulaski, PA

License No.: STB-1254  
Docket No.: 040-08406  
License Status: Expired 7/31/86 (licensee bankrupt)  
Project Manager: M. Roberts, Region I  
LLWM Monitor: H. Spiro

2. Site and Operations

The Metallurgical Corporation of America (Metcoa) also referred to as the Pesses Company site, is a defunct metal reclaiming facility that was abandoned, without informing the NRC, after the company declared bankruptcy in 1983. The NRC became aware of the abandonment during a routine inspection in September 1984. Materials handled at the facility during operation from 1975 to 1983 included low-level radioactive compounds, such as ores containing uranium and thorium; thoriated magnesium and nickel; and nonradioactive metals, such as chromium, cobalt, lead, cadmium, and copper.

The site is located on 8.9 hectares (22 acres) in a rural agricultural area in western Pennsylvania. A 2.4 hectare (6 acre) portion of the site, surrounded by a fence, contains four interconnected buildings that were used for scrap metal reprocessing and ferrocolumbium production.

Approximately 550 people in 138 homes live within 1.6 km (1 mile) of the site. An open-air farmers' market operates near the site throughout the year.

While the NRC license authorized disposal of slag waste products containing uranium and thorium by burial, it is uncertain whether onsite disposals actually took place. The licensee claims that no disposals



took place and no specific burial sites were found during site surveys. However, there is radioactive soil contamination at various locations on site.

On January 22, 1986, the NRC issued an order requiring the licensee or its successor to submit a decommissioning plan, complete the remediation, perform a final survey and submit a report of the survey results to the NRC, and control entry to the site until the NRC could confirm that the remediation had been properly performed. The licensee failed to comply with the order.

### 3. Radioactive Wastes

When NRC first identified the abandonment of the site, there was a wide variety of magnesium-thorium and nickel-thorium scrap, nonhazardous scrap metal, obvious soil contamination with radioactive materials and hazardous waste, ore and other debris spread around the site and buildings.

Following stabilization and preliminary inventory by the U.S. Environmental Protection Agency (EPA) and prior to Phase One of the removal action (discussed below), approximately 1,500 drums, totes (large metal boxes of varying size) and overpacks of various waste were stored at the site.

The site also contained about 1,000 m<sup>3</sup> (1,300 yd<sup>3</sup>), in four piles, of contaminated soil and a low solubility, siliceous slag material. Much of these materials were contaminated with thorium. Surface soil was found to be contaminated with natural thorium up to 90 Bq/g (2,410 pCi/g). Exposure rates around the drums and piles were typically 30 to 50 microroentgens per hour with some exposure rates up to 1,000 microroentgens per hour. Other wastes on the site included approximately 600 m<sup>3</sup> (800 yd<sup>3</sup>) of hazardous wastes containing chromium, lead, and cadmium.



4. Description of Radiological Hazard

The NRC contracted with Oak Ridge Associated Universities (ORAU) to perform a radiological survey that was completed in November 1985 and revealed elevated levels of radiation exposure rates from the waste generated by the metal processing operation. Soil samples collected also contained elevated levels of lead, chromium, and cadmium. The NRC brought the site to the attention of the Pennsylvania Department of Environmental Resources (PADER). PADER then conducted their own site assessment, including sampling, which confirmed the NRC findings. PADER requested that EPA perform a site assessment to investigate the potential threat to public health and the environment.

Between June and September 1986, Roy F. Weston, Inc. (Weston), the EPA on-scene coordinator, performed a comprehensive site assessment that included soil, drum, surface water, and ground water sampling. Geophysical surveys also were conducted, including a magnetometer survey and ground penetrating radar.

The principal hazards associated with the contamination and wastes at the Metcoa site involve inhalation, ingestion, intrusion and ground water. No immediate threats to public health and safety exist. Stabilization measures, including placement of non-permeable (visquene) and geotextile fabric covers over piles, have been taken to minimize the transport of radioactive materials from the site. When deterioration of visquene and geotextile barriers occurred, restabilization was initiated. The inhalation and ingestion hazards are considered to be minimal. The intrusion hazard is minimized by the fencing around the contaminated areas and local police security. Soil samples taken as part of the Phase Two activities at the site have identified thorium activity ranging from environmental levels to as high as 12 Bq/g (315 pCi/g).

Specific hydrological data is unavailable, however, surface drainage patterns were studied in the stabilization program so that barriers to sediment transport could be installed. One well exists on the site. This well and surface water in streams, drainage ditches, and ponds were sampled in the ORAU site survey. No contamination in water or sediment

samples was found. Buchanan Run is a small stream that flows adjacent to the site. The thorium contained in the waste slag has a very low solubility and is not expected to result in contamination of ground water supplies. Samples of surface waters and ground water confirm that radioactive materials have not migrated to these media.

5. Financial Assurance/Viable Responsible Organization

The Pesses Company possession limit is 100,000 kg of source material containing 2,000 kg (4,400 pounds) of thorium (16 GBq (440 millicuries)). Under this possession limit a decommissioning funding plan would be required. However, the licensee is bankrupt and its remaining assets are insufficient to fund the site cleanup. Initial stabilization efforts were funded by the EPA. The potentially responsible parties (PRP's) funded the restabilization efforts and the removal activities to date.

The NRC also became a party in the bankruptcy litigation. The bankruptcy court ruled that the NRC had the same claim to the licensee's assets as an unsecured creditor and no assets were made available as a result of the litigation.

6. Status of Decommissioning Activities

Based on the information generated by the various surveys, EPA stabilized the site in 1987 and began a thorough investigation of the source(s) of the contamination. Weston, an EPA contractor for the PRP's of this site, conducted the site stabilization phase of the cleanup.

OH Materials, Inc., of Findlay, Ohio was the prime contractor responsible for staging and securing of waste materials. These activities consisted of creating bulk (slag waste) staging piles and covering the piles with a combination of visquene and geotextile fabrics. Included in the activities were the staging of approximately 1,500 drums located onsite. Approximately 1,000 m<sup>3</sup> (1,300 yd<sup>3</sup>) of hazardous waste were collected in four piles. Weston issued a report documenting the site and the stabilization activities. The visquene and geotextile fabric

coverings subsequently deteriorated and became ineffective in minimizing the infiltration of water and preventing transport of sediments as a result of the action of wind and water. In November 1988 the PRP's proposed to restabilize these waste piles. This restabilization took place in November 1989.

On August 13, 1990, the EPA began a removal operation after offering the PRP's the opportunity to sign a consent order and control the removal action themselves, thereby avoiding potential penalties. On August 17, 1990 a group of the PRP's agreed to the order and submitted Phase One of a removal work plan for approval. The EPA and Region I reviewed the plan and EPA formally approved the plan in October 1990. Work commenced in November 1990.

Phase One of the plan primarily involved setting up a base of operations at the site and initiating a screening program for the wastes, followed by disposal of as much waste as possible. Wastes were classified as non-hazardous and non-radiological, hazardous, radiological or mixed waste (hazardous and radiological) by direct monitoring or through analysis of previously taken samples. Phase One was completed in April 1991 and resulted in the removal of 861 drums and 20 larger containers of radioactive waste, 90 containers of hazardous waste, 870 m<sup>3</sup> (1,134 yd<sup>3</sup>) of radioactive or hazardous wastes and 17,000 liters (4,500 gallons) of contaminated liquids. Each type of waste was sent to appropriately approved or licensed facilities for processing, packaging and disposal. About 270 m<sup>3</sup> (350 yd<sup>3</sup>) of nonradioactive, nonhazardous waste were disposed locally. No mixed wastes were removed from the site. An NRC inspector visited the site in December 1990 to review the activities associated with Phase One.

While Phase One of the remediation plan was underway, the PRP's contractor submitted a Phase Two work plan. This portion of the work plan was also reviewed by EPA, PADER and Region I and approved by EPA. Phase Two involved further characterization of the site through analysis of soil samples, a radiological survey of the site at defined grid points and a further magnetic survey. The field work for Phase Two commenced in August 1991 and was completed in December 1991. NRC inspectors visited

the site in August 1991 to review site activities. A report of the results of Phase Two activities, which includes the results of the sample analyses, was provided to EPA and NRC in May 1992. The report also describes options for handling the remaining wastes on the site.

EPA and NRC reviewed and commented on the Phase Two report. On December 31, 1992, EPA issued a draft consent order to the PRP's which requires that the PRP's initiate excavation of the radiologically contaminated soils and treat and/or dispose of the mixed waste. This phase of the removal project is not likely to start before early to mid-1993.

7. Other Involved Parties

EPA has the lead responsibility for cleanup activities at this site. EPA and NRC have both reviewed and approved remediation plans prior to implementation and will continue to do so. NRC has and will continue to assist EPA in monitoring the progress of work. An NRC inspector visits the site to review activities at least once each year.

8. NRC Actions and Schedule

NRC is maintaining contact with EPA regarding resolution of final cleanup issues and will assist EPA in review of work plans to ensure compliance with relevant NRC guidance and appropriate monitoring of the progress of work. As in previous phases of the work, NRC will continue to inspect site activities as needed. It is important to recognize that EPA normally relies on the final survey performed by the PRP contractor to release sites for unrestricted use. Since NRC will plan to perform its own confirmatory survey, close coordination with the PRP's and EPA will be important as the PRP's complete the removal action.

Dates are tentative and based upon EPA estimates of site milestones.

• NRC reviews and comments on work plan provided  
by PRP's

Summer 1993

- NRC inspects ongoing removal activities Fall 1993
- NRC reviews EPA analytical data Fall 1993
- NRC performs final confirmatory survey 1995
- NRC documents remediation and final survey and agreement that site may be released for unrestricted use TBD

9. Problems/Issues

Present plans do not address disposal of mixed waste at this site. The PRP's have begun to characterize the waste and plan to dispose of hazardous and radioactive that are separate and then address the mixed waste.

## West Lake Landfill

### 1. Site Identification

West Lake Landfill

Bridgeton, St. Louis County, MO

Docket Nos.: 040-08035

040-08801

License Status: None

Project Manager: J. Parrott

### 2. Site and Operations

The West Lake landfill property, owned by Laidlaw and Rockroad, Inc. is a 81 hectare (200 acre) tract on the outskirts of the city of St. Louis. Limestone was quarried there from 1939 to 1987, and an unregulated landfill was operated on part of the site from 1962 to 1974. About  $3.9 \times 10^7$  kg ( $8.6 \times 10^7$  pounds) of contaminated soil, from Cotter Corporation's Latty Avenue site, was placed in the landfill in 1973. A concrete plant is operating on site, as well as a 8.9 hectare (22 acre) demolition landfill and a 21 hectare (52 acre) sanitary landfill. The property is on the border of the Missouri River Valley about 1.9 km (1.2 miles) from the river.

The U.S. EPA Region VII office has the lead on the remediation of this site under the Superfund program. EPA has identified four potentially responsible parties (PRPs) for the Superfund remediation of this site, these are Cotter Corporation, Laidlaw Waste Systems, Rock Road Industries, and the U. S. Department of Energy.

### 3. Radioactive Wastes

Two areas on the site have a layer of radiologically contaminated soil, mostly covered with 0.9 to 6.1 meters (3 to 20 feet) of other waste. The larger area in the northern site area comprises about 5.3 hectares (13 acres) and contains about  $99000 \text{ m}^3$  ( $3.5 \times 10^6 \text{ ft}^3$ ) of soil contami-



nated to at least 0.2 Bq/g (5 pCi/g) radium-226 (Ra-226). This contaminated soil forms a more or less continuous layer from 0.6 to 4.6 meters (2 to 15 feet) in thickness and lies above 4.9 to 6.1 meters (16 to 20 feet) of landfill debris. The smaller area to the south covers 1.2 hectares (3 acres) and contains about 14,000 m<sup>3</sup> (500,000 feet). This soil body lies above a former quarry pit that was filled with debris.

The average Ra-226 concentration is about 3.3 Bq/g (90 pCi/g), uranium radioactivity concentrations average appreciably smaller, and the thorium-230 (Th-230) concentrations are 20 to 100 times those of Ra-226. The contamination originated with residues from extraction of uranium and radium from very rich uranium ores for the Atomic Energy Commission.

4. Description of Radiological Hazard

This site poses no immediate threat to the public. Radioactivity has been detected in groundwater monitoring wells on site, indicating slight contamination above background.

5. Financial Assurance/Viable Responsible Organization

As stated above, the U.S. EPA Region VII office has the lead on the remediation of this site under the Superfund program. Under this program all remediation costs are provided by the PRPs or guaranteed through the fund.

6. Status of Decommissioning Activities

The Nuclear Regulatory Commission (NRC) had a radiological survey performed in 1981 and an environmental characterization of the site performed in 1983. NRC previously informed Cotter Corporation that it is being held responsible for site remediation and asked for its plans for remedial action. However, no site remedial action was done. The property owner has not allowed any more waste to be dumped in these areas.



On August 30, 1990, the U.S. Environmental Protection Agency (EPA) listed the site on the Comprehensive Environmental Response, Compensation, and Liability National Priorities List for Uncontrolled Hazardous Waste Sites and ranked it as site number 1003 (55 FR 35502). In discussions between NRC and Cotter Corporation in November 1990, it was acknowledged that EPA is taking the lead for site remediation activities. This arrangement was agreed to in a letter from NRC to EPA dated March 18, 1991.

7. Other Involved Parties

EPA is currently working to establish a Scope of Work agreement with the PRPs to remediate the site. NRC will monitor EPA activities and progress on this case. NRC will ensure that there is a satisfactory cleanup arrangement and that the disposal of any removed waste material is in accordance with NRC requirements.

8. NRC/Licensee Actions and Schedule

- |  |                |
|--|----------------|
| • PRPs sign Scope of Work agreement    | March 1993     |
| • PRPs submit Work Plan to EPA         | May 1993       |
| • EPA requests NRC review of Work Plan | September 1993 |
| • NRC completes review of Work Plan    | January 1994   |

9. Problems/Issues

Because EPA is the lead agency, NRC does not exercise control over remediation activities.