

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
American Nuclear Corporation - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject: POLREP #3
Removal Progress
American Nuclear Corporation
C4N8
Clinton, TN
Latitude: 36.0433521 Longitude: -84.1837529

To: James Webster, USEPA R4 ERRB
Steve Sanders, TDEC

From: Carter Owens, OSC

Date: 5/16/2024

Reporting Period: 4/19/2024 through 5/17/2024

1. Introduction

1.1 Background

Site Number:	C4N8	Contract Number:	
D.O. Number:		Action Memo Date:	9/12/2023
Response Authority:	CERCLA	Response Type:	Time-Critical
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	11/15/2023	Start Date:	11/15/2023
Demob Date:		Completion Date:	
CERCLIS ID:	TNN000420811	RCRIS ID:	
ERNS No.:		State Notification:	
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Time-Critical Removal

1.1.2 Site Description

The Site is a former radiological source manufacturing facility. Operations at the facility caused sitewide radiological contamination. The building remaining on-site contains a former machine shop, electronics lab, office, and a Hot Cell formerly used to load teletherapy sources. The Hot Cell is a shielded radiation containment chamber contained inside a second attached building on the east side of the facility. Key problem areas include the Hot Cell and the surrounding supporting building, drainage piping underneath the building, and contaminated soils.

1.1.2.1 Location

The Site is located at Blockhouse Valley Road, Clinton, Tennessee, 37716. The geographic coordinates of the Site are 36.043251 degrees north and 84.183476 degrees west. The Site is bordered by TVA and County-owned property. Melton Hill Lake and the Clinch River are approximately four tenths of a mile to the west, and Braden Branch Creek is approximately 50 yards to the south of the Site.

1.1.2.2 Description of Threat

Release of Cs-137 and Co-60 to the environment, as well as residual radiological contamination throughout the operations building containing the Hot Cell. Cs-137 and Co-60 are hazardous substances as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), and are listed as hazardous substances in 40 C.F.R. § 302.4.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

See Initial POLREP.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

The EPA has documented the presence of Cs-137 and Co-60 above site-specific RMLs within site soils and sediments. Gamma exposure readings inside the building indicate levels as high as 1500 times greater than background levels for the area. Cs-137 and Co-60 are hazardous substances as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), and are listed as hazardous substances in 40 C.F.R. § 302.4.

2.1.2 Response Actions to Date

See Initial POLREP for previous actions

Response actions conducted during the reporting period of 4/19/2024 through 5/17/2024 consisted of the following items:

- Hot Cell demolition began on April 16 and was completed by April 26. All exterior layers of block and concrete were removed, screened to ensure no removeable contamination was present, and then staged in a designated rubble pile. Air monitoring was conducted both inside the building and outside where rubble was being staged each day during the demolition. These filters were screened daily to ensure no removable

contamination was being released into the air and all samples came back clean during demolition operations.

- The inner metal housing of the Hot Cell was left intact to act as containment/shielding of the contamination inside. The Hot Cell will be dismantled down to grade once the transportation and disposal (T&D) of radiological waste phase of the project begins. This is scheduled for early/mid June.
- Small amounts of rubble directly in contact with the inner metal housing of the Hot Cell had elevated exposure levels compared to background. This material was placed in B-25 boxes and staged outside.
- Radiological demolition activities were paused on April 29, and demolition of the office-space area of the American Nuclear Corporation building started. This part of the building was demolished to make additional space for staging of contaminated soils and debris. This material was disposed of as construction and demolition (C&D) waste and sent to the Waste Management Chestnut Ridge Landfill in Heiskel, TN. Transportation and disposal of the non-hazardous office C&D waste was completed on May 10. All loads of C&D waste were screened by the RSO to ensure radiological contaminated waste was not being sent off-site with the office debris. The concrete foundation pad from the office area will be used as staging/screening/weighing/loading of roll-offs for radiological waste T&D.
- Concurrently with T&D of the office debris, soil excavation began on the mounded area at the Southeast corner of the ANC building to begin developing the waste profile. This mounded area is where the U.S. Army Environmental Command (USACE), with support from Oak Ridge National Laboratory (ORNL), conducted a cleanup at the Site and buried any waste generated from those cleanup activities. This occurred from October 1974 to May 1975. Detailed records of this activity do not exist. Trenching of the mound for waste profiling uncovered several concrete vaults, which are assumed to be the remediation method conducted by USACE. Soils within the mound and around these vaults have elevated levels of Cs-137 above the Removal Management Level (RML) of 4.8 pCi/g. The soils will be containerized and shipped off-site as rad waste. Soil sampling for the waste profile was completed by May 15 and the RSO will begin developing the waste profile for approval by the disposal facility.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

As of July 1980, the State of Tennessee had condemned and taken ownership of the ANC property. The State of Tennessee does not presently have resources or funds available to conduct a removal action at the Site, and referred the Site to the EPA's Superfund program on July 15, 2022.

2.1.4 Progress Metrics

Waste Stream	Medium	Quantity	Manifest #	Treatment	Disposal
C&D Debris	Debris	170 ton			Disposed as Non-haz

2.2 Planning Section

2.2.1 Anticipated Activities

Develop waste profiles for shipment of rad waste to the WCS disposal facility. Begin preparations and set up all logistics needed to support transportation and disposal of rad waste.

2.2.1.1 Planned Response Activities

Develop waste profiles for shipment of rad waste to the WCS disposal facility. Begin preparations and set up all logistics needed to support transportation and disposal of rad waste.

2.2.1.2 Next Steps

Obtain approval from rad disposal facility for the waste profiles. Establish all logistics needed to support transportation and disposal of rad waste.

2.2.2 Issues

The disposal facility alerted the EPA that the Site is within a Fire Ant Quarantine Zone. An Animal and Plant Health Inspection Service (APHIS) compliance agreement and Limit Permit might be required to ship any soils from the Site to the disposal facility in West Texas. The EPA is coordinating directly with the TN Regional U.S. Department of Agriculture office and their counterparts in Texas to ensure all requirements of the Fire Ant Quarantine Zone are met.

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2.3 Logistics Section

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2.4 Finance Section

2.4.1 Narrative

An Action Memorandum authorizing EPA removal activities has been approved for the Site.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	\$4,600,000.00	\$4,135,623.50	\$464,376.50	10.10%
TAT/START	\$228,806.00	\$50,000.00	\$178,806.00	78.15%
Intramural Costs				
Total Site Costs	\$4,828,806.00	\$4,185,623.50	\$643,182.50	13.32%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.1 Safety Officer

An ERRS Radiation Safety Officer sub-contractor is on-site during removal activities. The OSC continues to coordinate with the EPA Safety Officer and EPA-ERT Radiation Subject Matter Expert.

2.5.2 Liaison Officer

ERRS coordinates the receipt of equipment and supplies to the Site.

2.5.3 Information Officer

EPA's Public Information Officer coordinates community outreach and provides information to the public.

3. Participating Entities

3.1 Unified Command

EPA
TDEC

4. Personnel On Site

ERRS - Kemron
RSO - Solutient
START - Tetra Tech
EPA

5. Definition of Terms

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6. Additional sources of information

6.1 Internet location of additional information/report

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7. Situational Reference Materials

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