

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



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject: POLREP #5
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: 10/9/2024

Reporting Period:

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 7/6/2024 through 10/9/2024 consisted of the following items:

- All vaults uncovered while excavating the mounded area from the cleanup conducted by USAEC have been demolished and disposed of. The debris material was sampled for isotope identification and activity level and then loaded into intermodals with soils at a ratio of 10% debris to 90% soil. All intermodals with vault debris have been sent to WCS.
- The metal from dismantling the Hot Cell has also been loaded with contaminated Site soils and sent to

WCS for disposal.

- Materials with higher activity levels found during the vault demolition and Hot Cell dismantling were consolidated and packaged into the appropriate shipping containers. This material is designated "Class C" waste by WCS disposal criteria and will be secured on-site until all high activity material is consolidated for shipment.

- Demolition of the concrete slab inside of the Hot Cell building began on 9/30/2024. A concrete saw is being used to strategically dismantle the floor in sections small enough to be loaded into intermodals to meet the 10% debris criteria by WCS. While the sections of the floor are being removed, sub-slab piping/plumbing is being traced and screened. Additionally, soils underneath the slab are being sampled as it is exposed. The walls and roof of the building will remain intact during this work to provide containment should any elevated activity and/or exposure readings be found due to leaks in the piping under the slab. Once the floor, piping, and any contaminated soils are removed from within the footprint of the Hot Cell building, the walls and roof will be demolished and sent to WCS for disposal.

- Radiologically contaminated soils and debris are being loaded into 25-yard intermodal containers and shipped off in blocks of 6 intermodals (previously blocks of 10 per POLREP #4), per the requirements of the rail line making final transport to the WCS disposal facility. Each intermodal is filled with approximately 37,000 pounds of material with 90% being soils and 10% being debris. The intermodals are weighed on-site to ensure proper soil to debris ratios and for calculating activity level per load for proper WCS and DOT manifesting, labeling, and placarding. As of 10/9/2024, 162 intermodals have been shipped to WCS, with another 42 intermodals scheduled to be loaded and shipped by November 1, 2024.

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
Rad Waste	Soil	2697 ton			WCS LLRW
Rad Waste	Debris	300 ton			WCS LLRW

2.2 Planning Section

2.2.1 Anticipated Activities

Load and ship radiologically contaminated soils and debris from the Site in 25-yard, lined, intermodal containers.

2.2.1.1 Planned Response Activities

Load and ship radiologically contaminated soils and debris from the Site in 25-yard, lined, intermodal containers.

2.2.1.2 Next Steps

Continue to load and ship radiologically contaminated soils and debris from the Site in 25-yard, lined, intermodal containers. Materials with elevated activity levels and/or exposure rates have been safely stored on-site until the proper DOT shipping containers are delivered to the Site for disposal.

2.2.2 Issues

N/A

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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	\$7,100,000.00	\$5,874,785.73	\$1,225,214.27	17.26%
TAT/START	\$228,806.00	\$50,000.00	\$178,806.00	78.15%
Intramural Costs				
Total Site Costs	\$7,328,806.00	\$5,924,785.73	\$1,404,020.27	19.16%

* 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
EPA

5. Definition of Terms

ANC - American Nuclear Corporation
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act of 1980
Co- 60 - Cobalt 60
Cs-137 - Cesium 137
DOT - Department of Transportation
EPA - United States Environmental Protection Agency
LLRW - Low Level Radioactive Waste
TVA - Tennessee Valley Authority
USAEC - United States Army Environmental Command
WCS - Waste Control Specialists

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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