

Bechtel

Interoffice Memorandum

To G. L. Palau

Subject Expedited Protocol Documentation

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File No. 7440/106

Date April 8, 1993

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Of FUSRAP

At Oak Ridge Ext. 4-3599

Attached is the environmental compliance documentation to support the expedited response action planned for the Granite City Steel site, as recommended by the Environmental Compliance Group on March 23, 1993 (CCN 102119-01). This review documents compliance with the documentation requirements of the expedited protocol as outlined in the DOE memo of Wallo to J. Fiore dated June 25, 1990.

The expedited protocol outlines a process which involves identification and characterization, evaluation and planning, remediation, and certification of the site. This review provides the documentation for the evaluation and planning phase which includes an informal, desktop Preliminary Assessment (PA)/ Site Investigation (SI) and a Hazardous Ranking System (HRS) score equivalent. This evaluation was performed at a preliminary level as a screening tool to provide a more cost effective, efficient method for satisfying the requirements of the expedited protocol.

This environmental compliance review assesses the relative degree of risk at Granite City Steel to the human health and the environment. The information provided is sufficient to determine that the site would not qualify for inclusion on the National Priority List (NPL) and therefore does not constitute a significant environmental or human health risk.

If you have any questions, please contact me at 574-3599.

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Attachments: (1) Granite City Steel Site/ Expedited Protocol Documentation



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GRANITE CITY STEEL SITE/ EXPEDITED PROTOCOL

DOCUMENTATION

I. INTRODUCTION

Remediation at the Granite City Steel Site will be conducted using the expedited protocol developed by DOE. The protocol envisions a process which involves the following phases: identification and characterization, evaluation and planning, remediation, and certification. This document provides the requirements, and assessment of, the evaluation and planning phase which includes a desktop review following the format for a CERCLA Preliminary Assessment (PA)/ Site Investigation (SI) for data requirements and the preparation of an informal CERCLA Hazardous Ranking System (HRS) score.

II. BACKGROUND

The Granite City Steel Division is located in southwest Granite City, Illinois, northeast and across the Mississippi River from St. Louis. The site was used by the former Atomic Energy Commission for X-ray studies on uranium ingots during the 1950s and 1960s. A radiological survey found residual uranium inside an unused building. Uranium-238 was found in elevated concentrations in debris in an industrial vacuum cleaner, and in dust and debris in several small locations throughout the X-ray building. Under present conditions, it is highly unlikely that an individual working near or frequenting the area would receive significant exposures.

III. PA EQUIVALENT EVALUATION

This evaluation is based on 40 CFR parts 300.410 (removal site evaluation), 300.415 (removal action), and 300.420 (remedial site evaluation). The following factors are intended to determine whether further environmental studies and clean up is warranted.

- (a) Source identification, nature/threat of the release:
Residual radioactive contamination (Uranium-238) was detected in several discrete, localized spots throughout the X-ray building.
- (b) ATSDR/ other agencies public health threat evaluation:
No other evaluations have been performed to date.
- (c) Evaluation of the magnitude of the threat:
The radiological survey results indicate no immediate risk to the workers or the general public from the residual contamination at the facility. This determination is based on

the contamination being very localized and limited in extent.

(d) Factors determining removal actions:

1. Exposure to nearby human, animal populations and food chain:
Under present conditions there are no significant exposures to the nearby human populations, animal populations or food chain.
2. Contamination of drinking water supplies or sensitive ecosystems:
The contamination is limited to a few localized areas inside a building hence, there is no threat to the drinking water or sensitive ecosystems.
3. Tanks or bulk storage containers posing a threat of release:
No contaminants are stored in bulk storage containers.
4. High levels of contaminants in surface soils which may migrate:
There is no exterior soil contamination, and as all contamination is limited to equipment surfaces, and debris inside a building, there is minimal potential contaminant migration.
5. Weather conditions which may induce migration of contamination:
The contamination is contained inside the X-ray building hence, weather conditions will not induce migration of contamination unless there is a significant loss of the building's structural integrity.
6. Threat of fire or explosion:
Nature of contamination reveals no significant threat of fire or explosion.
7. Response by Federal/state agencies to potential release:
DOE has the authority to conduct remedial action on the interior residual radioactivity. This authority is based upon the documented use of the site by Mallinckrodt and/or its subcontractor under contract to the AEC (CCN 095801).
8. Other factors representing a threat to the public welfare:
Because the contamination is highly localized, confined to a few areas, and contained inside a building used only for limited storage, no other factors represent a threat to the public welfare.

IV. SI EQUIVALENT EVALUATION

This evaluation is based on 40 CFR part 300.420 (remedial site

evaluation). The following factors are intended to determine the potential need for additional studies and if remedial action is warranted.

(a) **Site Information:**

The Granite City Steel Division is located at 1417 State Street in southwest Granite City, Illinois. The site, referred to as the South Plant Facility, is no longer in use. The site is currently owned by the National Steel Corporation.

(b) **Waste Source Information:**

Contamination is highly localized in dust and debris in several small locations throughout the X-ray building.

(c) **Radiological Survey Results:**

Dust inside a vacuum cleaner: Uranium-238 present at concentrations of 3,300 to 4,000 pCi/g.

Dirt and debris on floor surfaces: Uranium-238 present at concentrations of 0.70 to 75 pCi/g.

(d) **Hazard Assessment - Groundwater Route:**

No likelihood of release of contaminants to the groundwater.

(e) **Hazard Assessment - Surface water Route:**

No likelihood of release of contaminants to the surface water.

(f) **Hazard Assessment - Soil Route:**

There is no external soil contamination onsite. Because the building is used only for limited storage, it is highly unlikely that an individual working in or frequenting the area would receive significant radiation exposures.

(g) **Hazard Assessment - Air Route:**

There are no significant air contaminants detected nor are any suspected, until remedial activities take place.

V. HAZARD RANKING SYSTEM

The HRS is intended to be a screening tool, providing an indication as to the specific level of risk from the site. This assessment is based on the consideration of the current conditions at the site where contaminants are localized indoors, are of limited extent, and significant exposure pathways are nonexistent. The HRS is an appropriate method of determining the risk level to human health and environment at Granite City Steel under present site conditions. As risk levels to human health and the environment are minimal given that all contamination is indoors, no actual HRS score was completed.

(a) **Ground Water Migration Pathway:**

Likelihood of contaminant release to the groundwater and drinking water wells is minimal under present conditions. Additionally, there are no populations nor wellhead protection areas potentially at risk.

(b) **Surface water Migration Pathway:**

There is minimal likelihood that runoff containing hazardous substances from the site have reached surface water or that releases have occurred via groundwater to surface water, as there are no discharges to the surface water. There are no populations, food chains, or sensitive environments at risk.

(c) **Soil Exposure Pathway:**

There is minimal potential for exposure by direct, physical contact with the contaminated surfaces inside the building because access by personnel is controlled and limited. The soil pathway presents no exposure levels as all contamination is contained to the inside of a building, and there are no resident or nearby populations, or terrestrial sensitive environments at risk.

(d) **Air Migration Pathway:**

Under present conditions there are no observed or potential releases of airborne gases or particulates, and there are no populations nor sensitive environments at risk. The air migration pathway poses an insignificant risk level.

VI. CONCLUSIONS

The expedited protocol has been chosen as the method for conducting remedial action at the Granite City site. The expedited protocol provides a cost effective, efficient method for remediating FUSRAP sites which warrant its use.

To document the rationale for remediating the Granite City site under the DOE expedited protocol, the modified desktop PA/SI and HRS was conducted. These documents, based on the site designation survey, assessed the relative degree of risk at Granite City to human health and the environment. As a final check of the appropriate use of the expedited process, a comparison to the criteria for inclusion on the National Priorities List (NPL) is called for by the expedited protocol. Information provided in this document is sufficient to determine that this site would not qualify for inclusion on the NPL.

Based on site conditions, the expedited approach is warranted, and represents the most efficient, cost effective method for remediating the Granite City site.