



**US Army Corps
of Engineers**
Buffalo District

Formerly Utilized Sites Remedial Action Program (FUSRAP)

The Painesville Site

Summary Fact Sheet for the Proposed Plan

U.S. Army Corps of Engineers • Buffalo District • July 2005

Introduction

The Proposed Plan for the remediation of the Painesville Site was prepared by the U.S. Army Corps of Engineers (the Corps), which is implementing the Formerly Utilized Sites Remedial Action Program (FUSRAP), under the authority and procedures of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

The Corps is addressing radiological contamination of the soil at the Painesville site. This contamination results from the use of radiologically contaminated scrap steel in magnesium production by the Diamond Magnesium Company, a former contractor to the Federal Government.



Site location

The Painesville FUSRAP Site is a 30-acre lot located at 720 Fairport Nursery Road in Painesville, Ohio, approximately 22 miles northeast of downtown Cleveland. All but one of the former buildings on site have been demolished. The land surrounding the Painesville Site is primarily being used for active industrial purposes, or is property where former industrial facilities once existed and are now inactive. There are no residential areas immediately adjacent to the site, and the site poses no immediate risk to human health or the environment.

The Painesville site poses no immediate danger to human health or the environment from contamination related to past Manhattan Project-related activities.

The site must be cleaned up, however, to ready the property for future use.

What is the Proposed Plan?

The Proposed Plan explains the Corps' recommendation, the Preferred Alternative, to address soils impacted by past Government activities and associated constituents of concern (COCs) at the Painesville Site. This Proposed Plan only addresses radiological contamination related to Manhattan Project or Atomic Energy Commission activities that took place in the 1940s and 1950s. The Corps is not addressing other contamination that might be present from other industrial operations.

History of the Painesville Site

In the early 1940s, the Defense Plant Corporation financed construction of a magnesium production facility on property acquired by the Federal Government. The Diamond Magnesium Company operated the facility under contract to the Federal Government from 1942 to 1953. In 1952 and 1953, Diamond Magnesium received about 1,650 tons of radioactively contaminated scrap steel from the Lake Ontario Ordnance Works. The steel was used to control chlorine emissions during the magnesium production process. At the time of the magnesium production work, the site was covered by large buildings and rail lines. At present, all but one of the buildings have been removed.

In 1963, the General Services Administration sold the facility to the U.S. Rubber Company, which later became the Uniroyal Chemical Company. The Uniroyal Chemical Company conducted operations on the site until 1999, when they closed the facility and were acquired by the Crompton Manufacturing Company, Inc. (now known as Chemtura Corporation).

Alternatives Studied

In its Feasibility Study of the Painesville site, the Corps developed three remedial alternatives for consideration in this Proposed Plan. The Corps studied alternative remediation actions in order to address the radiological soil contamination at the Painesville site and assure protection of human health and the environment. The alternatives encompass a range of potential actions, and include:

Alternative 1: No Action. Under the no action alternative, no additional remedial action would be taken at the Painesville site. This alternative is included to provide a baseline for evaluation of other alternatives in accordance with the NCP and CERCLA requirements. The acceptability of the no action alternative will be determined in relation to the assessment of known site risks and by comparison to other remedial alternatives.

Alternative 2: Capping in Place. This alternative combines the installation of a protective cap with environmental monitoring. Impacted soil exceeding the cleanup levels would be covered in-place by an appropriately designed cap. Any regular capping material would serve since the primary purpose is to block an exposure pathway (the Feasibility Study assumed a one-foot thick asphalt cap for cost estimating purposes). The cap(s) would function as a barrier to reduce potential radiation exposure to site workers and the public. In addition, the cap(s) would restrict the migration of contaminants through dispersion and through transport by infiltrating rainwater. Inspections and maintenance of the cap(s) and environmental monitoring would continue following implementation of the remedial action to mitigate potential exposures in the long-term.

Alternative 3: Excavation of Soils and Offsite Disposal. This alternative involves the excavation of impacted soil exceeding cleanup levels, off-site transportation, and disposal of the soil at a commercial facility outside of Ohio and licensed and/or permitted to accept radiological waste. The estimated volume of soil to be excavated is 4,075 cy. Dust suppression and erosion control measures would be implemented as needed during the remedial action to protect the workers and minimize airborne migration of radionuclides. Site access restrictions and environmental monitoring (air and surface water) would be maintained throughout the remedial action. Excavated areas would be backfilled with clean soil, graded, and re-vegetated. Following completion of the remedial action, the site would meet the requirements for unrestricted release for industrial use.

Alternative 1: No Action

Alternative 2: Capping in Place

Alternative 3: Excavation of Soils and Offsite Disposal

Determining Future Land Use

The reasonable future use of a site must be considered when developing alternatives for addressing site contamination. The Painesville Site has been an industrial site since the early 1940s, and is currently zoned as industrial. The Painesville Site is surrounded by active and inactive industrial properties, including an active facility, Twin Rivers Technologies, immediately adjacent to the site. Soils at the site are poorly suited for agricultural purposes, as native soils are high in clay content, and a layer of miscellaneous fill exists over much of the site. Groundwater supplies at the site are low in quantity and of low quality for drinking purposes. Finally, the site property owner, Chemtura Corporation, is conducting chemical cleanup activities at the site and adjacent properties, which include capping of landfills and lagoons, restricting potential future residential development or construction on these areas. Therefore, the Corps has determined that the reasonable expected future site use of the Painesville Site is industrial, and considered a construction worker to be the site user that would probably receive the maximum exposure in an industrial scenario if working at the site 8 hours a day for 250 days a year. Therefore, cleanup goals were developed to be protective for construction worker exposure.

The Preferred Alternative

The Corps prefers Alternative 3, Excavation of Soils and Offsite Disposal, to address impacted soils. All on-site soils exceeding the construction worker cleanup goals will be excavated and shipped off site for disposal at a licensed/permitted disposal facility. Alternative 3 is considered to be the most protective in the long term and is permanent because all soils exceeding the construction worker cleanup goals will be removed from the Painesville Site. Alternative 3 ensures compliance with applicable or relevant and appropriate requirements (ARARs) of Federal and State environmental statutes, since all of the materials exceeding the cleanup goals are removed from the Painesville site. Implementation of the preferred alternative will allow release of the site for industrial use in a reasonable period of time. Release of the Painesville site would only be with respect to the FUSRAP-related materials associated with the radiologically contaminated scrap steel used in magnesium production by the former Diamond Magnesium Company.

What has the Corps found so far?

In the Remedial Investigation/Feasibility Study the Corps identified site features, assessed the nature and extent of constituents, evaluated risks to human health and the environment, and developed remedial alternatives to address constituents associated with Atomic Energy Commission-related activities at the Painesville Site. This Proposed Plan discusses constituents of concern associated with AEC-related activities. USACE has identified four AEC-related COCs at the Painesville Site: radium-226 (and its decay products), thorium-230, thorium-232 (and its decay products), and total uranium.

Impacted Soils

During its investigation, the Corps team focused on features known or believed to have been impacted by past AEC-related activities at the site. *[More detailed information is available in the Remedial Investigation/Feasibility Study (USACE 2003) and Feasibility Study Addendum (USACE 2005), and the Proposed Plan (USACE 2005).]*

As a result of its RI/FS work, the Corps has estimated that the total volume of soil exceeding cleanup goal levels at the Painesville Site is estimated at up to 4,075 cubic yards (cy). The specific areas are:

Area A:

Area A corresponds to the location where the radiologically contaminated scrap steel was apparently stored on the site prior to its use. Area A was also the area where a Removal Action was conducted in 1998. Radionuclides radium-226, thorium-230 and uranium-238 were the COCs most commonly detected above background in soil samples collected from this area. Area A is approximately 13,518 square feet in size, and extends to a maximum depth of 10 feet. The volume of contaminated soil in Area A is approximately 2,251 cy.

Area C:

Area C corresponds to the former location of the acid digester tanks, into which the radiologically contaminated scrap steel was immersed as part of the chlorine scrubbing process. Radionuclides radium-226, thorium-230 and uranium-238 were the COCs most

commonly detected above background in soil samples collected from this area. Area C is approximately 15,399 square feet in size, and extends to a maximum depth of 4 feet. The volume of contaminated soil in Area C is approximately 1,267 cy.

Areas B, D, and G:

Areas B, D and G were areas identified during the 1996 site-wide gamma walkover survey as having elevated levels of radioactivity. Subsequent soil sampling found levels of radium-226, thorium-230 and uranium-238 above background. Area B is approximately 1,080 square feet in size, and extends to a maximum depth of 2 feet. Area D is approximately 3,591 square feet in size, and extends to a maximum depth of 1 foot. Area G is approximately 1,935 square feet in size, and extends to a maximum depth of 0.5 feet. The contaminated soil volumes for Areas B, D and G are 67 cy, 125 cy, and 36 cy, respectively.

Rubble Pile:

The Rubble Pile is located in the southeast corner of the site, and consists of soil and construction debris from the excavation of foundations in the vicinity of the former acid digesters. Radionuclides radium-226, thorium-230 and uranium-238 were the COCs most commonly detected above background in soil samples collected from this area. The contaminated area in the rubble pile is approximately 5,094 square feet in size, and extends to a maximum depth of 3 feet. The volume of contaminated soil in the Rubble Pile is approximately 331 cy.

Next Steps

Through this review and public comment process concerning the Proposed Plan for the Painesville site, the Corps will develop the final plan and a Record of Decision (ROD) will be signed to put the remediation into motion. If the current schedule remains in place, the Corps expects to begin remediation at the Painesville site next summer (Summer 2006). In the meantime, Corps staff will be working to develop the remedial action plan for the site. The Corps will announce the availability of the ROD in the public administrative record files when it is complete and signed by all parties. The Corps will also hold an information session before actual cleanup work begins on the site, which will detail the activities that will take place.

Community role in the selection process

The Corps encourages public input and no final decision will be made on a remedy until all comments are considered.

The Administrative Record File for the Painesville Site contains all documentation used to support the preferred remedy, and is available at the following locations:

USACE FUSRAP Public Information Center
1776 Niagara Street
Buffalo, NY 14207
(716) 879-4396
(800) 833-6390 and press "5" at the recorded message.

Fairport Public Library
335 Vine Street
Fairport Harbor, OH 44077
(440) 354-8191

Morley Library
184 Phelps Street
Painesville, OH 44077
(440) 352-3383

The public is encouraged to review and comment on all alternatives described in this Proposed Plan and the supporting Feasibility Study and Remediation Investigation.

Comments on the proposed remedial action at the Painesville site will be accepted for 30 days following issuance of the Proposed Plan. Written comments the public wishes to submit regarding the preferred remedy will be received at the meeting or during the 30-day period. Responses to the public comments will be presented in a response to comments in the Record of Decision, which will document the final remedy selected for the Painesville site.

All written comments should be addressed to:

U.S. Army Corps of Engineers
Buffalo District
FUSRAP Information Center
1776 Niagara Street
Buffalo, NY 14207

We have also established a *toll-free public access number* to answer any questions pertaining to the project. If you have questions, please do not hesitate to call us at: **1-800-833-6390**

We also maintain a *public website* to inform the public of recent activities. Please feel free to visit:

<http://www.lrb.usace.army.mil/fusrap> to learn more about FUSRAP, our sites, or radiation.

Electronic mail can be sent to us at:
fusrap@usace.army.mil

More about FUSRAP

FUSRAP was initiated in 1974 by the Department of Energy (DOE) and then transferred to the Corps of Engineers in 1997 by Congress. Most sites were cleaned up by DOE when operations ceased to standards that existed at that time. However, as the detection limits of sensing equipment increased as well as public concerns about the effects of radioactivity, additional cleanup has been undertaken at some sites. FUSRAP guidance directs the Corps of Engineers to conduct its investigations, decision-making and cleanup work at the site using the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) process. This is the same process that the U.S. Environmental Protection Agency uses to investigate and clean up contaminated sites. CERCLA provides the framework for a systematic investigation, decision-making, remedial design and cleanup of contaminated sites. It is also typical for many FUSRAP sites to be subject to additional laws, depending on the type and extent of contamination at the site. The Corps conducts its FUSRAP work in compliance with all appropriate Federal laws and regulations as well as state and local requirements (to the extent permitted by Federal law.)

Since it began work at the Painesville site, the Corps has been working to better understand the nature and extent of contamination related to past MED/AEC activities conducted there. Like other historical sites involved in the Nation's early atomic energy program, investigation is a complex process and requires time to conduct historical records searches as well as onsite sampling and testing. Throughout the work, the Corps has coordinated closely with local and state stakeholders to learn the future site use of the property.