



# Proposed Plan for Record of Decision Amendment for Operable Unit 3 at Torch Lake Superfund Site

**Torch Lake Superfund Site**  
Houghton County, Michigan

December 2008

## **Introduction**

This Proposed Plan explains the need to amend the remedy originally selected for the Quincy Smelter area of the Torch Lake Superfund site (the Site), and proposes an amended remedy for the smelter area. The original remedy for the Quincy Smelter area was documented in the Record of Decision (ROD) for Operable Units (OUs) 1 and 3, dated September 30, 1992. This Proposed Plan also fulfills public participation requirements under CERCLA 117(a) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) 300.435(c)(2)(ii).

The Torch Lake Superfund National Priorities List (NPL) site is located in Franklin Township, Houghton County, Michigan. The U.S. Environmental Protection Agency (EPA) is the lead agency and the Michigan Department of Environmental Quality (MDEQ) is the support agency for the Site. The EPA, in consultation with the MDEQ and other governmental parties, will select the final amended remedy for the Site after reviewing and considering all information submitted during the public comment period, which commences with the issuance of this Proposed Plan. In compliance with NCP 300.435(c)(2) and 300.825(a)(2), the final ROD Amendment will become part of the Administrative Record file for the Torch Lake Site.

## **Public Comment**

The purpose of this Proposed Plan is to provide background information about the Quincy Smelter, describe the previously-selected remedy, and describe the new proposed amended remedy. The public is encouraged to comment on this proposal. EPA will be accepting comments from January 1st to January 31st, 2009. EPA also encourages the public to attend and participate in a 7:00 p.m. public meeting at the Lakeview Manor Community Room, at 1401 W. Quincy Street, Hancock, on January 15th, 2009.

EPA may select and implement a modified amended remedy or may select and implement a new remedy based on public comments received, so your input is important. The public is also encouraged to review the supporting documents for the Quincy Smelter/Torch Lake Superfund Site. Site-related documents are available at the Portage Lake District Library and also posted on EPA's Web site:  
[www.epa.gov/R5Super/npl/michigan/MID.htm](http://www.epa.gov/R5Super/npl/michigan/MID.htm).

The Portage Lake District Library is located at 58 Huron Street, Houghton, MI 49931, and its hours of operation are from 10 AM – 9 PM Monday, Thursday and Friday, 10 AM – 5 PM Tuesday and Wednesday, and 10 AM – 3 PM on Fridays.

## Site Background

Torch Lake is located on the Keweenaw Peninsula in Houghton County, Michigan. Lands adjacent to the lake were the site of copper milling and smelting facilities and operations for over 100 years. The lake was a repository for mining industry related waste and served as the waterway for transportation to support the area. The first mill opened on Torch Lake in 1868. Over 5 million tons of native copper were produced from the Keweenaw Peninsula, and more than half of this was produced along the shores of Torch Lake. Between 1868 and 1968, approximately 200 million tons of tailings were dumped into Torch Lake.

The Site was listed on the NPL in 1986. The Site includes Torch Lake, the northern portion of Portage Lake and the northern entry of Torch Lake (North Entry); as well as defined areas of stamp sands, tailing piles, and slag materials along the western shore of Torch Lake (Lake Linden, Hubbell/Tamarack City, and Mason Sands), and defined areas of stamp sands, surface tailings and slag piles along the shores of and in the vicinity of northern Portage Lake (Point Mills and Dollar Bay), Keweenaw Waterway, Lake Superior, Boston Pond, Calumet Lake, Michigan Smelter, Isle-Royale, Lake Superior, Gross Point and Quincy Smelter. Due to its size and complexity, three OUs were defined for the Site. **Figure 1** shows the locations of OU1, OU2 and OU3.

EPA identified the following Remedial Action Objectives (RAOs) in the 1992 ROD:

1. Reduce or minimize potential future risks to human health associated with the inhalation of airborne contaminants from the tailings and/or slag located at the site;
2. Reduce or minimize potential future risks to human health associated with direct contact with and/or the ingestion of the tailings and/or the slag located at the site;
3. Reduce or minimize the release of contaminants in tailings to the groundwater through leaching; and
4. Reduce or minimize the release of contaminants in tailings to the surface water and sediment by soil erosion and/or air deposition.

In order to accomplish these RAOs, the remedy selected in the 1992 ROD required that stamp sands, tailings and slag piles in areas within OU1 and OU3 be covered with soil and vegetation, and that use restrictions be put in place to protect the cover materials' long-term integrity. The selected remedy substantively satisfied the RAOs by reducing airborne deposition and erosion of surface tailings, stamp sands and slag, and by minimizing direct contact with, and ingestion and inhalation of, these materials. The original ROD is available at the Portage Lake District Library and at the following link: <http://www.epa.gov/superfund/sites/rods/fulltext/r0592215.pdf>

The 1992 ROD for OU1 and OU3 of the Torch Lake Site required no remedial action at the Quincy Smelter area, described below, because information available to EPA at the

time suggested that the area would be developed as part of a national historic park. Because the Quincy Smelter has not yet been developed into a national park and use restrictions were not implemented, EPA is proposing additional actions in order to meet the RAOs described above.

## Site Characteristics



**Figure 1:** Torch Lake Superfund Site: OU1 (10, 11 and 12), OU2 (Torch Lake), and OU3 (1,2,3,6,7,8,9 and 13).

Superfund Area Number	Area Name	Superfund Area Number	Area Name
1	Calumet Lake	8	Isle Royale Sands
2	Boston Pond	9	Dollar Bay
3	North Entry	10	Mason Sands
4	Redridge	11	Hubbell/Tamarack City
5	Freda	12	Lake Linden Sands
6	Michigan Smelter	13	Point Mills
7	Quincy Smelter		

### Quincy Smelter

The Quincy Smelter area is located at 48991 Maple Street, Franklin Township, Houghton County, Michigan; and includes 25 buildings, which historically operated as a copper smelting facility during the 19<sup>th</sup> and 20<sup>th</sup> centuries until 1969. The Quincy Smelting Works is a significant component of the Quincy Mining Company National Historic Landmark District established in 1989. This district is also within the boundaries of the Quincy Unit of Keweenaw National Historic Park.

Franklin Township owns the Quincy Smelter complex and is interested in developing and restoring the area as part of the national park. Activities conducted under EPA's

Superfund Redevelopment Initiative (SRI) have identified Quincy Smelter as having passive recreational use and historical representation (historic site) use.

### **Work Completed since the 1992 ROD**

Since the completion of Remedial Design in 1998, approximately 800 acres of stamp sands, tailing and slag piles associated with OU1 and OU3 have been covered with 6 to 10 inches of soil and vegetative cover. Implementation of the remedial action took place in multiple years, 1999 through 2005.

In 2004, EPA completed an Emergency Removal Action at the Quincy Smelter area to remove drums, tanks, vats and small containers containing hazardous waste from inside the smelter complex buildings, as well as portions of friable asbestos found outside of the smelter works buildings. The Removal Action also included construction of a sediment basin to capture run-off of property stamp sands as well as the installation of culverts to redirect stormwater and minimize erosion of stamp sands. EPA installed a fence around the historical building complex to deter trespassing and potential exposure to friable asbestos contained within the deteriorating historical buildings. Due to the continued and accelerated deterioration of these buildings, EPA conducted a second Emergency Removal Action in late Spring 2008, to mitigate the potential release of friable asbestos to the outside of the buildings that could cause a threat to human health and the environment.

### **Why is a ROD Amendment being proposed now?**

The previous remedy for OUs 1 and 3 called for no action at the Quincy Smelter area. The 1992 ROD states: *“assuming that the slag pile located in the Quincy Smelter area...will be developed as part of a National Park, no action will be taken. If this area is not developed as a National Park in the future, deed restrictions will be sought to prevent the development of residences in the slag pile area.”*

To date, the Quincy Smelter area has not been developed as a national historic park, and EPA understands that there is still some uncertainty over whether such development will ever occur.

Inspection activities since 2006 have indicated that Quincy Smelter stamp sands have continued to erode into the surface water along Portage Canal. The March 2008 Five Year review found that the erosion of stamp sands from Quincy Smelter potentially affected the protectiveness of the remedy implemented elsewhere at the Site. Accordingly, EPA’s Proposed Plan is to provide a soil and vegetative cover to minimize erosion, aerial deposition, and direct contact with the stamp sands at Quincy Smelter.

Since 2007 EPA, MDEQ, Senator’s Levin’s Office, the National Park Service (NPS), the Township, as well as other entities, have discussed ways of addressing the environmental and physical concerns at Quincy Smelter while protecting the historical values associated with the property. After consideration of the smelter area’s historical value, EPA determined that implementation of the soil and vegetative cover remedy at the portion of

the Quincy Smelter outside of the fenced buildings and structures (defined by the grey, dashed line in Figure 2) balances natural and cultural resource preservation requirements with protection of human health and the environment, and addresses long-term stewardship concerns.

### **Revised Proposed Plan**

EPA is proposing to construct a soil and vegetative cover at Quincy Smelter and improve erosion control along the shoreline at those areas where exposed stamp sands erode into Portage Lake. It is estimated that approximately 8 acres within the property will require covering with soil and vegetation and minor grading. This area is defined by a grey, dashed line in Figure 2. The area is located outside the recently constructed fence enclosing the deteriorating historic buildings.

It is important to note that the proposed amended remedy does not include the two large slag piles within the Site (and outside the fence). The slag piles are considered significant features of the historical landscape at the Quincy Smelter Complex by NPS as well as by the State Historic Preservation Office (SHPO). Based on historical data and potential use of Quincy Smelter as a national park, the estimated cancer risk from exposure to metals in slag piles and tailings are  $3 \times 10^{-6}$  for both adults and children visitors to Quincy Smelter, and  $2 \times 10^{-5}$  for site workers. In other words, it is estimated that there would be slightly greater than one chance in one million for site visitors to develop cancer due to exposure to the slag piles. These estimated risks are within the EPA's allowable range of  $10^{-4}$  to  $10^{-6}$  (i.e., one in ten thousand to one in a million), and EPA does not believe that exposure to the slag piles would pose an unacceptable risk to human health or the environment for non-residential scenarios. Residential use of the area would present a higher cancer risk, estimated at  $1 \times 10^{-4}$ . As part of the proposed amended remedy, EPA will require that access to the slag piles be discouraged through placement of informational notices and/or physical barriers (e.g. bollards).

The proposed amended remedy also includes institutional controls (ICs) in the form of restrictive covenants to protect and maintain the cover and access restrictions. These ICs will be put in place to ensure the remedy meets the RAOs previously defined by reducing airborne deposition and erosion of surface tailings, stamp sands and slag, and by minimizing direct contact with, and ingestion and inhalation of, these materials. EPA, in consultation with the State of Michigan, will develop a restrictive covenant that will operate to prevent future residential uses at Quincy Smelter in order to reduce potential risks at the Site. Access restrictions include the fence that currently surrounds the historic buildings on the property. EPA expects to work cooperatively with the Township and property owners to ensure the restrictions are duly recorded and effective once agreement on final language is reached, and to ensure effective long-term stewardship of the ICs, including maintenance of the fence.

The original remedy for the fenced area within Quincy Smelter that contains historic buildings (no action and residential use restrictions) will continue to apply to this area because EPA understands that the area may still be developed as part of the Keweenaw

Historic Park. However, as part of the proposed amended remedy, markers will be installed to notify site visitors of the presence of restrictions within the fenced area, and the fence will be maintained as an IC until the area is developed as a historic park.

Under Section 106 of the National Historic Preservation Act and CERCLA, EPA has a responsibility to consider the effects of its response actions on historic properties. EPA's proposed amended remedy will not include any area within the fence line because of the historic significance of the buildings and immediate surroundings. While EPA is aware that there is stamp sand material within the fence, the majority of stamp sands at Quincy Smelter are located outside of the fence, and erosion control measures at the shoreline will reduce erosion from this area. The proposed solution balances stewardship of natural and cultural resources at the Quincy Smelter complex. Historic preservation of this area is of concern for the community, and historic values were considered during development of the proposed amended remedy.

EPA does not plan to conduct additional remedial actions at Quincy Smelter beyond those described in this Proposed Plan. Other than the end-use planning described above, future historic preservation or development measures may be implemented by other entities in the future. There are environmental, human health and safety issues inside and outside of Quincy Smelter buildings, which would need to be addressed prior to any historical preservation or redevelopment taking place.



## Evaluating the Amended Proposed Plan

### Application of the Evaluation Criteria to the Proposed Amended Remedy and the Remedy in 1992 ROD

Nine criteria are used to evaluate the different remediation alternatives individually and against each other in order to select a remedy. The nine criteria for evaluating remedial actions were assessed as part of the original remedy defined in the OU 1 and OU 3 ROD. Please consult with this document for more details. The nine criteria were also applied to the Quincy Smelter proposed amended remedy and compared with the remedy originally selected in the 1992 ROD, as described below.

- 1. Overall protection of human health and the environment** addresses whether an option protects both human health and the environment. This standard can be met by reducing or removing pollution or by reducing exposure to it.

The proposed amended remedy satisfies CERCLA Section 121 and should substantively meet the RAOs defined in the 1992 ROD. Compared to the original remedy in the 1992 ROD, the proposed amended remedy will be more protective of human health and the environment in the short term and in the long term.

In the short term, the proposed amended remedy has the following advantages over the 1992 ROD remedy:

- The proposed amended remedy will more effectively contribute to achieving RAOs 1, 2, and 3 than would be achieved under the 1992 ROD Remedy.
- The proposed amended remedy offers more protection to the surface water body along the Quincy Smelter area because it reduces or eliminates the erosion of stamp sands into Portage Canal (RAO 4).

- 2. Compliance with applicable or relevant and appropriate requirements (ARARs) ensures** that options comply with federal, state and local laws.

The ARARs for the Site were defined in the original 1992 ROD for OU1 and OU3. Please refer to this document for more details. Both the original remedy defined in the 1992 ROD and the proposed amended remedy will meet all ARARs.

Placement of a permanent marker will be required under Michigan Compiled Laws (MCL) 324.20120b (3)(d) to describe use restrictions within the fenced area.

- 3. Long-term effectiveness and permanence** evaluates how well an option will work over the long-term, including how safely remaining contamination can be managed.

Both the original remedy defined in the 1992 ROD and the proposed amended

remedy meet the long-term protectiveness and permanence requirements of the NCP.

The proposed amended remedy requires ICs in the form of restrictive covenants to restrict residential use, regardless of future development of the area as a historic park. The original remedy included residential use restrictions only if Quincy Smelter was not developed for historical use.

The proposed amended remedy also includes additional long-term monitoring and maintenance requirements: long-term monitoring of the vegetative cover, and ICs in the form of restrictive covenants to prevent disturbing the cover. EPA expects to work cooperatively with the Township, property owners, and MDEQ to ensure effective long-term stewardship of restrictive covenants.

**4. Reduction of toxicity, mobility or volume through treatment** addresses how well the option reduces the toxicity, movement and amount of pollution.

Both the original remedy defined in the 1992 ROD and the proposed amended remedy reduce contaminant mobility by containment (under vegetative cover), but neither remedy reduces toxicity, mobility, or volume of the site contaminants through treatment.

**5. Short-term effectiveness** compares how quickly an option can help the situation and how much risk will be present while the option is under construction.

Short term effectiveness would not differ compared with the original remedy defined in the 1992 ROD.

**6. Implementability** evaluates how feasible the option is and whether materials and services are available in the area.

The remedy selected in the 1992 ROD was “no action” because it was believed that the Quincy Smelter would be developed as a national park in the not-too-distant future. The contingent use restrictions identified in the original remedy, while implementable, have not been recorded due to uncertainty over the Quincy Smelter area’s development as a national park.

The cover component of the proposed amended remedy is readily implementable; materials and equipment are locally available. The restrictive covenant component also appears implementable once an agreement is reached regarding language that will be effective and enforceable as a matter of Michigan real property law.

**7. Cost** includes not only buildings, equipment, materials and labor but also the cost of maintaining the option for the life of the cleanup.

The proposed amended remedy is more costly to the EPA than the originally selected remedy, which had no cost to EPA. Table 1 below summarizes the most recent cost

estimates for implementation of the proposed amended remedy. Final costs will be developed during Remedial Design.

**TABLE 1 – Estimated Costs for the Proposed Amended Remedy at Quincy Smelter.**

<b>Item</b>	<b>Amended Remedy – Quincy Smelter</b>
Debris management	\$5,000.00
Pollution Control	\$5,000.00
Seeding & Mulching	\$10,320.00
Mobilization & Demobilization	\$22,500.00
Access Road/Rec. Trail/Parking	\$32,385.00
Regrading Areas	\$70,000.00
Waterways	\$6,016.00
Culvert, 24"	\$12,000.00
Lined Channel/Outlet Protection, Riprap	\$61,974.00
Access control (e.g. gates, bollards or fencing)	\$22,845.00
Cover Material	\$53,750.00
<i>Total Construction</i>	<i>\$301,790.00</i>
<i>Construction with 15% Contingency</i>	<i>347,058.50</i>
NRCS Technical Assistance	\$104,117.55
O&M and implementation of restrictive covenant	26,294.10
<b>Total Costs</b>	<b>\$477,470.15</b>

**8. State acceptance** determines whether the state environmental agency (in this case MDEQ) accepts the option. MDEQ agrees with the proposed amended remedy.

**9. Community Acceptance** considers whether the local community supports or opposes particular alternatives. Comments on the Proposed Plan are an important indicator of community acceptance and will be considered before a final amended remedy is selected. The Responsiveness Summary will address and respond to the community’s comments.

**Results of Evaluation Using the Nine Criteria**

The proposed amended remedy meets the two threshold criteria: protection of human health and the environment; and compliance with state and federal ARARs.

Although it will require some cost, the proposed amended remedy provides for a needed action at Quincy Smelter.

The two alternatives have also been evaluated under one of the modifying criteria. MDEQ supports adoption of the proposed amended Remedy and would concur with this Record of Decision Amendment. As stated above, EPA will evaluate community acceptance after receiving comments on this Proposed Plan.