



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

5 POST OFFICE SQUARE, SUITE 100  
BOSTON, MA 02109-3912

**CONTAINS ENFORCEMENT-SENSITIVE INFORMATION**

**MEMORANDUM**

**DATE:** April 4, 2012

**SUBJ:** Request for a Removal Action at the Hilton Chrome Site,  
Lawrence, Essex County, MA - **Action Memorandum**

**FROM:** Karen Way, On-Scene Coordinator *DMC for K Way*  
Emergency Response and Removal Section I

**THRU:** David McIntyre, Chief *DM McIntyre*  
Emergency Response and Removal Section I

Arthur V. Johnson III, Chief *AVJ*  
Emergency Planning & Response Branch

**TO:** James T. Owens III, Director  
Office of Site Remediation and Restoration

**I. PURPOSE**

The purpose of this Action Memorandum is to request and document approval of the proposed removal action at the Hilton Chrome Site (the Site), which is located at 75 Holly Street in Lawrence, Essex County, MA. Hazardous substances present in tanks, vats, piping systems and debris in the building, if not addressed by implementing the response actions selected in this Action Memorandum, will continue to pose a threat to human health and the environment. There are no nationally significant or precedent-setting issues associated with this Site, and there has been no use of the OSC's \$200,000 warrant authority.

**II. SITE CONDITIONS AND BACKGROUND**

**CERCLIS ID# :** MA5000002675  
**SITE ID# :** 01HW  
**CATEGORY :** Time-Critical

**A. Site Description**

**1. Removal site evaluation**

The Site is a privately owned metal finishing/electroplating facility that was operating until November 2011. Due to complaints regarding housekeeping, Massachusetts Department of

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Environmental Protection (MassDEP) and City of Lawrence officials inspected the Site on December 01, 2011 with the owner of the property. As a result of the inspection, the Lawrence building inspector shut down operations at the facility and secured electric and gas service. All plating operations were suspended indefinitely. The building was found to be in a deteriorated condition with many visible signs of vandalism, further aiding the deterioration. Therefore, the remaining plating shop contaminants in vats, drums and other containers throughout the building present a potential hazard to the surrounding community.

At the request of MassDEP, on January 25-26, 2012, On-Scene Coordinator (OSC) Mike Barry and EPA Superfund Technical Assistance and Response Team (START) contractor personnel performed a preliminary assessment/site investigation (PA/SI), which consisted of a site inspection, hazardous waste and component inventory, and sampling of contents of drums and vats.

A Closure Memo recommending a removal action was signed on February 06, 2012.

## **2. Physical location**

Latitude: 42.7144 N  
Longitude: -71.1749 W

The Site is located at 75 Holly Street in Lawrence, Essex County, Massachusetts.

## **3. Site characteristics**

The Site is an inactive privately owned metal finishing/electroplating facility located in a dense mixed residential and commercial neighborhood. It encompasses an approximately 0.25 acre parcel including a one- and two-story building with a partial basement. The western wing of the building and parking lot abuts the sidewalk on Holly Street. There is an adjacent commercial building to the north, separated from the Site by an alleyway. Residential and commercial properties are located on the southern and western sides of the Site. The Spicket River flows along the northeastern/eastern side of the property and is subject to periodic flooding.

The roof of the building and second story of the western wing are in disrepair and the owner of the property does not have the resources to perform the repairs required to bring the building back up to code. The interior of the building reflects bad housekeeping practices with vats, drums and other containers of hazardous chemicals and hazardous wastes in deteriorated condition. There is unrestricted pedestrian/indigent access to the rear of the Site and the building will continue to degrade under the current conditions causing a potential release and exposure to the public and the environment.

According to the Region1 ArcGIS mapping tool, within one mile of the Site there are:

- \* 40,530 residents;
- \* 17 public and private schools;
- \* 9 daycare centers;
- \* 6 nursing homes; and
- \* 2 hospitals.

According to the EPA Region 1 Environmental Justice Mapping Tool, the Site is in a low income and minority environmental justice area.

**4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant**

An inventory of the Site recorded 86 various sized drums and vats. Following is a list of hazardous substances and hazardous wastes contained within these vessels. The pH of the contents is generally highly acidic or highly caustic and if released, could pose a substantial threat to human health and the environment. This list is not exhaustive.

Hazardous Substance/Waste	pH	Media
Acid Copper Solution	0-1	Drums and Vats
Nitric Acid	0-1	Drums and Vats
Sulfuric Acid	0	Vats
Hydrochloric/Muriatic Acid	0-2	Drums and Vats
Sodium Hydroxide	14	Drums
Cyanide	10-11	Drums and Vats
Aluminum Zincate	13	Drums
Chrome/Chrome Drag	10-11	Vats
Aquaese 917L Cleaner	13-14	Vats
Aquaese E-159 Cleaner	13	Vats

**5. NPL status**

The Site is not currently on the National Priorities List, and has not received a Hazardous Ranking System rating.

**B. Other Actions to Date**

**1. Previous actions**

There have been no prior cleanup actions at this Site.

### **C. State and Local Authorities' Roles**

#### **1. State and local actions to date**

On December 01, 2011, representatives from the MassDEP conducted a site visit with personnel from the Lawrence Police Department and the Occupational Safety and Health Administration (OSHA) in response to complaints about housekeeping. As a result of the visit, the Site was shut down by the building inspector and utilities to the property were turned off.

MassDEP contacted the EPA to request aid in identifying the contents of the vats, drums and other containers and to determine if further actions were necessary.

#### **2. Potential for continued State/local response**

EPA will continue to work with MassDEP and the City of Lawrence to address any remaining hazards within the building. At this time, the City of Lawrence and MassDEP do not have the resources to do the cleanup, but have assisted with controlling access.

### **III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES**

*Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants; [§300.415(b)(2)(i)];*

Metal plating chemicals, sludge and residues present a hazard to public health and the environment. Based on Site conditions and information on the hazardous substances present, the Site poses a potential threat to the local community and to the Spicket River.

**Cyanide** –The severity of the harmful effects of cyanide exposure depends in part on the form of cyanide, such as hydrogen cyanide gas or cyanide salts. Exposure to high levels of cyanide for a short time harms the brain and heart and can even cause coma and death. Workers who inhaled low levels of hydrogen cyanide over a period of years had breathing difficulties, chest pain, vomiting, blood changes, headaches, and enlargement of the thyroid gland.

Some of the first indications of cyanide poisoning are rapid, deep breathing and shortness of breath, followed by convulsions (seizures) and loss of consciousness. These symptoms can occur rapidly, depending on the dose. The health effects of large amounts of cyanide are similar, whether you eat, drink, or breathe it; cyanide uptake into the body through the skin is slower than these other means of exposure. Skin contact with hydrogen cyanide or cyanide salts can irritate and produce sores.

There are no reports that cyanide can cause cancer in people or animals. EPA has determined that cyanide is not classifiable as to its human carcinogenicity.

Cyanide has not been reported to directly cause birth defects in people. However, among people in the tropics who eat cassava root, which contains cyanide, children have been born with thyroid disease because of the mothers' exposure to cyanide and thiocyanate during pregnancy. Birth defects occurred in rats that ate cassava root diets, and harmful effects on the reproductive system occurred in rats and mice that drank water containing sodium cyanide.<sup>1</sup>

**Sulfuric Acid** – Sulfuric acid and other acids are very corrosive and irritating and cause harmful local effects on the skin, eyes, and respiratory and gastrointestinal tracts when there is direct exposure to sufficient concentrations. Breathing sulfuric acid mists can result in tooth erosion and respiratory tract irritation. Drinking concentrated sulfuric acid can burn your mouth and throat, erode your stomach or cause death. If you touch sulfuric acid, it will burn your skin. If you get sulfuric acid in your eyes, it will burn your eyes and potentially cause blindness.

There is no information that exposure to sulfuric acid by itself is carcinogenic. The carcinogenicity of sulfuric acid has not been studied in animals. The EPA and U.S. Department of Health and Human Services (DHHS) have not classified sulfuric acid for carcinogenic effects. The International Agency for Research on Cancer (IARC) has not classified pure sulfuric acid for its carcinogenic effects.<sup>2</sup>

**Hydrochloric Acid** – Hydrochloric acid is corrosive to the eyes, skin and mucous membranes. Acute inhalation exposure may cause coughing, hoarseness, inflammation and ulceration of the respiratory tract, chest pain, and pulmonary edema in humans. Acute oral exposure may cause corrosion of the mucous membranes, esophagus, and stomach, with nausea, vomiting, and diarrhea reported in humans. Dermal contact may produce severe burns, ulceration, and scarring. Pulmonary irritation, lesions of the upper respiratory tract, and laryngeal and pulmonary edema have been reported in rodents acutely exposed by inhalation. Acute animal tests in rats, mice, and rabbits, have demonstrated hydrochloric acid to have moderate to high acute toxicity from inhalation and moderate acute toxicity from oral exposure.

Chronic occupational exposure to hydrochloric acid has been reported to cause gastritis, chronic bronchitis, dermatitis, and photosensitization in workers. Prolonged exposure to low concentrations may also cause dental discoloration and erosion. Chronic inhalation exposure

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<sup>1</sup> Excerpts from Agency for Toxic Substances and Disease Registry (ATSDR), U.S. Department of Health and Human Services, Public Health Service, *Toxicological Profile for Cyanide*, 2006.

<sup>2</sup> Excerpts from Agency for Toxic Substances and Disease Registry (ATSDR), U.S. Department of Health and Human Services, Public Health Service, *Toxicological Profile for Sulfuric Acid*, December 1998.

caused hyperplasia of the nasal mucosa, larynx, and trachea and lesions in the nasal cavity in rats.

No information is available on the carcinogenic effects of hydrochloric acid in humans. In one study, no carcinogenic response was observed in rats exposed via inhalation. EPA has not classified hydrochloric acid with respect to potential carcinogenicity.<sup>3</sup>

*Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release [§300.415(b)(2)(iii)];*

Metal plating chemicals, sludge and residues are present in vats and drums throughout the property, some in very poor condition. They will continue to degrade over time and may release their contents into the environment.

*Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released [§300.415(b)(2)(v)];*

Severe winter weather typical of New England and seasonal rains are likely to further degrade the facility and potentially fully expose the hazardous materials to the elements and cause a release to the environment as noted above. Also, there is a high likelihood that the Spicket River will flood at some point, flushing the vat contents into the environment.

*Threat of fire or explosion [§300.415(b)(2)(vi)];*

Sodium hydroxide is a noncombustible solid but may generate enough heat when in contact with water to ignite combustible materials. Nitric acid is noncombustible but increases the flammability of combustible materials. As the building continues to degrade, the potential for these chemicals to become exposed to the elements increases and therefore increases the threat of fire or explosion.

*The availability of other appropriate Federal or State response mechanisms to respond to the release [§300.415(b)(2)(vii)];*

Hilton Chrome is no longer in business and does not have the resources to address the containers at the Site. MassDEP does not have available resources to address the containers at this time.

*Other situations or factors that may pose threats to public health or welfare of the United States or the environment [§300.415(b)(2)(viii)].*

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<sup>3</sup> US Environmental Protection Agency, Technology Transfer Network, Air Toxics Web Site, *Hazard Summary for Hydrochloric Acid*, April 1992, revised January 2000.

The Site building has been repeatedly vandalized, which has increased the exposure of the building to the elements. As stated prior, exposure of the hazardous materials to the elements may cause a release to the environment.

#### **IV. ENDANGERMENT DETERMINATION**

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

#### **V. PROPOSED ACTIONS AND ESTIMATED COSTS**

##### **A. Proposed Actions**

##### **1. Proposed action description**

Specific removal activities will include the following:

- Develop and implement a health and safety plan;
- Prepare and implement air monitoring plan assuring protection of cleanup workers and adjacent residents;
- Conduct a site reconnaissance walk with the cleanup contractor;
- Mobilize personnel and equipment;
- Perform any necessary additional sampling, analysis and characterization of hazardous materials;
- Provide site security as determined necessary by the OSC based on Site conditions;
- Delineate work zones and decontamination area;
- Seal the opening of the sewer discharge pipe;
- Clear and dispose of, if required, general solid waste and debris to access hazardous materials and contaminated vats and drums;
- Consolidate, segregate and stage all hazardous materials;
- Decontaminate vats once empty, render all vats unusable and unable to collect rainwater;
- Remove and dispose of any hazardous materials including mercury-containing fluorescent light tubes and any PCB-containing light ballasts;
- Coordinate disposal of hazardous materials at an EPA-approved disposal facility;
- Repair response-related damages; and
- Demobilize all equipment and personnel.

## **2. Community relations**

EPA will remain involved with the local community during the course of the removal action through press releases, fact sheets, and public meetings as necessary.

## **3. Contribution to remedial performance**

The cleanup proposed in this Action Memorandum is designed to mitigate the threats to human health and the environment posed by the Site. The actions taken at the Site would be consistent with and will not impede any future responses.

## **4. Description of alternative technologies**

EPA does not plan to use alternative technologies for this removal action.

## **5. Applicable or relevant and appropriate requirements (ARARs)**

Federal ARARs:

### 40 CFR Part 262 Standards Applicable to Generators of Hazardous Waste:

#### Subpart B - The Manifest

- 262.20 : General requirements for manifesting
- 262.21 : Acquisition of manifests
- 262.22 : Number of copies of manifests
- 262.23 : Use of the manifest

#### Subpart C - Pre-Transport Requirements

- 262.30 : Packaging
- 262.31 : Labeling
- 262.32 : Marking

#### Subpart D - Recordkeeping and Reporting

- 262.40 : Recordkeeping

### 40 CFR Part 264 Standards for Owners and Operators of Hazardous waste Treatment, Storage, and Disposal Facilities:

#### Subpart I - Use and Management of Containers

- 264.171 : Condition of containers
- 264.172 : Compatibility of waste with containers
- 264.173 : Management of containers
- 264.174 : Inspections
- 264.175 : Containment
- 264.176 : Special requirements for ignitable or reactive waste
- 264.177 : Special requirements for incompatible wastes

40 CFR Part 264 Hazardous Waste Regulations - RCRA Subtitle C:

268-270 : Hazardous and Solid Waste Amendments Land Disposal Restrictions Rule

40 CFR Part 300.440 Procedures for Planning and Implementing Off-Site Response Actions (Off-Site Rule)

#### State ARARs:

The OSC will coordinate with State officials to identify additional State ARARs, if any. In accordance with the National Contingency Plan and EPA Guidance Documents, the OSC will determine the applicability and practicability of complying with each ARAR which is identified in a timely manner.

#### 6. Project schedule

This time-critical removal action is planned to start as soon as practicable after the signing of this Action Memorandum. EPA anticipates completing this action within six months.

#### B. Estimated Costs

COST CATEGORY		CEILING
<i>REGIONAL REMOVAL ALLOWANCE COSTS:</i>		
ERRS Contractor <sup>4</sup>		\$275,000.00
Interagency Agreement		\$ 0.00
<i>OTHER EXTRAMURAL COSTS NOT FUNDED FROM THE REGIONAL ALLOWANCE:</i>		
START Contractor		\$77,000.00
Extramural Subtotal		\$352,000.00
Extramural Contingency	20%	\$70,400.00
<b>TOTAL, REMOVAL ACTION CEILING</b>		<b>\$422,400.00</b>

#### VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

The absence of a response action as detailed above will allow the site to further deteriorate and will increase environmental and public health risks by the release or threat of release of hazardous substances. Delayed action will also cause the potential increase in intensity if a fire occurs in the building.

<sup>4</sup> Emergency Rapid Response Services

## VII. OUTSTANDING POLICY ISSUES

There are no precedent-setting policy issues associated with this Site.

## VIII. ENFORCEMENT ... For Internal Distribution Only

See attached Enforcement Strategy.

The total EPA costs for this removal action based on full-time accounting practices that will be eligible for cost recovery are estimated to be \$422400 (extramural costs) + \$38400 (EPA intramural costs) = \$460200 X 1.3284 (regional indirect rate) = **\$611329.68<sup>5</sup>**.

## IX. RECOMMENDATION

This decision document represents the selected removal action for the Hilton Chrome Site in Lawrence, MA, developed in accordance with CERCLA, as amended, and is not inconsistent with the National Contingency Plan. The basis for this decision will be documented in the administrative record to be established for the Site.

Conditions at the Site meet the NCP Section 300.415 (b) (2) criteria for a removal action due to the following:

*Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants [§300.415(b)(2)(i)];*

*Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release [§300.415(b)(2)(iii)];*

*Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released [§300.415(b)(2)(v)];*

*Threat of fire or explosion [§300.415(b)(2)(vi)];*

*The availability of other appropriate Federal or State response mechanisms to respond to the release [§300.415(b)(2)(vii)];*

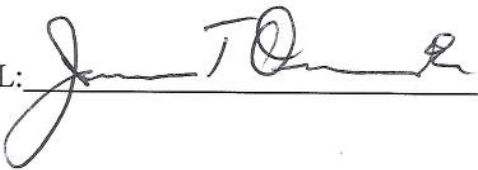
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<sup>5</sup>Direct Costs include direct extramural costs \$422400 and direct intramural costs \$38400. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site specific costs 32.84% x \$460200, consistent with the full accounting methodology effective October 2, 2000. These estimates do not include pre-judgement interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.



*Other situations or factors that may pose threats to public health or welfare of the United States or the environment [§300.415(b)(2)(viii)].*

I recommend that you approve the proposed removal action. The total extramural removal action project ceiling if approved will be \$422,400.

APPROVAL: 

DATE: 4/9/12

DISAPPROVAL: \_\_\_\_\_

DATE: \_\_\_\_\_

