UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS TX 75202-2733

MEMORANDUM

SEP 13 2010

SUBJECT: Request for a Time Critical Removal Action at the Gulfco Marine Maintenance Site, Brazoria County, Texas

FROM: Rita Engblom, Federal On-Scene Coordinator
Superfund Removal Team (6SF-PR)

TO: Samuel Coleman, P.E., Director
Superfund Division (6SF)

THRU: For Mark Hansen, Acting Associate Director J. Chris Petersen
Prevention and Response Branch (6SF-P)

I. PURPOSE

This Memorandum requests approval of a Time Critical removal action in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9604, at the Gulfco Marine Maintenance site (the "Site") located approximately three miles northeast of Freeport, in Brazoria County, Texas. The site consists of approximately 40 acres along the north bank of the Intracoastal Waterway. The time critical removal action is to address source material in deteriorating above ground storage tanks.

This action meets the criteria for initiating a removal action under Section 300.415 of the National Contingency Plan (NCP), 40 CFR § 300.415. This action is expected to require less than twelve months and $2 million to complete.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID#:	TXD055144539
Category of Removal:	Time-Critical
Site ID#:	06JZ
Latitude:	28.96684
Longitude:	-95.28965

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A. Site Description

1. Removal Site Evaluation

The Gulfco Marine Maintenance facility operated as a barge cleaning and repair facility from 1971 through 1999 under several owners. Operations at the facility involved the cleaning, servicing and repair of various types of barges. Chemicals were drained and pumped from barges into Aboveground Storage Tanks (ASTs). Barges were then washed with water and/or a detergent solution. Generated wash waters were disposed of in barges and/or ASTs onsite.

Previous investigations at the Site have included:

- Phase I and II Investigations (1998 - 1999) – Phase I and II investigations conducted by the Potentially Responsible Parties (PRPs).

- LTE Site Characterization (1999) – In March 1999, the PRPs conducted an investigation of the Site, including the sampling of ASTs and drum contents, accumulated water within the former AST tank farm containment area, soils, residual sandblasting material, sediment from the fresh water pond, and groundwater.

- Screening Site Inspection (2000) – In cooperation with the Environmental Protection Agency (EPA), the Texas Commission on Environmental Quality (TCEQ), formerly the Texas Natural Resources and Conservation Commission (TNRCC) performed a Screening Site Inspection (SSI). The SSI included collection of onsite and offsite soil samples, Intracoastal Waterway sediment samples (adjacent to and distant from the Site), pond sediment samples and groundwater samples from existing monitoring wells.

- Expanded Site Inspection 2001 – In cooperation with EPA, TCEQ performed an Expanded Site Inspection (ESI) in January 2001. The ESI included collection of groundwater samples from temporary onsite and offsite monitoring wells.

- Gulfco Marine Maintenance, Inc., the Potentially Responsible Party (PRP) gauged and sampled ASTs in 2006 - In accordance with an Administrative Settlement Agreement and Order on Consent for Removal Action (AOC) with the EPA, the RP gauged fluid levels and collected samples from ASTs for analysis. AST contents included water, various organic phases, oily sludges, and sand, rust solids, and debris. Analytical results from some ASTs indicated the presence of the following hazardous substances: chloroform, 1,1-dichloroethane, 1,2-dichloroethane, methylene chloride, tetrachloroethylene (PCE), 1,1,1-trichloroethane, 1,2,4-trimethylbenzene and trichloroethylene (TCE). Samples failed Total Characteristic Leaching Procedure (TCLP) for chloroform, benzene, 1,2-dichloroethane, PCE, TCE, and vinyl chloride.

Thirteen Potential Source Areas (PSAs) have been identified at the Site based on the history of the Site and previous investigations. Chemicals of Concern (COCs) include metals, Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), pesticides, and

polychlorinated biphenyls (PCBs).

On March 9, 2010, an EPA inspection identified time critical conditions at the Site. One of the fifteen tanks previously documented at the Site had been washed away by Hurricane Ike. Corrosion on some of the remaining tanks was resulting in complete penetration of the metal. Contents of some of these tanks have previously been documented as hazardous substances, including benzene, 1,2 dichloroethane, chloroform, heptachlor, tetrachloroethene, trichloroethene, and vinyl chloride.

2. Physical Location

The facility is located at 906 Marlin Avenue (also referred to as County Road 756) approximately three miles northeast of the city of Freeport, in Brazoria County, Texas (*See* Attachment 1). The Site is within the 100-year coastal flood plain along the north bank of the Intercoastal Waterway between Oyster Creek to the east and the Old Brazos River Channel and the Dow Barge Canal to the west. North of Marlin Avenue, drainage from the Site flows to the northeast into adjacent wetlands and Oyster Creek. The southern part of the Site drains to the south and enters the Intercoastal Waterway.

Approximately 78 people live within the one square mile area surrounding the Site. Approximately 3,392 people live within 50 square miles of the Site. The surrounding area is primarily industrial and commercial. A residential area is located approximately 300 feet west of the Site.

3. Site Characteristics

The Site is approximately 40 acres in size. The Gulfco Marine Maintenance, Inc. facility operated as a barge cleaning and repair facility from 1971 to 1999. As part of this operation, product heels were recovered from the barges and the barges were cleaned of waste oils, caustics and organic chemicals. Product and waste from the barge cleaning were stored in three surface impoundments and ASTs. An AST farm is located in the southern portion of the Site.

Marlin Avenue divides the Site into two primary areas (*See* Attachment 2). The property to the north of Marlin Avenue (the North Area) includes the closed surface impoundments. An AST farm is located at the Site south of Marlin Avenue. It consists of fourteen tanks of various sizes located within a concrete bermed area. The tanks contain water, various organic phases, oily sludges, and sand, rust solids, and debris. Sampling of AST contents has indentified various hazardous substances including benzene, 1,2-dichloroethane, chloroform, heptachlor, tetrachloroethene, trichloroethene, and vinyl chloride.

4. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

Tanks contain hazardous substances including: benzene; chloroform; 1,2 dichloroethane; trichloroethylene; tetrachloroethylene; and vinyl chloride in various concentrations. These are

listed as hazardous substances pursuant to 40 CFR § 302.4. As such, they are hazardous substances as defined in Section 101(14) of the CERCLA, 42 U.S.C. § 9601(14).

5. NPL Status

The Gulfco Marine Site was proposed for placement on the National Priorities List (NPL) on September 5, 2002 and subsequently placed on the NPL on April 30, 2003.

6. Maps, pictures and other graphic representations

Attachment 1 Site Location Map
Attachment 2 Site Sketch
Attachment 3 ATSDR Fact Sheets
Attachment 4 Drainage Pathway
Attachment 5 Enforcement Addendum (Confidential EPA file)

B. Other Actions to Date

1. Previous Actions

The TCEQ in cooperation with the EPA conducted a Screening Site Inspection (2000) and an Expanded Site Inspection 2001. A Hazard Ranking Score (HRS) Documentation Record was prepared in 2002 for NPL listing of the Site.

2. Current Actions

A PRP is performing a Remedial Investigation/Feasibility Study (RI/FS) required by the Unilateral Administrative Order issued by the EPA. Once complete, the EPA will propose a final remedy to be published in a Record of Decision to address remaining PSAs at the Site.

C. State and Local Authorities' Roles

1. State and Local Actions to Date

The TCEQ provides support to the EPA in development of the RI/FS.

2. Potential for State/local Response

The TCEQ will provide assistance in oversight of this removal action.

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

A. Threats to Public Health or Welfare

Section 300.415 of the NCP lists the factors to be considered in determining the appropriateness of a removal action. Paragraphs (b)(2)(i), (ii), (iii), and (iv) directly apply to the conditions at the Site. Any one of these factors may be sufficient to justify a removal action.

1. Exposure to Human Populations, Animals or the Food Chain, NCP Section 300.415.(b)(2)(i)

A number of CERCLA hazardous substances have been documented at the Site, at levels which fail TCLP, including benzene, chloroform and chlorinated hydrocarbons.

The predominant threat to human populations is the potential for exposure by direct contact with hazardous waste at the Site, including but not limited to benzene; chloroform; 1,2 dichloroethane; trichloroethylene; tetrachloroethylene; and vinyl chloride.

Potentially, a wide array of adverse human health effects could occur through the inhalation, ingestion, or dermal contact with chemicals onsite. Effects include minor to severe irritation of skin, mucous membrane, lung, and gastrointestinal tract; neurological effects; death from systemic effects and asphyxiation; blood effects; and cancer. Potential effects of some of the more toxic chemicals which are hazardous substances as defined at Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), and further defined at 40 CFR § 302.4, are summarized below:

a. Benzene – Benzene is a carcinogen. Systemic effects from exposure include irritation to mucous membranes, restlessness, convulsions, and depression.
b. Chloroform – Chloroform can cause dizziness, fatigue, and headache. Inhalation or ingestion of high levels of chloroform over time may damage liver and kidneys.
c. Trichloroethylene (TCE) - Breathing large amounts of trichloroethylene may cause impaired heart function, unconsciousness, and death. Breathing it for long periods may cause nerve, kidney, and liver damage.
d. Tetrachloroethylene (perchloroethylene) – PCE may be a carcinogen. High concentrations can cause dizziness, headache, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death.
e. Vinyl chloride – Vinyl chloride is a carcinogen. Breathing high levels of vinyl chloride can cause you to feel dizzy or sleepy. Breathing very high levels can cause you to pass out, and breathing extremely high levels can cause death.

2. Contamination of Drinking Water Supplies or Sensitive Ecosystems, NCP Section 300.415(b)(2)(ii)

North of Marlin Avenue, drainage from the Site flows to the northeast into adjacent wetlands and Oyster Creek. The southern part of the Site drains to the south and enters the Intercoastal

Waterway. The Site is within the 100-year coastal flood plain along the north bank of the Intercoastal Waterway between Oyster Creek to the east and the Old Brazos River Channel and the Dow Barge Canal to the west. Sensitive ecosystems, including wetlands receiving drainage from the Site could be impacted by the toxic contaminants identified onsite.

3 Hazardous Substances or Pollutants or Contaminants in Drums, Barrels, Tanks, or Other Bulk Storage Containers, That May Pose a Threat of Release, Section 300.415 (b) (2) (iii)

A tank farm located in the Southern portion of the Site contains ASTs holding liquid and sludge/sediment waste. The ASTs contain water, various organic phases, oily sludges, and sand, rust solids, and debris. Lab analysis identified the following hazardous substances: benzene; chloroform; 1,2 dichloroethane; trichloroethylene; tetrachloroethylene; and vinyl chloride.

4. Weather Conditions That May Cause the Release or Migration of Hazardous Substances, NCP Section 300.415(b)(2)(v)

The area receives an average of 51 inches of rain annually. The contaminants are subject to migration by entrainment, windblown deposition and surface runoff. Located on the coast of Texas, the Site is subject to tropical depressions and hurricanes. In 2008, the Site received heavy rain and winds from Hurricane Ike.

B. Threats to the Environment

Areas of the Site north of Marlin Avenue drain to the northeast into emergent, estuarine, persistent, irregularly flooded wetlands. These wetlands are directly adjacent to the upland area of the surface impoundments on the north, east, and west. The overland segment distance from the surface impoundment to wetlands contiguous to Oyster Creek is less than 10 feet. These wetlands extend approximately 0.48 miles to Oyster Creek (*See* Attachment 4).

According to the USFWS, Threatened and Endangered Species for Brazoria County include: bald eagle, brown pelican, green sea turtle, hawksbill sea turtle, Kemp's ridley sea turtle, leatherback sea turtle, loggerhead sea turtle, piping plover, and whooping crane.

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

The following actions are proposed to address the present and future threats of hazardous substances from ASTs onsite:

- Prior to sampling or content removal, each AST will be gauged to verify the approximate content volume. For gauging and sampling purposes, the tanks will be accessed utilizing ladders and/or man lifts.
- Samples will be collected using dippers, sampling thieves and/or other sampling devices as appropriate depending on tank size, content type (solid or liquid) and content volume in order to obtain a representative sample. One representative sample will be collected from each tank waste stream. Containment area water and sludge samples will be collected directly from the containment areas using dippers, bailers, and/or other appropriate devices.
- The analytical suite for AST and accumulated sludge samples (if any) will be determined based on the requirements of the removal action contractor and/or the offsite waste management facility. Analytical data will be used to profile specific waste streams for disposal. All analytical data collected for this removal action shall be provided electronically to EPA.
- Remove and properly dispose of hazardous tank liquids and solids. Vacuum trucks, pumps, or similar equipment may be used to transfer contents as necessary.
- Water containing hazardous substances may be separated from oil/sludge phase, screened, and filtered.
- Decanted water from ASTs will be tested for COCs and compared to wastewater standards. If wastewater quality standards can be met, the effluent may be discharged in accordance with TCEQ permit requirements. If effluent does not meet wastewater quality standards, the water will be sent for offsite disposal.

All offsite transportation and disposal will be done in accordance with applicable U.S. Department of Transportation (USDOT) requirements and in compliance with the EPA's Offsite Rule. All requirements under the Occupational Safety and Health Act (OSHA) of 1970, 29 U.S.C. § 651 et seq., and under the laws of the State, approved under Section 18 of the Federal OSHA laws, as well as other applicable safety and health requirements, will be followed. Federal OSHA requirements include Hazardous Materials Operation, 20 CFR § 1910, as amended by 54 Fed. Reg. 9317 (March, 1989), all OSHA General Industry (29 CFR § 1910) and Construction (29 CFR § 1926) standards wherever they are applicable, as well as OSHA record keeping and reporting regulations, and the EPA regulations set forth in 40 CFR § 300, relating to the conduct of work at Superfund sites.

Other requirements under the OSHA of 1970, 29 U.S.C. § 651 et seq., and under the laws of a State with an approved equivalent worker safety program, as well as other applicable safety and health requirements, will be followed. Federal OSHA requirements include, among other things, Hazardous Materials Operation, 20 CFR § 1910, as amended by 54 Fed. Reg. 9317 (March 1989), all OSHA General Industry (29 CFR § 1910) and Construction (29 CFR § 1926) standards wherever they are relevant, as well as OSHA record keeping and reporting regulations, and the EPA regulations set forth in 40 CFR § 300 relating to the conduct of work at Superfund sites.

2. Contribution to Remedial Performance

Because this action constitutes source control, these actions are cost effective and consistent with long term remediation strategies that may be developed for the Site.

3. Description of Alternative Technologies

The proposed action includes removal and offsite disposal of the chemical wastes that pose the highest risk to public health. No alternatives technologies can be applied to these portions of the cleanup.

4. Applicable or Relevant and Appropriate Requirements (ARARs)

This removal action will be conducted to abate the actual or potential release of a hazardous substance, pollutant, or contaminant to the environment, in accordance with CERCLA, 42 U.S.C. § 9601 et seq., and in a manner consistent with the National Contingency Plan, 40 CFR § 300, as required at 33 U.S.C. § 1321(c)(3) and 42 U.S.C. § 9604 (a)(1). As stated at 40 CFR § 300.415(j), fund-financed removal actions under CERCLA Section 104 and removal actions under CERCLA Section 106 shall, to the extent practicable considering the exigencies of the situation, attain the ARARs under Federal environmental law.

The Resource Conservation and Recovery Act (RCRA) waste analysis requirements found at 40 CFR § 261.20 and 261.30, RCRA's manifesting requirements found at 40 CFR § 262.20, and RCRA packaging and labeling requirements found at 40 CFR § 262.30 are ARARs for this removal action. Because onsite storage of hazardous wastes will not exceed ninety days, specific storage requirements found at 40 CFR § 265 are not ARARs (*See* 40 CFR § 262.34).

5. Project Schedule

After the Action Memorandum is signed, it is anticipated that the cleanup action will commence within 30 days. Total project length will be approximately 90 days.

B. Estimated Costs

This action is expected to be performed by the RP at an estimated cost of $540,000. The estimated cost of oversight of this action is approximately $30,000.

ESTIMATED COSTS

Extramural Costs	
ERRS	$ N/A
START	$ 15,000
Intramural Costs	
EPA Regional Direct Costs	$ 13,000
EPA Regional Indirect Costs	$ 2,000
TOTAL, CERCLA REMOVAL PROJECT CEILING.....	**$ 30,000**

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

The proposed actions for the Gulfco Marine Maintenance site should be taken immediately. Should these actions be delayed, the potential threats to human health and the environment will increase.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

See attached confidential Enforcement Attachment (*See* Attachment 5).

IX. RECOMMENDATION

This decision document represents the selected removal action for the Gulfco Marine Maintenance site in Brazoria County, Texas, developed in accordance with CERCLA, 42 U.S.C.§ 9601 et seq., and consistent with the NCP, 40 CFR § 300. This decision is based on the administrative record for the Site.

Conditions at the Site meet the NCP section 300.415(b)(2) criteria for a removal and I recommend your approval of the proposed removal action. The total project ceiling, if approved, will be $30,000.00. None of this funding will come from the Regional removal allowance.

Approved: Pamela Phillips Acting Date: 9/13/10
Samuel Coleman, P.E., Director
Superfund Division

Attachments