

Region 3 GPRA Baseline RCRA Corrective Action Facility

Motiva Enterprises, LLC

**2000 Wrangle Hill Rd.
Delaware City, DE 19706
Congressional District 1
EPA ID #: DED002329738
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Current Progress at the Site

EPA issued a HSWA permit to the refinery in November 1988. In September 2003, DNREC issued a Corrective Action Permit to Motiva, HW09A13, and is the lead agency for Corrective Action at this facility. The refinery has changed owners frequently since going on-line in 1956. On May 1, 2004, ownership of the Motiva Refinery passed to Premcor, Inc., and then to Valero Energy Corp. on September 1, 2005. However, Motiva retained the environmental liability for the permitted waste units and all contamination in place at the time of sale. Currently, 35 SWMUs have been identified. Environmental work conducted at the Site is summarized in the following Reports, submitted to EPA and DNREC:

- Background Information Survey Report (Dames & Moore, 1991a);
- Identification of the Potential for an Occurring or Past Release Study Report (Dames & Moore, 1991b);
- Verification of Release Study (VRS) Report (Dames & Moore, 1995);
- Phase I RCRA Facility Investigation (RFI) Report (URS, 2005)
- Baseline Ecological Risk Assessment (URS, 2005)
- Interim Report – Southern Extent of Dissolved Phase Plume (URS, 2007)

The VRS Report showed that soil and groundwater contamination (metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and chlorinated solvents) exist at the site. The purpose of the Phase I RFI investigation was to determine nature and extent of contamination. The Phase I Report was submitted in 2000 and underwent several revisions based on comments from EPA and DNREC. The Final Phase I Report was approved in May 2005. In June 2002, Motiva submitted a Plan for an ecological risk assessment. The Assessment Report was submitted to DNREC and EPA in July 2005. The 2003 DNREC Corrective Action Permit required Motiva to perform interim clean-up measures, and specifically to address two (2) SWMUs (Guard Basin No. 4 and the Oily Sludge Area) as soon as possible. An Interim Report addressing Guard Basin No. 4 and the Oily Sludge Area was submitted in August 2006 and is presently under review. The Permit also required a Phase II RFI workplan, submitted in August 2005. The Phase II RFI workplan underwent numerous revisions based on EPA and DNREC comments. In August 2007, DNREC granted Motiva a conditional approval to perform Phase II RFI activities. Currently, Motiva is implementing Phase II RFI activities. At present, three SWMUs are under post-closure care, and four units are currently moving towards closure under DNREC's oversight.

During the Phase I RFI investigation, floating free-phase hydrocarbon was found in ground water in five areas. Motiva installed a free-phase hydrocarbon recovery system in 1994. Four areas of the facility have a free-phase hydrocarbon recovery system operating at this time. EPA and DNREC required that groundwater investigations at these areas be performed on an accelerated schedule so that interim clean-up measures can be identified and implemented as soon as possible. Methyl-tert-butyl-ether (MTBE) was also detected

in groundwater. Motiva conducted phased studies to better define the dissolved phase hydrocarbon plume(s). The Southern Extent Dissolved Phase Plume Interim Report was submitted in January 2007. Additional investigations are underway to further delineate the plume and evaluate groundwater flow patterns. Interim clean-up measures for groundwater remediation are being pilot tested.

The Environmental Indicator Forms discuss that current human exposure to site contaminants is under control, and that further data is needed to determine whether migration of contaminated groundwater is under control.

Site Description

The Refinery is located on 5,050-acres approximately 1-mile northwest of Delaware City, Delaware. The refining operations occupy about 1,000-acres. The facility commenced operation in 1956. The facility processes a variety of crude oils and currently produces about 180,000 barrels of petroleum product a day. Production has included diesel, gasoline, jet, fuel oil, aromatics, methanol and propane fuels. The areas north and west of the refinery are industrial, and include some RCRA and Superfund sites, and the area south of the refinery is open fields or farmland. The Delaware River lies to the east of the facility.

Site Responsibility

RCRA Corrective Action activities at this facility are being conducted under the direction of the Delaware Department of Natural Resources and Environmental Control (DNREC) with assistance from EPA Region 3.

Contaminants

The main contaminants in the groundwater, soils and sediments are benzene, toluene, ethylbenzene, xylene (BTEX), other petroleum hydrocarbons compounds, including MTBE, and some metals in ground water. Chlorinated hydrocarbons found in ground water in an area on-site are attributed to a neighboring facility.

Community Interaction

Motiva prepared a Public Participation Plan in November 2005, to outline its communications strategy with citizens and the Citizen Advisory Panel (CAP). The Refinery team meets with the CAP periodically in the community.

Institutional Controls

No institutional controls are currently in place. Institutional controls may be incorporated in the Final Remedy Decision.

Government Contacts

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For more information about EPA's corrective action webpage, including Environmental Indicators, please visit our site at: www.epa.gov/reg3wcmd/correctiveaction.htm

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