

Delaware City Refinery (Formerly: Motiva Enterprises)

**4500 Wrangle Hill Rd.
Delaware City, DE 19706
Congressional District 1
EPA ID #: DED002329738
Facility Acreage: 5,050 acres
Last Updated: 10/10/2012**

Current Site Status

The Refinery entered into the EPA Corrective Action program through a permit in November 1988. In September 2003, DNREC issued a Corrective Action Permit to Motiva and is now the lead agency for Corrective Action for this facility.

Thirty-five SWMUs were identified and investigated. 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 Measures Report, Solid Waste Management Units 20B and Portions of 24B (URS, 2006)
- Interim Report – Southern Extent of Dissolved Phase Plume (URS, 2007)
- Interim Report – Dissolved Phase Plume Delineation – Phase II (URS, 2008)
- Baseline Ecological Risk Assessment (URS, 2010)
- Human Health Risk Assessment (URS, 2010)
- Phase II RCRA Facility Investigation SWMU Report (URS, 2010)
- Phase II RCRA Groundwater Report (URS, 2010)

Currently, three SWMUs are under post-closure care, and four units are currently moving towards closure under DNREC's oversight. Motiva requested no further action determinations for many other SWMUs as discussed in the Phase II SWMU Report.

During the Phase I RFI investigation, floating free-phase hydrocarbon was found in groundwater in five areas. Motiva installed free-phase hydrocarbon recovery systems in 1994. Four areas of the facility have a free-phase hydrocarbon recovery system operating at this time and the number of recovery systems in these areas has been reduced from eleven to five after removing free product. 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. Motiva conducted phased studies to better define the dissolved phase hydrocarbon plume(s).

The groundwater investigations delineated the areas where groundwater is impacted from releases from the refinery. The investigations show that contamination has not migrated beyond site property boundaries or into surface waters above levels of concern to human health or the environment. Site-wide groundwater monitoring is also performed at approximately 200 monitoring wells to identify potential changes to the location and characteristics of the area of impacted groundwater.

DNREC and EPA are currently reviewing the Phase II RFI Report, Phase II Groundwater Report, Baseline Ecological Risk Assessment, and the Human Health Risk Assessment.

The Environmental Indicator Forms discuss that current human exposure to site contaminants is under control, and that further evaluation of groundwater is nearing completion 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 processed 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, and 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.

The refinery has had many owners since going on-line in 1956. On May 1, 2004, ownership of the Motiva Refinery passed to Premcor, Inc., and on September 1, 2005 Valero Energy Corporation acquired Premcor, Inc. In November 2009, Valero discontinued production at the refinery and idled the facility. PBF Energy completed the purchase of the refinery from Valero Energy Corporation on June 1, 2010 and restarted the refinery in 2011. Motiva retains the environmental liability for the permitted waste units and historic contamination.

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 the EPA, Region 3.

Contaminants

The main site-related contaminants are benzene, toluene, ethyl benzene, xylene (BTEX), and other petroleum hydrocarbons compounds, including MTBE, naphthalene and some metals were found in soil, groundwater and sediments. Chlorinated hydrocarbons were also found in groundwater on-site.

Community Interaction

Motiva prepared a Public Participation Plan in November 2005 to outline its communications strategy with citizens and the Citizen Advisory Panel (CAP), and have met with the CAP several times. The last CAP meeting was held July 12, 2011.

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