ORIGINAL

REMEDIAL SITE ASSESSMENT DECISION - EPA REGION 3

Site Name: Libbey-Owens-Ford Plant **EPA ID#:** WVD005008412 **DSN:** WV-128

Alias Site Names: _____

City: Charleston **County** Kanawha County **State** WV

Refer to Report Dated: March 2008 **Report type:** Site Inspection

Report developed by: WV Dept of Environmental Protection via TRIAD Engineering Inc

DECISION:

| | 1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:

[ ] N-NFRAP-No further Remedial
[ ] A-Addressed as part of an existing NPL site (site will be entered if this is selected)
[ ] D-Deferred to RCRA
[ ] B-Addressed as part of another non-NPL site
[ ] W-Referred to Removal, no further Rmdl Asmt
[ ] DN-Deferred to NRC
[ ] SA Recommended as a SF Alternative Site

Other Cleanup Activity: Fed Fac (FF) [ ] Private Party Lead (PP)[ ] State Lead (OS)[ ]

| | 2. Further Assessment Needed Under CERCLA:

[ ] H: Higher priority for further assessment
[ ] G: Recommended for HRS Scoring
[ ] F: Referred to Removal, Needs further Remedial Assessment
[ ] L: Lower priority for further assessment
[ ] O: Being Considered for proposal to the NPL

DISCUSSION/RATIONALE:

Libbey-Owens-Ford Plant Site (Former)
MacCorkle Avenue,
Charleston (Kanawha County) West Virginia
Latitude N 38.3114 Longitude W -81.5670

Libbey-Owens-Ford Plant Site's location includes 34-40 acres where the used refractory material, the unusable Glass batches, and the glass cullet. Libbey-Owens-Ford Plant Site's location has the the Kanawha Mall, restaurants (i.e. Burger King, Applebee's, La Carretta, etc.) and other retail and office structures. Libbey-Owens-Ford's former easement includes the occupancy by Lowes, Cracker Barrel, and other retail, a warehouse, and office structures. The description of wastes generated includes 1). Used refractory material which may have contained oxides of chromium and other metals originated from rebuilding glass furnace. 2). Unusable Glass batches containing soda ash, sand, aplite, limestones, rouge, arsenic, salt cake, and carbon. 3). Cullet consisting of oxides of silicon, sodium, calcium, and magnesium with trace constituents.

Between 1917 and 1980, the Libbey Owens Ford Plant operated. From 1917 to 1980, Libbey Owens Ford Plant used three sites were to dispose of waste batch material.

In 1973, the WVDNR performed a site inspection of Area #2, which had leachate flowing into the Kanawha River.

Analytical results from the Kanawha River revealed arsenic at 267,000 mg/L where the discharge entered the river. A later inspection revealed arsenic in soil at concentrations of 45 to 7,000 mg/Kg. As a result, LOF placed soil stabilizing plates onto the Kanawha River bank near Area #2 to stop the leachate flow. In 1973, WVDEP Inspectors noticed a dark liquid discharge coming from the bank. This liquid turned out to contain extremely high levels of Arsenic. The WVDEP investigation resulted in very high levels of Arsenic 250 mg/l in water and up to 78,000 mg/kg soil. Also references and exceedence of RCRA levels for chromium, but does not discuss the results any further. The NUS document speaks of a removal that occurred in the past where "waste batch material" was removed and then stabilizing plates were place on the river bank. In 1973, Libbey-Owens-Ford Plant's owners reclaimed the riverbank by installing rip/rap material to minimize erosion and then put a 9 inch cover of compacted soil overtop.

On September 26, 1986, Superfund conducted a Preliminary Assessment. The Preliminary Assessment report documented Area #1, Area #2, and Area #3 as areas of concern. Area #1 is a one acre area located behind one of the glass furnaces in the rear of the manufacturing plant. This area is now a driveway and parking area behind the shopping center. Area #2 is a five acre area on the opposite side of MacCorkle Avenue. Waste glass material remains visible on the surface. This area is currently inactive. Area #3 is approximately ten acres in size across from MacCorkle Avenue. This area is beneath the cloverleaf intersection onto I-77.

Between 1999 and 2007, EPA and the State discussed the site conditions during the EPA-State Workshare meetings.

In August 2008, the State provided the Preliminary Assessment report to Superfund's Site Assessment.

In March 2011, the State provided the Site Inspection report to Superfund's Site Assessment. During the EPA-State Workshare meetings, EPA and the State discussed the site conditions. The State's continued involvement at Libbey Owens Ford Plant is critical to this risk management plan and EPA will weigh the merit of preparing the draft HRS package.

Groundwater Pathways:
The groundwater appears to be a Moderate-to-High risk to the public. Libbey-Owens Ford Plant reflected an Observed release to groundwater (well water). Libbey-Owens Ford Plant's groundwater is expected to flow westward, towards the Kanawha River. The nearest drinking well is Libbey-Owens-Ford Plant's 1 onsite well constructed in 1917. Shallow groundwater, the suspected impacted area, flow and discharges to the Kanawha River. The onsite well should probably be closed and or sampled.

Post-removal samples were collected in 2011. Dissolved inorganics, VOC, and SVOC were detected in groundwater at concentrations greater than the respective tapwater regional screening level. Inorganic COCs in groundwater appear to be widespread throughout the Site. The SVOC COCs are limited to only one sample location at the parking lot in front of Lowes. The VOC COCs appear to be limited to the northern portion of the Site adjacent to 57th Street.

Surface water Pathways:
The surface water pathway appears to be a Moderate-to-High risk to the public. Libbey-Owens Ford Plant reflected a suspected release to surface water intakes/ fisheries / sensitive environment. Libbey-Owens Ford Plant's runoff drains southwestward into the Kanawha River. Waste material has been observed in this area. Libbey-Owens Ford Plant does not appear to have any surface impoundments/ injection wells in the vicinity.

Libbey-Owens Ford Plant's most significant risk includes the scenarios of the groundwater plume moving to the Kanawha River, its impact on the downstream human food chain and the groundwater wells (assumed for non-drinking purpose). Libbey-Owens Ford Plant's risk includes the runoff (2000 feet) to the Kanawha River. Libbey-Owens Ford Plant's drains into the Kanawha River. Libbey-Owens Ford Plant's water supply is the Elk River intake (16-miles upstream serving 202,000 people) and the Kanawha River (upstream). Post-removal samples will be collected in 2011.

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Soil Exposure:
The soil exposure appears to be a Moderate risk to the public. Libbey-Owens Ford Plant reflected an Observed release to soil as surface soil results reflected Arsenic & Chromium. However, due to the completion of the remedial activities at the site and post monitoring, the likelihood of this pathway posing unacceptable risks to human health and and/or the environment is minimal. Soil levels were noted to be at 78,000 mg/kg. However, in the report done by NUS corporation in 1986 were said to be 7,000 mg/kg.

Post-removal samples were collected in 2011. Inorganics and SVOC were detected in surface soil at concentrations greater than the respective industrial soil benchmark values. The inorganic COCs in surface soil appear to be widespread throughout the Site. The SVOC COCs appear to be primarily limited to the northeastern portion of the Site adjacent to the Kanawha River along the former LOF easement. Surface soil contaminants do not appear to represent a significant source of contamination at the Site.

Inorganics and SVOC were detected in subsurface soil at concentrations greater than the respective industrial soil benchmark values. The inorganic COCs in subsurface soil appear to be widespread throughout the Site with the exception of one hot-spot of lead at the northeastern portion of the Site along the former LOF easement.

The SVOC COCs appear to be limited to the northeastern portion of the Site along the former LOF easement. Subsurface soil COCs do not appear to represent a significant source of contamination at the Site.

Air Migration Pathway:
The air migration pathway was not evaluated

CERCLIS considerations
- no change for DS001 and PA001
- SI001 start date is March 30, 2011 (the date for first draft of the report)
- SI001 completion date is October 05, 2011 (the date for the draft decision)
- PA001 qualifier is Low qualifier
- non-NPL status is Site Inspection Start Needed,

Libbey-Owens Ford Plant's Conclusion:
Based on the Libbey Owens Ford Plant Site's site condition, its risk (03/30/2011), EPA/Superfund assigns a **Low** qualifier & **Refer to Removal Further Assessment** Needed Non-NPL status. Libbey-Owens-Ford Plant Site's risk of migration reflects the actual movement of Arsenic & Chromium to surface water. In March 2011, the State provided the Site Inspection report to Superfund's Site Assessment. The State point-of-contact should be contacted regarding the past analytical data, the post-cleanup risk, and the quantity of the contaminated soil. Superfund would support installation of properly constructed monitoring wells to more accurately characterize onsite Groundwater, additional groundwater characterization, and additional vapor intrusion characterization.

Report Reviewed/Approved Site Decision Made By: James Hargett	**Signature**	**Date** **10/05/2011**

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