



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, ILLINOIS 60604**

**SUBJECT:** CLEAN AIR ACT INSPECTION REPORT  
Vopak Industrial Infrastructure Americas St. Charles, LLC, Hahnville,  
Louisiana

**FROM:** Victoria Nelson, Environmental Engineer  
AECAB (MI/WI)

**THRU:** Sarah Marshall, Section Supervisor  
AECAB (MI/WI)

**TO:** File

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**BASIC INFORMATION**

**Facility Name:** Vopak Industrial Infrastructure Americas St. Charles, LLC (Vopak)

**Facility Location:** 355 LA Highway 3142, Hahnville, Louisiana

**Date of Inspection:** April 21, 2022

**EPA Inspectors:**

1. Victoria Nelson, Environmental Engineer
2. Karina Kuc, Environmental Engineer

**Other Attendees:**

1. Charles Cuti, Union Carbide Corporation, Leveraged Air Specialist
2. Brandt Dufrene, Vopak, Site Supervisor
3. Clarence McGee, Vopak, Terminal Operator
4. Tyrone Wheaten, Think Environmental, LDAR Technician
5. Alex LeDet, Vopak, Terminal Manager (only present during the Closing Conference)
6. Frank, Fazio, Vopak, Environmental Engineer (only participated by phone during the Closing Conference)

**Contact Email Address:** Frank Fazio – Frank.fazio@vopak.com

**Purpose of Inspection:** To evaluate compliance with the Clean Air Act

**Facility Type:** Chemical and Wastewater Storage Tank Terminal

**Regulations Central to Inspection:** National Emission Standards for Benzene Waste Operations, 40 C.F.R. Part 61, Subpart FF

**Arrival Time:** 9:00 AM CT

**Departure Time:** 1:45 PM CT

**Inspection Type:**

- ☒ Unannounced Inspection
- ☐ Announced Inspection

**OPENING CONFERENCE**

- ☒ Presented Credentials
- ☒ Stated authority and purpose of inspection
- ☒ Small Business Resource Information Sheet not provided.
- ☒ Provided CBI warning to facility

The following information was obtained verbally from Brandt Defrene and Clarence McGee unless otherwise noted.

**Company Ownership:** Vopak became the owner and operator of the terminal supporting the adjacent Union Carbide Corporation (UCC) facility in December 2020.

**Process Description:**

Vopak is co-located with and stores raw materials, product, and benzene-containing wastewater for the UCC facility in Hahnville, Louisiana. Vopak operates three external floating roof tanks to store benzene-containing wastewater from the UCC facility. Product storage includes two propane bullet tanks and two propylene bullet tanks. Other storage at the facility includes methyl carbitol, methyl acrylate, methanol, and butyl acrylate.

**Staff Interview:** Several tanks on-site have been refurbished and brought back into service, including Tanks 2109, 2210, 2220, and 2230. Tank 2301 contains ethylenediamine and is controlled by a water scrubber. Tanks 1301, 1311, 1321, and 1331 store benzene-containing wastewater from the UCC facility.

Think Environmental conducts leak detection and repair (LDAR) requirements for both Vopak and UCC facilities.

According to Alex LeDet: Tank 1331 was refurbished and is still undergoing installation of new equipment. It was brought back into service in July 2021. The stilling well at Tank 1331 is fitted with a slotted emissions sleeve that is open to atmosphere by design. A level meter will be installed at the top, but the pipe connecting to the external floating roof was left open at the time of the inspection.

Tank 1331 was 17 percent full at the time of the inspection. Tank 2337 stores butyl acrylate and was loaded the day before the inspection.

**Interview of Dennis Fleming, Site Supervisor and Irving Range, Operations Manager with Think Environmental on April 19, 2022:** Think Environmental staff perform LDAR monitoring for the Vopak facility, as well as for the UCC facility. Think Environmental LDAR Technicians use ThermoFisher Toxic Vapor Analyzer 1000 flame ionization detectors (TVA 1000) to conduct EPA Method 21 monitoring. Prior to use, each TVA 1000 is calibrated using methane span gases of 500, 1,000, 5,000, and 10,000 parts per million (ppm). EPA reviewed calibration records that showed past use of isobutylene calibration gases. In April 2021, Think Environmental technicians switched from using Phoenix 21 photo ionization detectors to the TVA 1000 FID.

### **TOUR INFORMATION**

**EPA Tour of the Facility:** Yes

#### **Data Collected and Observations:**

As detailed in Appendices A and B, EPA inspectors observed organic emissions at four storage tanks operated by Vopak using the FLIR GFx-320 and a flame ionization detector (FID). Think Environmental LDAR Technician, Tyrone Wheaton, confirmed EPA's FID readings using the FID regularly used for LDAR monitoring conducted on-site. EPA observed wastewater Storage Tank 1301 with organic emissions venting from one of the tank legs, however, due to an equipment malfunction the video is unrecoverable. EPA and Think Environmental were unable to access the venting Tank 1301 tank leg to monitor with a FID due to the external roof being classified as a confined space.

**Photos and/or Videos:** were taken during the inspection.

EPA inspectors recorded videos using the FLIR GFx-320.

**Field Measurements:** were taken during this inspection.

EPA inspectors collected organic emissions data using a FID.

### **RECORDS REVIEW**

1. Storage Tank Inventory

### **CLOSING CONFERENCE**

☒ Provided U.S. EPA point of contact to the facility

#### **Requested documents:**

- Work orders documenting the repair of Storage Tanks 1301, 1331, and 2337

**Compliance Assistance:** EPA recommended repair of the emissions observed from Tank 1301 and other leaks observed from equipment in Vopak's LDAR program, as detailed in Appendix B.

**Concerns:** EPA noted that the benzene wastewater storage tanks should not be emitting from the external floating roof.

**DIGITAL SIGNATURES**

Report Author: **VICTORIA NELSON** Digitally signed by VICTORIA NELSON  
Date: 2022.05.16 11:43:26 -05'00'

Section Supervisor: **SARAH MARSHALL** Digitally signed by SARAH MARSHALL  
Date: 2022.05.16 12:09:26 -05'00'

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**APPENDICES AND ATTACHMENTS**

1. Appendix A: Digital Video and Image Log
2. Appendix B: EPA Monitoring Results and Calibration Information

**Facility Name:** Vopak Industrial Infrastructure Americas St. Charles, LLC

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**APPENDIX A: DIGITAL VIDEO AND IMAGE LOG**

<b>1. Inspector Name:</b> Karina Kuc	<b>2. Archival Record Location:</b> Region 5 Electronic Records Center
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<b>Video Number</b>	<b>File Name</b>	<b>Date and Time (Central Time)*</b>		<b>Description of Image</b>
1	MOV_0237.mp4 FLIR malfunction – video unrecoverable	4/21/2022 11:34:00 AM		Organic emissions from the tank leg of the external floating roof of Tank 1301
2	MOV_0238.mp4 FLIR malfunction – video unrecoverable	4/21/2022 11:35:00 AM		Organic emissions from the tank leg of the external floating roof of Tank 1301
3	DC_0242.jpg	4/21/2022 12:42:00 PM		Photo of the top of the slotted emission sleeve
4	MOV_0243.mp4	4/21/2022 12:42:00 PM		Slotted emissions sleeve for the stilling well at the Tank 1331 external floating roof

\*The time reflected on the timestamp is an hour later than the video was recorded.

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**APPENDIX B: EPA MONITORING RESULTS AND CALIBRATION INFORMATION**

Monitoring Results from Inspection 4/21/2022 and Calibration and Instrument Information

**Table 1. Monitoring of Process Equipment and Wastewater Transfer Points**

<b>Location</b>	<b>Notes</b>	<b>EPA Inspector</b>	<b>EPA Reading (ppm)</b>	<b>Think Environmental Reading (ppm)</b>
Top of Tank 1301	Background reading	Victoria N.	3	--
Base of Tank 1301	Background reading	Victoria N.	0.3	--
Top of Tank 1331	Open stilling well connected to the top of the external floating roof through a slotted emissions sleeve	Victoria N.	19	--
Manway R50172 at top of Tank 2337	Tank 2337 had been loaded the day before	Victoria N.	4,000	Flame out
OEL near Valve D1880	OEL on propylene line operated and monitored by UCC.	Victoria N.	2,700	2,500
Valve 26812	Valve on Propane Discharge Line	Victoria N.	860	925
OEL below Valve 26663	OEL at line from Safety Valve Discharge. The Safety Valve Discharge is routed back into the tank.	Victoria N.	> 30,000	33,000

**Legend:**

**OEL – Open-ended valve or line**

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### **Calibration and Instrument Information**

EPA used one ThermoFisher Toxic Vapor Analyzers 2020 (TVA2020). The EPA TVA2020 response times are in the 4 to 5 second range. During the inspection, Tyler Wheaton, Think Environmental LDAR Technician, used a flame ionization detector (FID), model ThermoFisher Toxic Vapor Analyzer 1000, to confirm EPA's readings. All readings were collected on April 21, 2022.

Victoria Nelson used TVA2020 ID: SL1555 for the duration of the survey.

**Table 2. Instrument Calibration**

April 21, 2022	SL1555 Reading (ppm)
10:30am Calibration Reading, 500 ppm	495
10:30am Calibration Reading, 10,000 ppm	10,300
1:36pm Drift Check, 500 ppm	512
1:36pm Drift Check, 10,000 ppm	10,200

**Table 3. Calibration Gases**

Manufacturer	Composition	Lot #	Expiration
TG Technical Services	Zero air	TDBJ-1-22	3/27/2023
TG Technical Services	Methane, 500 ppm	TDBJ-150A-500-11	3/27/2023
TG Technical Services	Methane, 1%	TIBJ-135A-1-1	8/21/2023