



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

Clean Air Act Inspection Report

Drafted: July 26, 2021

Finalized: August 19, 2021

EPA Inspectors: Luke Hullinger, Environmental Engineer, Air Compliance Section/LRH/

EPA Reviewer: Christine Sansevero, Chief, Air Compliance Section /CMS/

Date of Inspection: July 20, 2021

Facility Name: Shell Oil Products

ICISAir ID#: RI0000004400700001

Facility Location: 520 Allens Ave, Providence, RI 02905

Mailing Address: 520 Allens Ave, Providence, RI 02905

Disclaimer:

Unless otherwise noted, this report describes conditions at the facility/property as observed by EPA inspector(s), and/or through records provided to and/or information reported to EPA inspector(s) by facility representatives and as understood by the inspector(s). This report may not capture all operations or activities ongoing at the time of the inspection. This report does not make final determinations on potential areas of concern. Nothing in this report affects EPA's authorities under federal statutes and regulations to pursue further investigation or action.

Inspection Attendees:

Name	Title	Organization
Luke Hullinger	Clean Air Act Inspector	US EPA
Dave DiMaio	Fire Marshall	Rhode Island Fire Department
Michael Feiffer	Fire Fighter	Providence Fire Department
Andrew Delisio	Fire Fighter	Providence Fire Department
Jason White	Lieutenant	Providence Fire Department
Tim Galego	Assistant Deputy	Rhode Island Fire Department
Paul Murphy	CA Associates	President
Michael Sullivan	Facilities Manager	Shell Oil Corporation
Jennifer Bothwell	Environmental Advisor	Shell Oil Corporation

Facility/Process Description:

Shell Oil Products (“Shell”) owns and operates a bulk fuel storage facility, located at 520 Allens Ave, Providence, RI 02905 (the “Facility”). The Facility began operation in 1907. The Facility receives petroleum fuel products by ship, barge, and railcar. The products are blended at the Facility and then dispensed to tanker trucks and barges.

Number of Employees and Working Hours:

The Facility has 13 employees and operates 24/7. Operators rotate on shifts.

Potentially Applicable Clean Air Act Requirements:

- 40 CFR Part 60, Subpart A, General Provisions;
- 40 CFR Part 60, Subpart XX, Standards of Performance for Bulk Gasoline Terminals;
- 40 CFR Part 60, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction or Modification Commenced After July 23, 1984;
- 40 CFR Part 63, Subpart A, General Provisions;
- 40 CFR Part 63, Subpart R, National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations); and
- FINAL PERMIT NO. RI-24-19 (R1)

Previous Enforcement Actions:

A “Detailed Facility Report” from EPA’s Enforcement and Compliance History Online database indicates that, in the last five years, Rhode Island Department of Environmental Management (“RI DEM”) issued a Clean Water Act Letter of Violation/Warning Letter, on January 29, 2019.

Reporting Requirement

EPA issued Shell a Reporting Requirement under Section 114(a)(1) of the Clean Air Act, 42 U.S.C. § 7414(a)(1), on August 19, 2020. Table 1 describes the bulk storage tanks located at the Facility that store gasoline.

Table 1: Gasoline storage tanks located at Shell -- 520 Allens Ave, Providence, RI 02905.

Tank No.	Tank volume (gal)	Product Stored	Type of Internal Floating Roof (“IFR”)	Material of IFR	Date of IFR installation
7049	2,487,324	gasoline	IFR, primary wiper seal, secondary wiper seal	Aluminum	unknown
7132	2,445,324	gasoline	IFR, primary wiper seal, secondary wiper seal	Aluminum	unknown
7488	1,345,260	gas blendstock	IFR, primary wiper seal, secondary wiper seal	Aluminum	unknown
7489	1,343,285	gas blendstock	IFR, primary wiper seal, secondary wiper seal	Aluminum	2009
7521	4,667,334	gasoline	IFR, primary wiper seal, secondary wiper seal	Aluminum	2014
7547	2,731,260	gasoline	IFR, primary mechanical shoe, secondary wiper seal	Aluminum	2005
7548	2,737,266	gasoline	IFR, primary mechanical shoe, secondary wiper seal	Aluminum	2001
7549	2,664,186	gasoline	IFR, primary mechanical shoe, secondary wiper seal	Aluminum	2010
31641	3,800,580	gasoline	IFR, primary mechanical shoe, secondary wiper seal	Steel	1972
31726	3,888,528	gasoline	IFR, primary mechanical shoe, secondary wiper seal	Steel	1976

On May 7, 2021, EPA issued Shell a Monitoring Requirement, ordering Shell to monitor the percent of the lower explosive limit (“%LEL”) of the headspace above the IFR of the tanks described in Table 1.

EPA inspector, Like Hullinger, observed the requested %LEL monitoring on July 20, 2021 and this report describes his observations.

Opening Conference:

Mr. Hullinger arrived at the Facility's front gate at 08:45 and entered the facility at 09:00. He was greeted by several Shell employees. Officials from the state Fire Marshal's office were also on site. Mr. Hullinger presented his credentials to the Shell employees and explained that he was there to observe the %LEL monitoring that had been scheduled for that day. Facility representatives conducted a site-safety meeting and provided a fire-retardant jump suit for Mr. Hullinger. Facility representatives explained that Tank 31641 was out of service and its headspace had been measured at 0% LEL before the Facility began conducting maintenance on the tank in April.

Facility Tour:

QRAE 3 %LEL Monitor Calibration

Mr. Hullinger observed Mr. Murphy, a third-party contractor from CA Associates, conduct a calibration of a QRAE 3 %LEL Monitor ("%LEL Monitor").

Mr. Murphy said the %LEL Monitor is set to record %LEL as methane and asked if he could record data at 60 second intervals. Mr. Hullinger indicated that 60 second intervals would be acceptable as long as that was consistent with the time frames outlined in the May 7, 2021 Monitoring Requirement. Mr. Hullinger observed that Mr. Murphy performed the calibration through a 50-foot sample tube using a demand flow regulator. Mr. Murphy said the sample tube used during calibration is the one that would be used during the monitoring of the headspace in the bulk gasoline storage tanks. Mr. Hullinger observed Mr. Murphy use a two-point calibration that included a certified methane mix at 50% of the LEL and a zero-gas. Mr. Murphy said he would send the calibration gas certification after the monitoring was completed. Mr. Hullinger reviewed the calibration report generated during the calibration and observed that it described the calibration was successful.

Mr. Hullinger observed Mr. Murphy perform a system response time test through the 50-foot sample tube. Mr. Hullinger documented that the response time was 48 seconds.

Mr. Hullinger observed that the end of the 50-foot sample tube was duct taped to a weighted measuring tape (to demonstrate that the end of the sample tube was 3 ft from the IFR).

EPA Observation of %LEL Monitoring

Mr. Hullinger observed four the head space monitoring events over the course of the day and documented his observations (see Table 2 below).

Table 2: Observations made by Mr. Hullinger during % LEL Monitoring

Tank	Wind Speed	Fill Level	Test Start Time	Post monitoring calibration check 50% LEL	Post monitoring calibration check zero gas	Peak value during monitoring
7049	2-3 MPH	9'8"	10:07 AM	48% LEL	0% LEL	0% LEL
7132	2-3 MPH	26'4"	11:00 AM	47% LEL	0% LEL	6% LEL
31726	3 MPH	40'0"	1:14 PM	49% LEL	0% LEL	0% LEL
7549	3 MPH	14'2"	2:08 PM	48% LEL	0% LEL	0% LEL

The group took a break from 12:00PM to 1:00 PM for lunch. CA Associates charged the LEL detection instrument during the break.

Records Reviewed:

- Initial calibration report for the %LEL Monitor.
- Calibration gas certification¹

Closing Conference:

Mr. Hullinger thanked the Shell representatives for their time and explained that once he completed his inspection report, he would provide them with a copy. Mr. Hullinger departed from the Facility at approximately 3:05 PM.

Post Inspection Activities:

On July 22, 2021, the second day of monitoring Mr. Murphy contacted Mr. Hullinger informing him that Mr. Murphy had reviewed the Monitoring Requirement and realized it required that data be collected in 15 second intervals not 60 second intervals. Mr. Hullinger explained that EPA would not be able to deny or approve the results of the monitoring until the EPA team had reviewed the final report. He also offered that Shell had the option to monitor tanks again using the proper interval. At the end of the second day of monitoring Mr. Murphy sent the raw data monitoring files to EPA and indicated that Shell opted to monitor tank 7132 again.

¹ Mr. Hullinger requested the calibration gas certification post-inspection.