



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

Clean Air Act Inspection Report

Drafted: July 19, 2021

Finalized: July 29, 2021

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

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

Date of Inspection: July 13, 2021

Facility Name: ExxonMobil Corporation

ICIS Air ID#: RI0000004400700016

Facility Location: 1001 Wampanoag Trail, East Providence, RI 02915

Mailing Address: 1001 Wampanoag Trail, East Providence, RI 02915

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
Darren Fortescue	Clean Air Act Inspector	US EPA
Bill Osbahr	Clean Air Act Inspector	US EPA
Alysha Murphy	Physical Scientist	US EPA
Tyler Kotsifas	Student Trainee	US EPA
Jim Gumbley	Fire Marshall	Rhode Island Fire Department
Dave DiMaio	Fire Marshall	Rhode Island Fire Department
Brian Poland	Fire Marshall	East Providence Fire Department
Tom Salisbury	Fire Marshall	East Providence Fire Department
Don Smith	Sr. Air Advisor	ExxonMobil
Dean Gockel	Superintendent	ExxonMobil
John Andrade	Supervisor	ExxonMobil
Dave Correia	Terminal Foreman	ExxonMobil
Tom Henderson	Senior Project Manager	Roux Associates Inc
Anthony Marsocci	Lead Technician	Roux Associates Inc

Facility/Process Description:

ExxonMobil Corporation (“ExxonMobil”) owns and operates an 850-acre, bulk fuel storage facility, located at 1001 Wampanoag Trail, East Providence, Rhode Island (the “Facility”). The Facility receives petroleum fuel products by ship and barge at a dock located on the Providence River. The petroleum fuel products are transferred from the dock to bulk storage tanks by a 1.5-mile pipeline. The pipeline can transfer petroleum fuel products at a rate of 10k – 14k barrels/hr. The Facility also receives fuel additives by truck. Petroleum fuel products and fuel additives are loaded to trucks at a 7-bay loading rack. Blending of petroleum fuel products and additives occurs as they are loaded. Emissions generated by the loading are controlled by a vapor combustion unit (VCU). The VCU is manufactured by John Zinc and the temperature of combustion is continuously recorded.

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-27-16 (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 two Clean Air Act Warning Letters to the Facility, one on March 2, 2018 and the other on July 25, 2019. In addition, RI DEM issued a Clean Water Act Letter of Violation/Warning Letter to the Facility on June 14, 2019.

Information Requests

EPA issued ExxonMobil a Reporting Requirement under Section 114(a)(1) of the Clean Air Act, 42 U.S.C. § 7414(a)(1), on September 15, 2020. Table 1 describes the bulk storage tanks located at the Facility that store gasoline.

Table 1: Gasoline storage tanks located at 1001 Wampanoag Trail, East Providence.

Tank No.	Tank volume (gal)	Product Stored	Type of Internal Floating Roof (“IFR”)	Date of IFR installation	Material of IFR
201	3,570,536	Gasoline	Mechanical Shoe Primary Rim Mounted Secondary	1985	Steel
203	5,630,604	Gasoline	Mechanical Shoe Primary Rim Mounted Secondary	1985	Steel
204	5,646,392	Gasoline	Mechanical Shoe Primary Rim Mounted Secondary	1985	Steel
205	2,710,989	Gasoline	Mechanical Shoe Primary Rim Mounted Secondary	1985	Steel
206	2,700,753	Gasoline	Mechanical Shoe Primary Rim Mounted Secondary	1985	Steel
207	7,822,000	Gasoline	Mechanical Shoe Primary Rim Mounted Secondary	1987	Steel

On April 6, 2021, EPA issued ExxonMobil a Monitoring Requirement, ordering ExxonMobil to monitor the percent of the lower explosive limit (“%LEL”) of the headspace above the IFR of the tanks described in Table 1.

EPA representatives observed the requested %LEL monitoring on July 13, 2021 and this report describes EPA’s observations.

Opening Conference:

Arrival Time & Facility Access

EPA representatives Mr. Hullinger, Mr. Fortescue and Mr. Osbahr arrived at the Facility's front gate at 07:45 and met fire marshals Mr. DiMaio, Mr. Gumbley, Mr. Poland, and Mr. Salisbury. Each person signed in at the guard room outside the fence line of the Facility. The group was greeted by ExxonMobil employees. EPA inspectors presented their credentials and said they were there to observe the %LEL monitoring that had been scheduled for that day.

ExxonMobil employees escorted the group inside of the fence line to a parking lot located outside of the main office building.

Shortly after the group arrived in the parking lot, EPA representatives Ms. Murphy and Mr. Kotsifas arrived and joined the group.

Opening Conference

Facility representatives conducted a site-safety meeting, stating that safety is of the utmost importance and indicated that ExxonMobil would be checking the weather to make sure the monitoring and observation would be safe to continue throughout the day. EPA representatives stated if weather became an issue monitoring could be scheduled to be completed later.

Facility representative explained a ship, located at the Facility's dock, was currently discharging gasoline and Tank 207 was being filled. Facility representatives said %LEL monitoring of the headspace would not be able to be performed while the filling was occurring. Facility representatives said it was likely the filling event would be finished before the end of the day, and if this occurred, the %LEL monitoring of the headspace of Tank 207 could then be conducted.

Facility representatives said each gasoline storage tank has between 70 to 75 stairs and when climbing, three points of contact with the stairs and railings must always be maintained. Facility representatives said if a person is climbing a tank, they are required to be wearing a flame-retardant suit.

Facility representatives said photography is not allowed and if EPA representatives required specific photographs, ExxonMobil would work to provide them.

Facility representatives said when entering tank dykes, the use of the dyke access stairs is required and walking directly on the dyke berms is not permitted.

The group proceeded to a conference room located inside the main office building. Facility representatives gave a brief overview of the Facility, processes that occur there, and provided a

Facility site diagram that described the locations of each bulk storage tank (the site diagram is on file).

Mr. Andrade said the Facility was built in 1919 and all the tanks that are having their headspace monitored for %LEL, were built between 1984 and 1987. Mr. Andrade also drew a representative diagram of the bulk gasoline storage tanks showing the side walls, primary and secondary seals, internal floating roof, pontoon floats, geodomes, hatches, safety netting, stairs, and gauge poles with sleeves. Mr. Smith said the storage tanks that are having their headspace monitored for %LEL do not have eyebrow vents, that are often found on other bulk petroleum storage tanks.

Facility representatives explained the inside of the tanks are considered confined spaces and the outside plane of the tank access hatch must not be broken while the monitoring is conducted.

EPA representatives said they planned to conduct forward looking infrared (“FLIR”) monitoring of the tanks being monitored. The EPA representatives agreed FLIR monitoring could be conducted from the access roads between the tanks.

Facility Tour:

Control Room

The group proceeded to the Facility’s control room located in the main office building.

EPA representatives observed a storage tank monitoring system, “TMS” truck loading system, and PLC alarm system. Facility representatives said the PLC alarm system included alarm monitoring of the loading racks, tanks and %LEL sensors located in the tank farm.

Facility representatives said emissions generated during truck loading are captured by a vent header and fed to a VCU.

QRAE 3 %LEL Monitor Calibration

The group proceeded to a garage located adjacent to the main office building.

EPA representatives observed Mr. Marsocci, a third-party contractor from Roux Associates Inc. conduct a calibration of a QRAE 3 Model PGM 2500 %LEL Monitor (“%LEL Monitor”).

Mr. Marsocci said the %LEL Monitor is set to record %LEL as methane and record data at 15 second intervals. EPA representatives observed that the calibration was performed through a 60-foot sample tube using a demand flow regulator. Mr. Marsocci 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. EPA representatives observed Mr. Marsocci used a two-point calibration

that included a certified methane mix at 50% of the LEL and a zero-gas. Mr. Marsocci provided the calibration gas certification (the calibration gas certification is on file). EPA representatives reviewed the calibration report generated during the calibration and observed that it described the calibration was successful.

EPA representatives observed Mr. Marsocci performed a system response time test through the 60-foot sample tube. EPA representatives documented that the response time was determined to be 57 seconds.

EPA representatives observed that the end of the 60-foot sample tube was fitted with several brass nuts covered in insulation tape, to add weight to the end of the line.

Mr. Marsocci said the wind speed and ambient temperature would be measured at the beginning and end of each monitoring event using a Kestrel weather monitor.

EPA Observation of %LEL Monitoring

While walking to the first tank, Mr. Smith said there was active gasoline loading being performed on Tank 207 that was scheduled to last until approximately 15:00. Mr. Smith said Tank 207 could not have its headspace monitored for %LEL until the loading process was completed.

The group proceeded to Tank 206, where EPA representatives observed the first monitoring event. EPA representatives documented the %LEL monitoring of the headspace of Tank 206 was conducted between 10:11 and 10:51. The wind speed was between 4 to 7 mph, the product in the tank was premium gasoline, and the fill level was 21 feet. Mr. Marsocci said during the monitoring, the %LEL Monitor readings were approximately 0 %LEL.

During the monitoring of the headspace of Tank 206, Mr. Osbahr conducted FLIR monitoring of all the tanks that were scheduled to have their headspace monitored for %LEL.

EPA representatives observed that, after the %LEL monitoring of the headspace of Tank 206, Mr. Marsocci conducted a post monitoring calibration gas check and a zero-gas check through the 60-foot sample line. EPA representatives documented the post monitoring calibration gas check result was 69 %LEL and the zero-gas check result was 0 %LEL.

The group proceeded to Tank 205, where EPA representatives observed the second monitoring event. EPA representatives documented the %LEL monitoring of the headspace of Tank 205 was conducted between 11:15 and 11:50. The wind speed was 7 mph, the product in the tank was premium gasoline, and the fill level was 10.6 feet. Mr. Marsocci said during the monitoring, the %LEL Monitor readings were approximately 0 %LEL.

EPA representatives observed that, after the %LEL monitoring of the headspace of Tank 205, Mr. Marsocci conducted a post monitoring calibration gas check and a zero-gas check through the 60-foot sample line. EPA representatives documented the post monitoring calibration gas check result was 70 %LEL and the zero-gas check result was 0 %LEL.

After the conclusion of the calibration checks conducted for the Tank 205 monitoring event, EPA representatives suggested the %LEL Monitor could be recalibrated to address the drift, the contractor decided to perform the recalibration. EPA representatives observed Mr. Marsocci performed a full calibration and that the calibration passed.

The group proceeded to Tank 203, where EPA representatives observed the third monitoring event. EPA representatives documented the %LEL monitoring of the headspace of Tank 203 was conducted between 12:21 and 13:01. The wind speed was between 7.4 and 4.3 mph, the product in the tank was regular gasoline, and the fill level was 38.6 feet. Mr. Marsocci said during the monitoring, the %LEL Monitor readings were approximately 0 %LEL.

EPA representatives observed that, after the %LEL monitoring of the headspace of Tank 203, Mr. Marsocci conducted a post monitoring calibration gas check and a zero-gas check through the 60-foot sample line. EPA representatives documented the post monitoring calibration gas check result was 50 %LEL and the zero-gas check result was 0 %LEL.

The group stopped for lunch.

After returning from lunch, the group proceeded to Tank 201, where EPA representatives observed the fourth monitoring event. EPA representatives documented the %LEL monitoring of the headspace of Tank 201 was conducted between 14:09 and 14:49. The wind speed was 4.6 mph, the product in the tank was regular gasoline, and the fill level was 41.3 feet. Mr. Marsocci said during the monitoring, the %LEL Monitor readings were approximately 0 %LEL.

EPA representatives observed that, after the %LEL monitoring of the headspace of Tank 201, Mr. Marsocci conducted a post monitoring calibration gas check and a zero-gas check through the 60-foot sample line. EPA representatives documented the post monitoring calibration gas check result was 53 %LEL and the zero-gas check result was 0 %LEL.

EPA representatives did not observe the last two monitoring events.

Next the group entered the building and had a closing conference.

Mr. Smith escorted EPA representatives to the loading bay where they observed a truck driver pull in his truck, attach loading fuel lines and a gas vapor collection line to the truck. EPA representatives observed the duration of the fueling process.

Next, Mr. Smith escorted EPA representatives to the VCU. Everyone wore hearing protection. EPA representatives observed a vapor collection header connected the loading bays to the VCU. EPA representatives also observed that the VCU system includes a knock out tank and stack equipped with air flow dampers and propane burner.

Records Reviewed:

Documents reviewed onsite included:

- Site map (copy on file);
- Calibration gas certification (copy on file); and
- Initial calibration report for the %LEL Monitor.

Closing Conference:

EPA representatives thanked the ExxonMobil representatives and said EPA would provide an inspection report.

EPA representatives said the calibration drift, observed during the %LEL monitoring of the headspace of Tanks 206 and 205 could have an impact the final %LEL result, if a significant %LEL value had been observed; however, they said if the preliminary results (as reported above) were accurate, this would be unlikely.

EPA representatives departed from the Facility at approximately 16:15.