



REGION 1

BOSTON, MA 02109

Clean Air Act Inspection Report

Report Date: August 15, 2024

I. Background

Inspection Date: July 19, 2024

EPA Inspector: John ("Jack") Melcher, Enforcement and Compliance Assurance Division, Air Compliance Section

JOHN MELCHER Digitally signed by JOHN MELCHER
Date: 2024.08.15 09:50:53 -04'00'

EPA Reviewer: Darren Fortescue, Manager, Air Compliance Section

DARREN FORTESCUE Digitally signed by DARREN
FORTESCUE
Date: 2024.08.15 10:13:05 -04'00'

Facility Name: Algonquin Gas Transmission Weymouth Compressor Station

ICIS Air ID#: MA0000002511903820

Facility Location: 6 Bridge Street; Weymouth, MA 02191

Mailing Address: P.O. Box 1642; Houston, TX 77251-1642

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
John (“Jack”) Melcher	Inspector-in-training	EPA Region 1
Steve Rapp	Inspector	EPA Office of Enforcement and Compliance Assurance
Grace Perry	Inspector-in-training	EPA Region 1
Karen Peltier	Inspector-in-training	EPA Region 1
Kate Brown	Senior Advisor – Environment US GTM Northeast Region	Enbridge
Ben Wankum	Area Supervisor	Enbridge
Joe Bruno	Area Manager	Enbridge
Patrick Griffin	Operator	Enbridge
Caitlin Shaw	Air Monitoring & Reporting Specialist	Enbridge

Facility/Process Description:

The Algonquin Gas Transmission Weymouth Compressor Station (“Weymouth Compressor Station” or “the Facility”) is a natural gas compressor station. According to the Plan Approval and Emission Limitations issued by the Massachusetts Department of Environmental Protection on August 26, 2019 (“MassDEP Plan Approval”), the Facility includes a Solar Taurus model 60-7802 natural gas-fired 7,700 horsepower (“hp”) stationary combustion turbine and a Waukesha model VGF24GL natural gas-fired 585 brake hp emergency spark ignition engine generator set.

Information on the Weymouth Compressor Station is available on two Enforcement Compliance History Online (“ECHO”) Detailed Facility Reports:

- <https://echo.epa.gov/detailed-facility-report?fid=110066864824> (“AGT WEYMOUTH COMPRESSOR STATION”), includes the Clean Air Act ICIS Air ID and Resource Conservation and Recovery Act information and
- <https://echo.epa.gov/detailed-facility-report?fid=110070667428> (“ATLANTIC BRIDGE PROJECT WEYMOUTH COMPRESSOR STATION”), includes the Compliance and Emissions Data Reporting Interface (“CEDRI”) ID and Clean Water Act information.

Information on Greenhouse Gas Emissions from the Algonquin Gas Transmission onshore natural gas pipeline is available at the ECHO Detailed Facility Report available here: <https://echo.epa.gov/detailed-facility-report?fid=110071162048>.

Potentially Applicable Federal Regulations:

- 40 C.F.R. Part 60, Subpart OOOOa – Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015 and On or Before December 6, 2022 (“Subpart OOOOa”)¹
- 40 C.F.R. Part 60, Subpart KKKK – Standards of Performance for Stationary Combustion Turbines (“Subpart KKKK”)²
- 40 C.F.R. Part 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (“Subpart JJJJ”)³
- 40 C.F.R. Part 98 – Mandatory Greenhouse Gas Reporting⁴

State Permits:

On August 26, 2019, MassDEP issued the MassDEP Plan Approval to the Facility.⁵

State Air Regulations:

EPA has approved the Massachusetts State Implementation Plan (“SIP”) under Section 110 of the Clean Air Act. The Massachusetts SIP includes various federally-approved portions of the Code of Massachusetts Regulations promulgated by MassDEP, including Regulation 7.02 “Plan Approval and Emission Limitations.” The Massachusetts SIP is accessible at <https://www.epa.gov/air-quality-implementation-plans/epa-approved-regulations-massachusetts-sip> and codified at 40 C.F.R. Part 52, Subpart W (40 C.F.R. § 52.1119-52.1169).

Previous Enforcement Actions:

No state or federal Clean Air Act enforcement actions during the last ten years are documented in the ECHO Detailed Facility Reports for the Facility.

II. Inspection

A. Opening Conference:

Mr. Melcher announced the inspection via a telephone call to Ms. Brown on July 16, 2024.

Mr. Melcher, Mr. Rapp, Ms. Perry and Ms. Peltier (“the Inspectors”) arrived at approximately 8:30 a.m. The Inspectors were greeted by Mr. Wankum and escorted into the Auxiliary Building.

¹ Available at: <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-OOOOa?toc=1>

² Available at: <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-KKKK?toc=1>

³ Available at: <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-JJJJ?toc=1>

⁴ Available at: <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-98?toc=1>

⁵ Available at: <https://www.mass.gov/doc/air-quality-plan-approval-august-2019/download>

Mr. Rapp presented his Clean Air Act inspection credentials to Ms. Brown, Mr. Wankum, Mr. Bruno and Mr. Griffin (“the Facility Representatives”). Ms. Shaw attended the inspection remotely and intermittently.

Mr. Wankum said that, as Area Supervisor, he supervised Enbridge’s assets between Westwood and Methuen, Massachusetts. Mr. Bruno said that, as Area Manager, he managed three areas in Massachusetts and Rhode Island, including the area supervised by Mr. Wankum. Mr. Griffin said that, as Station Operator, he operated the Weymouth Compressor Station on a day-to-day basis. Ms. Shaw said that she handled Clean Air Act reporting for Enbridge for the northeast region (from Maryland through New England).

Mr. Melcher said that he was leading this inspection as part of on-the-job training overseen by a senior credentialed inspector, Mr. Rapp.

Mr. Melcher explained that the purpose of the inspection was to collect information regarding the Facility’s compliance with the potentially applicable federal regulations listed above.

Mr. Griffin provided a safety briefing, and he said, in part that fire resistant clothing is required for Facility tours.

1. General Facility Information

The Facility Representatives said that Algonquin Gas Transmission, LLC (“Algonquin”) is a subsidiary of Enbridge. The North American headquarters of Enbridge is in Houston, Texas. According to the Facility Representatives, Algonquin is a transportation company and does not own the natural gas in its pipelines. According to the Facility Representatives, natural gas is provided to Local Distribution Companies and, in some cases, directly to power plants.

The Facility Representatives said that the Algonquin Gas Transmission pipeline transports natural gas from New Jersey to Massachusetts. According to the Facility Representatives, other Enbridge pipelines operate upstream of the Algonquin pipeline beginning in Texas and downstream of the Algonquin pipeline ending in Canada.

The Facility Representatives said that the Weymouth Compressor Station increases the pressure in the pipeline north of Weymouth. According to the Facility Representatives, the pipeline flows from the Weymouth Compressor Station to Everett, Massachusetts and to a lateral connection with the Northeast Gateway off the coast of Salem, Massachusetts. According to the Facility Representatives, liquid natural gas can be added to its pipeline at the Northeast Gateway when high demand conditions are present. According to the Facility Representatives, when natural gas is added at the Northeast Gateway, natural gas may flow from north to south through the Facility.

The Facility Representatives said that the Weymouth Compressor Station does not operate continuously and was not operating at the time of the inspections. According to the Facility Representatives, demand is highest in the winter during heating season and lower in the summer.

According to the Facility Representatives, summer peak demand is typically during the late afternoon and the Facility operated on the previous day.

Mr. Melcher used the Site Map included as Appendix A of the Facility's Leak Detection and Repair ("LDAR") Program document, Revision 1.1, dated September 22, 2020, to ask the Facility Representatives for descriptions of equipment at the Facility. The LDAR Program document is included as Appendix A of this report.

Mr. Wankum said that, usually, natural gas flows from south to north through the Facility. According to Mr. Wankum, natural gas entering the Facility from the south passes through "suction filter separators." According to Mr. Wankum, the suction filter separators are used to remove particulates from the natural gas that would pose a hazard to the compressor.

Mr. Wankum said that, following filtering, natural gas pressure is increased by the compressor in the Compressor Building.

Mr. Wankum said that, following compression, natural gas is chilled in the main gas coolers.

Mr. Wankum said that, following chilling, the natural gas passes through the metering and regulation station on the northwest side of the Facility.

Mr. Wankum said that there are "Pipeline Inspection Gauge ('PIG') barrels" on the inlet and outlet pipelines of the Facility. Later during the inspection, Facility Representatives said that Enbridge uses one type of PIG to remove debris from pipelines and another type of PIG to perform pipeline inspections, including for wall thickness. According to Mr. Wankum, PIG barrels are used to launch and recover PIGs from the pipeline and that PIGs sent north from the Weymouth Compressor Station are removed in Methuen, Massachusetts.

Mr. Wankum said that the pipelines highlighted in orange on the Site Map are above-ground pipes; the pipelines that are not highlighted on the Site Map are underground pipes.

2. Subpart OOOOa Information

The Facility Representatives said that the Facility does not include a reciprocating compressor.

The Facility Representatives said that the Facility includes a centrifugal compressor. According to the Facility Representatives, the centrifugal compressor has dry seals on the inlet and outlet sides of the compressor and that the standards in Subpart OOOOa regarding wet seals are not applicable.

The Facility Representatives said that electricity is not generated from the turbine exhaust and that the turbine is directly coupled to the compressor.

The Facility Representatives said that there are no pneumatic valves with continuous bleeds of natural gas at the Facility, but there are pneumatic valves with intermittent bleeds. According to the Facility

Representatives, the pneumatic valves using natural gas are on emergency valves. According to the Facility Representatives, other pneumatic valves are present at the Facility that use air, not natural gas.

The Facility Representatives said that, approximately twice per year, usually in the late spring and early fall, blowdowns are performed to remove natural gas from parts of the Facility's equipment to allow for maintenance. According to the Facility Representatives, maintenance activities include inspections and changing filters, and usually involve removing gas from the compressor "case" (also known as the "unit case").

The Facility Representatives showed the Inspectors a notification of blowdown submitted to MassDEP on May 29, 2024. The notification stated that a blowdown would occur on June 3 and 4 for "unit and equipment venting for maintenance" and a blowdown would occur on June 7 for "unit and equipment purge." The total estimated volume of natural gas venting was planned to be approximately 33,000 standard cubic feet ("scf").

The Facility Representatives said that the Facility had two unexpected blowdowns during commissioning. According to Facility Representatives, on September 11, 2020, a leak on a seal in the filter separator allowed a release of approximately 12,000 scf; on September 30, an electrical component failure allowed another release.

Mr. Melcher asked if any modifications had been made to the Facility since commissioning in 2020. The Facility Representatives said that in the spring of 2022, the Facility installed a recompression skid that uses an electric pump to remove natural gas from the unit case and add it to the pipeline, reducing the need for blowdowns and therefore, emissions to the air.

Mr. Melcher said that the Facility's LDAR Program document provides for using Method 21 to monitor for fugitive emissions on components carrying liquids and for using Optical Gas Imagine ("OGI") to monitor for fugitive emissions on components carrying natural gas. Facility representatives said that, while there is the potential for "hydrocarbon drop out" into liquid phase from the natural gas, such condensates have been rare at the Facility. The Site Map included in the LDAR Program document shows a liquid storage tank to the north of the Compressor Building. According to Facility Representatives, the only liquid of any significance that has entered the liquid storage tank is rainwater falling into the stacks located nearby. Liquids accumulated in the liquid storage tank are hauled away as wastes.

The Facility Representatives said that LDAR monitoring is performed by a contractor, "Montrose." According to the Facility Representatives, if a leak is detected with OGI, Montrose can follow up with acoustic monitoring and a "High Flow Meter" (i.e., an anemometer). According to the Facility Representatives, components with leaks are labeled and a location description is recorded. According to the Facility Representatives, Method 21 monitoring is performed using a Flame Ionization Detector. Mr. Melcher requested to review copies of a couple of recent LDAR reports after the facility walkthrough was completed.

The LDAR Program document provides that, in addition to Method 21 and OGI, Audio, Visual, or Olfactory (“AVO”) monitoring is performed. Facility Representatives said that spraying soapy water on equipment and looking for bubbles is the method for visual monitoring.

3. Subpart KKKK Information

The Facility Representatives said that the turbine uses the manufacturer’s (i.e. Solar’s) proprietary “SoLoNOx” configuration to reduce emissions of nitrogen oxides (“NOx”). The physical design of the turbine provides combustion flame control with a “lean flame.”

Mr. Melcher said that the Facility had submitted performance test data showing that the turbine’s NOx emissions had been less than 75% of the emission standard during tests performed on March 11 and 12, 2021, and on February 16 and 16, 2023.

The Facility Representatives said that the turbine exhaust system was equipped with an oxidation catalyst, using rare metals to provide for carbon monoxide and volatile organic compound control. According to Facility Representatives, maintenance is performed on the catalyst every six months, consisting of cleaning and checking welds.

The Facility Representatives said that the Facility complies with sulfur dioxide emissions limits by relying on the tariff sheet from pipeline gas testing. The Facility Representatives showed the Inspectors the most recent tariff sheet, dated January 1, 2024, that states that the pipeline gas shall not contain more than 5 grains of sulfur per 100 cubic feet. The tariff sheet further provided that this standard for sulfur had not changed since at least May 1, 2011.

4. Subpart JJJJ Information

Mr. Melcher said that the MassDEP Plan Approval provided that the Facility uses a non-certified emergency engine.

Mr. Melcher said that the Facility had submitted performance test data showing that the emergency engine’s emissions had met the applicable emission standards during tests performed on March 5, 2021, and on January 31, 2024.

The Facility Representatives said that Enbridge elected to use a non-certified engine because the non-certified engine was cheaper, and use of a non-certified engine would allow the Facility more latitude in determining appropriate maintenance procedures.

The Facility Representatives said that the emergency engine was only used to generate electricity for the Facility and never for the grid; the Facility disconnects from the electricity grid before the emergency engine is powered up.

The Facility Representatives said that the emergency engine has a non-resettable hour meter and the Facility maintains an operating log.

The Facility Representatives showed the Inspectors a document describing maintenance procedures for the emergency engine. According to Facility Representatives, the emergency engine is tested monthly. According to Facility Representatives, most maintenance is performed by Facility personnel, but contractors are brought in for some maintenance activities.

The Facility Representatives said that the emergency engine has been used to generate electricity during a couple of power outages.

B. Facility Tour

Beginning at approximately 10:20, the Inspectors and the Facility Representatives conducted a Facility tour. Mr. Wankum led the group on a tour of Facility equipment in the order of the usual south to north flow of natural gas through the Facility, starting near the western fence line of the main portion of the Facility containing the Compressor Building. An aerial photograph annotated by EPA is provided in Appendix B of this report.

Mr. Wankum described the “Shafer Valves” at the Facility, using the valve at the connection of the inlet pipeline to the inlet pig barrel as an example. Mr. Wankum said that this valve is activated by natural gas, with the natural gas sitting on top of hydraulic fluid. Mr. Wankum said the natural gas is vented to a stack behind the Compressor Building and that this stack does not have a flare. Mr. Wankum said that the purpose of using natural gas for this intermittent pneumatic valve is for safety in case of power or compressed air outages.

Mr. Wankum described the air-operated valves at the Facility, using a valve on the inlet main pipe north of the inlet pig barrel as an example. Mr. Wankum said that the valves use a spring and piston operated by compressed air. According to Mr. Wankum, the valves are opened by compressed air and fail in a closed position.

Mr. Wankum described the suction filter separators. According to Mr. Wankum, the filters contain a polyethylene media to remove solids and have the ability to collect liquids in a drain tank, but only very low volumes of liquids are collected at the Facility. According to Mr. Wankum, the filters are installed in parallel and operated alternately.

The Facility Representatives pointed out a scaffolding over the pipelines, approximately ten feet above the ground surface. According to the Facility Representatives, the LDAR contractors have an extended nozzle on their Flame Ionization Detector, allowing them to perform Method 21 monitoring on the pipes in the scaffolding. According to the Facility Representatives, the Facility does not have any components that it has identified as “Difficult to Monitor” or “Unsafe to Monitor” and the contractors climb up on the scaffolding or use the extended nozzle to allow them to monitor the full extent of the piping. The inspectors noted flexible insulation attached to a number of pipe connections and asked how those were monitored for leaks. The Facility Representatives said the contractors remove the flexible insulation when conducting monitoring.

The Facility Representatives said that the pipelines were constructed out of carbon steel and were surrounded by a layer of insulation and a layer of sheet metal to provide for sound attenuation. A

Facility Representative temporarily removed a small rubber gasket on the side of one of the pipes to show the inspectors the insulation underneath.

The Inspectors and the Facility Representatives entered the courtyard between the Auxiliary Building and the Compressor Building. Mr. Wankum pointed out the main gas cooler on the eastern side of the courtyard and the Emergency Shutdown (“ESD”) system in the northwest of the courtyard. Mr. Wankum pointed out a red-colored ESD vent valve that, if opened, will send the natural gas-operated Shafer Valves to their fail-safe positions. Mr. Wankum pointed out a tank for holding reserve natural gas for the Shafer Valves.

The Inspectors and the Facility Representatives entered the Compressor Building. The turbine was not running at the time. Mr. Melcher observed a natural gas (i.e., mercaptan) odor upon entry. Mr. Wankum pointed out the fuel injectors on the turbine, the “hot section” of the turbine where the flame is created and the “power turbine” where the exhaust gases create mechanical energy. Mr. Wankum pointed out the compressor adjacent to the turbine and said that they dry gas seals are on either side of the turbine.

Mr. Wankum said that, typically, the compressor increases the pressure in the pipeline from 500 to 600 pounds per square inch (“psi”) to 1,200 to 1,400 psi.

Mr. Wankum pointed out the recompression skid used to direct natural gas from the unit case back into the pipeline. Mr. Wankum pointed out the valves (“UD-1” and “US-1”) within the Compressor Building that respectively mark the beginning and the end of the unit case. Mr. Wankum said that use of a recompression skid is not typical at Enbridge facilities.

Mr. Wankum pointed out the exhaust ducting from the turbine and said that the oxidation catalyst in the ducting was comprised of square blocks. Mr. Wankum said that the Facility monitors inlet temperature and differential pressure across the catalyst.

Mr. Wankum pointed out a pump operating to provide a “reduced pressurized hold” in the unit case. According to Mr. Wankum, a pressure of approximately 40 psi is maintained when the compressor is not being operated.

The Inspectors and the Facility Representatives exited the Compressor Building on the north side. Mr. Wankum pointed out the turbine air intake and the turbine stack. The Inspectors noted that the turbine stack is rectangular and asked if it complicated emissions testing, such as doing transverses for particulate matter testing. The facility representatives said that the rectangular shape can affect emissions testing but had not posed any significant issues during past tests.

Mr. Wankum pointed out the liquids storage tank, saying that it primarily collects precipitation that falls into the three nearby stacks. From west to east, Mr. Wankum said that the first, and largest, stack is the ESD blowdown stack. According to Mr. Wankum, this stack provides for noise attenuation of emergency shutdown events. The second stack, according to Mr. Wankum, is the “process stack” (shown on the Site Map as the “blowdown separator”) that vents Shafer Valves and drains. The third

stack, according to Mr. Wankum, is the “case stack” (shown on the Site Map as the “case vent separator”) that vents the unit case.

The Inspectors and the Facility Representatives briefly discussed the metering and regulating equipment located on the western side of the Facility. The Facility Representatives said that there was only a small amount of visible equipment and so the Inspectors decided not to visit the area. According to the Facility Representatives, the regulator valve, like most of the Facility, can be controlled from Houston. According to the Facility Representatives, personnel are only present at the Facility during business hours.

The Inspectors and the Facility Representatives re-entered the Compressor Building. The Inspectors noted the smell of gas near the turbine area. The Facility Representatives said that the natural gas smell was typical and not indicative of any ongoing leaks. According to the Facility Representatives, alarms are present in the building. According to the Facility Representatives, at 40% of the Lower Explosive Limit, fans will turn on to disperse the natural gas. At 75% of the Lower Explosive Limit, the fans will turn off and the unit case will blow down. Mr. Rapp noted that 40% of the LEL would be approximately 20,000 parts per million (ppm) which is considerably higher than the 500 ppm equipment leak threshold of the federal regulations.

The Inspectors and the Facility Representatives visited the emergency engine in the Auxiliary Building. A name plate on engine included the following:

*585 HP
Model: H24CL
Serial #: 5283705167
Date: August 2016*

An analog run meter on the gen set indicated a run time of 94 hours.

The Facility Representatives showed the Inspectors a generator run log that, according to the Facility Representatives, listed the events during which the engine had operated. Most events appeared to have been performed for maintenance purposes, but one entry was “run after power outage.”

The Facility Representatives said that they used a work order system to manage maintenance for the engine.

At approximately 11:35, the Inspectors and Facility Representative began a lunch break.

C. Records Review

1. Subpart 0000a Records

During the lunch break, the Inspectors reviewed the Facility’s LDAR Program document.

The Inspectors noted that Section 4 of the Facility’s LDAR Program document states that, “Additionally, the third-party contractor will document the Method 21 inspection for each component identified in the list provided in Appendix A.” Appendix A for the Facility’s LDAR Program document contains only the Site Map and not a list of components to be monitored.

At approximately 12:30, the Facility Representatives returned from the lunch break and provided the Inspectors with copies of the most recent four quarterly Fugitive Emission Reports prepared by the Facility’s contractor, Montrose Air Quality Services. The report for the second quarter of 2024 is included as Appendix C of this report. Ms. Brown said that the table beginning on page 5 of the document lists all of the components to be monitored using Method 21 (note that the “ChemState” field equals “Light Liquid” for each component). Mr. Melcher said that Subpart OOOOa appears to require that this list be included in the LDAR Program document. Mr. Melcher noted that Subpart OOOOa, at 40 C.F.R. § 60.5397a(d)(2), provides that, “If you are using Method 21 of appendix A–7 of this part, your plan must include a list of fugitive emissions components to be monitored.”

Mr. Melcher asked the Facility Representatives to explain why the Annual Report submitted pursuant to Subpart OOOOa for the reporting period from September 29, 2022 to September 30, 2023, on the Fugitive Surveys sheet, does not include any entries in the field “Date of Planned Shutdown(s) that Occurred During the Reporting Period if Components are on Delay of Repair (§ 60.5420a(b)(7)(ii)(G)).” The Facility Representatives said that shutdowns were performed during that reporting period but said that they did not include any shutdown dates on the Annual Report because the shutdowns performed were only partial facility shutdowns and their understanding was that only full facility shutdowns should be reported pursuant to § 60.5420a(b)(7)(ii)(G).

The Facility Representatives said that when “Shutdown Required” is entered in the field “Explanation for Delay of Repair (§60.5420a(b)(7)(ii)(F))” on the Fugitives Found sheet of the Annual Report, as is done several times on the Annual Report in question and the previous Annual Report, the Facility is not implying that a full facility shutdown is needed to address the leak. The Inspectors said that, at a minimum, this inconsistent definition of “shutdown” is confusing and that they would check with EPA specialists on Subpart OOOOa for clarification. Ms. Shaw said that she completed all of Enbridge’s reports for the northeast region in this manner and had never received feedback from regulators before. Ms. Shaw said that she welcomed any feedback that EPA has to offer.

The Facility Representatives showed the Inspectors the database (“Target”) they use to track leak repair. Target showed four current leaks. The Facility Representatives provided a screenshot to the Inspectors; certain fields from Target were transcribed by EPA into Table 1, below.

Table 1 – Excerpts of Target Screenshot Showing Active Leaks

Date	Emission ID	Process Block	Components	Detect / Quantification Method	Description
Apr 23, 2023	1618100104	Inlet/Discharge Piping	Connector, Connector, Connector	Optical Gas Imaging / Optical Gas Imaging	West Flange On Valve I101-2H1
May 24, 2023	38325301	Separator/Filter	Connector, Connector, Connector	Method 21 / Method 21	Lower Union Connector to Ball Valve on Southeast Side of Liquid Separator, North M&R Yard
May 23, 2023	35625316	Metering Station	Connector, Connector, Connector	Optical Gas Imaging / Optical Gas Imaging	Cleanout Hatch Seal of Ultra Sonic Run West of Block Valve BV-11, South Side of South West Meter Building
Nov 17, 2022	9141067	Inlet/Discharge Piping	Pressure Relief Device, Pressure Relief Device	Optical Gas Imaging / Optical Gas Imaging	Body Seal of PSV on North Tank at Metering Station

The Inspectors inquired about the oldest leak shown in the database. The Facility Representatives said that the leak was discovered on November 17, 2022, and has been on the Delay of Repair list due to the need to shut down the metering station to complete the repair. According to the Facility Representatives, although other parts of the Facility have been shut down since November 2022, the metering station has not. According to the Facility Representatives, the Facility plans to shut down the metering station in August 2024 to complete the repairs.

The Inspectors inquired about two leaks described in the Fugitive Emission Report for the third quarter of 2023 on the Delay of Repair List: Emission ID numbers 29425078 and 29425079. Ms. Brown opened the database to display a repair date of August 23, 2023, for both leaks.

2. Part 98 Records

Mr. Melcher said that he had reviewed submittals made by Algonquin Gas Transmission, LLC for its onshore natural gas pipeline. Mr. Melcher said that Part 98, Subpart W – Petroleum and Natural Gas Systems – defines “facility” as the pipeline whereas Part 98, Subpart C – General Stationary Fuel Combustion Sources – uses a definition of “facility” as a physical property, such as the Weymouth Compressor Station. Both subparts include an applicability threshold of 25,000 metric tons of carbon

dioxide equivalent. According to Mr. Melcher, the Operational Limit for natural gas consumption in the MassDEP Plan Approval equates to emissions of lower than 25,000 metric tons of carbon dioxide equivalent. From 2016 through 2021, Algonquin submitted Greenhouse Gas Emission reports to EPA pursuant to Part 98 with emissions under Subpart W; the emissions are all for blowdown events. In 2016, the greenhouse gas emissions exceeded 25,000 metric tons of carbon dioxide equivalent, but in 2017 through 2021, the greenhouse gas emissions were lower than 25,000 metric tons of carbon dioxide equivalent. Between 2016 and 2017, the greenhouse gas emissions decreased by 83%. Between 2016 and 2017, the number of blowdown events decreased by 34%.

Mr. Melcher asked the Facility Representatives what changed in the Algonquin pipeline to account for the reduction in greenhouse gas emissions between 2016 and 2017. The Facility Representatives said that during 2016, blowdown events were unusually large and prevalent due to the “Algonquin Incremental Market” project to upgrade pipeline facilities. According to Facility Representatives, during this project, miles of pipeline were replaced, necessitating blowdown of these pipelines. According to Facility Representatives, blowdown events associated with the Weymouth Compressor Station are not included in pipeline blowdown events because the “facility” subject to Subpart W reporting does not include compressor stations.

3. Oxidation Catalyst Operational Limits

The MassDEP Plan Approval provides, in Table 8A, operational limits for the oxidation catalyst bed in the exhaust system of the turbine. The MassDEP Plan approval provides that the temperature at the inlet of the catalyst bed shall be greater than or equal to 880 degrees Fahrenheit on an hourly average basis and the pressure drop across the catalyst bed shall be greater than or equal to 2.83 inches of water column on an hourly average basis.

The Facility Representatives showed the Inspectors operational data for the turbine. The Facility Representatives said that the Facility records minute-level observations of turbine speed, catalyst differential pressure, and catalyst inlet temperature. According to the Facility Representatives, Ms. Shaw analyzes the raw data and provides minimum differential pressures and temperatures on an hourly average basis. According to the Facility Representatives there was a problem in the data displayed during the inspection. Ms. Brown provided the corrected summary of operational data and example minute-level data provided in Appendix D of this report via email at 14:09 on the day of the inspection. No deviations from the operational limits in the MassDEP Plan Approval are noted in the summary of operational data.

The Facility Representatives showed the Inspectors a summary of turbine start-up and shutdown events and examples from September 2020 through early May 2021 of the duration of start-up and shutdown events. A copy of this summary and example data is attached in Appendix E of this report.

D. Closing Conference

At approximately 13:35 the Inspectors and the Facility Representatives held a closing conference.

The Inspectors asked the Facility Representatives if any of the information discussed or provided was Confidential Business Information. The Facility Representatives said that no Confidential Business Information was provided. The Inspectors said that the Facility Representatives had 10 days from the date of the inspection to make a Confidential Business Information claim.

Mr. Melcher said that the Facility may not have complied with the requirement in Subpart OOOOa to include a list of components to be monitored using Method 21 in its fugitive emission monitoring plan.

Mr. Melcher said that EPA would research the requirement under Subpart OOOOa to include in the Annual Report the date of planned shutdown(s) that occurred during the reporting period if components are on delay of repair.

Mr. Melcher said that he would send an inspection report to the Facility within 70 days.

The Inspectors departed at approximately 13:45.