

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

B722062458

FACILITY: ANR Pipeline Co - Woolfolk Compressor Station		SRN / ID: B7220
LOCATION: 11039 150th Ave., BIG RAPIDS		DISTRICT: Grand Rapids
CITY: BIG RAPIDS		COUNTY: MECOSTA
CONTACT: Chris McFarlane , Environmental Services		ACTIVITY DATE: 04/05/2022
STAFF: Chris Robinson	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: FY '22 on-site inspection to determine the facility's compliance status with MI-ROP-B7220-2017.		
RESOLVED COMPLAINTS:		

On April 5, 2022, AQD staff Chris Robinson (CR) conducted a scheduled unannounced on-site inspection of the ANR Pipeline Company Woolfolk Compressor Station (Woolfolk, SRN B7220) to determine the facility's compliance status with respect to Renewable Operating Permit (ROP) MI-ROP-B7220-2017a and any other applicable air rules and regulations.

Woolfolk is located at 11039 150th Avenue, in Big Rapids, Michigan. CR met with Kyle Briham and Ben Samuelkutty from TC Energy during stack testing of Unit 17. The Intent of the visit was relayed, and proper identification was provided. Mr. Briham and Mr. Samuelkutty provided a walkthrough of the facility as well as pertinent information. Engines 9 and 17 were operating during this inspection. No visible emissions or significant odors were observed.

Weather conditions were approximately 38°F cloudy with easterly winds at 3 mph (www.weatherunderground.com).

A) Facility Description

The ANR Pipeline Company owns and operates facilities throughout Michigan for natural gas transmission and storage. Woolfolk is located near Big Rapids in Austin Township, Mecosta County, in a remote rural area. This facility consists of a compressor station and a naturally occurring underground reservoir. The reservoir is comprised of natural porous rock, ideal for storing natural gas. The reservoir is located in the Austin Field (Austin formation), which was discovered in the 1930's.

Woolfolk is used to maintain pipeline pressure to allow for the temporary storage of natural gas and for transporting natural gas, via pipelines, to storage and distribution facilities located throughout Michigan. The compressor station consists of seventeen natural gas-fired Reciprocating Internal Combustion Engines (RICE), a sorbead gas-liquid separator/dehydrator and auxiliary equipment. During periods of natural gas withdrawal, natural gas flows freely from the Austin Formation into the pipeline, slowly reducing the pressure in the reservoir. When the reservoir pressure drops too low gas cannot move freely requiring one or more of the seventeen engines to compress the natural gas for transport.

As summarized in **Table 1** below, the facility operates six (6) two-stroke engines and eleven four-stroke engines. These engines are further characterized as rich burn or lean burn. Rich-burn engines operate near the stoichiometric air-to-fuel ratio (16:1) with exhaust excess oxygen levels less than 4%. Lean-burn engines may operate up to the lean flame extinction limit, with exhaust oxygen levels of 12% or greater. The air to fuel ratios of lean-burn engines ranges from 20:1 to 50:1

and are typically higher than 24:1. Boiler and emergency generator information is also presented in **Table 1**.

Table 1: Emission Unit Summary

Emission Unit ID	Description	Type (Natural gas-fired)	Installation Date
EUWL001 - EUWL005	Ingersoll-Rand (IR) Compressor Engine Model KVG -103, 1000 hp	4-stroke, rich burn	1949
EUWL006 - EUWL009	IR Compressor Engine Model KVG-123, 1320 hp		EUWL006-8 1950 EUWL009 1951
EUWL010 - EUWL013	Cooper-Bessemer (CB) Compressor Engine Model GMW-10, 2500 hp	2-stroke lean burn	EUWL010-12 1951 EUWL013 1952
EUWL014 - EUWL015	IR Compressor Engines Model 616-KVH, 4500 hp	4-stroke, lean burn	1962
EUWL016	CB Compressor Engine Model 16Z-330, 11,000 hp	2-stroke, lean burn	1973
EUWL017	CB Compressor Engine Model 12Q145H, 4000 hp	2-stroke, lean burn	1980
EUWLGEN003	Waukesha emergency generator 871 hp	4-stroke, rich burn	2005
EUWLGEN004	Waukesha emergency generator, Model P48GL, 1,174 hp	4-stroke, lean burn	2017
EUWLBOILER001	Cleaver Brooks boiler, 5.82 MMBtu/hr.	--	1986
EUWLBOILER002	Cleaver Brooks boiler, 2.93 MMBtu/hr.	--	1986
EUWLBOILER003	Kewanee boiler, 3.35 MMBtu/hr.	--	1986
EUWLBOILER004	Kewanee boiler, 0.004 MMBtu/hr.	--	Manufactured on 12/18/1979
EUWLFURN002	Broch Furnace (Austin Dehydrator), 5.00 MMBtu/hr.	Dry bed dehydration furnace	12/14/2017

B) Regulatory Requirements

Mecosta County is currently designated by the USEPA as attainment/unclassified for all criteria pollutants. Woolfolk is subject to Title 40 CFR Part 70, because the potential to emit (PTE) of Nitrogen Oxides (NO_x), Carbon Monoxide (CO), and Volatile Organic Compounds (VOCs) exceed 100 tons per year (tpy) each and the potential to emit of any single HAP (formaldehyde and Acetaldehyde) regulated by Section 112 of the federal Clean Air Act, is equal to or more than 10 tons per year and/or the potential to emit of all HAPs combined is equal to or more than 25 tons per year.

The source is considered a “synthetic minor” source in regard to the Prevention of Significant Deterioration regulations of 40 CFR 52.21 because the stationary source accepted legally enforceable permit conditions limiting the potential to emit of nitrogen oxides to less than 250 tpy (85.7 tpy) for compressor engine Model 12Q145H (EGWL017), which was installed in 1980. All the remaining processes at the facility are currently not subject to the PSD regulations because the process equipment was either constructed/installed prior to June 19, 1978, the promulgation date of the PSD regulations or because the potential to emit of criteria pollutants was less than 250 tons per year.

Compressor engines EUWL001, EUWL002, EUWL003, EUWL004, EUWL005, EUWL006, EUWL007, EUWL008, EUWL009, EUWL010, EUWL011, EUWL012, EUWL13, EUWL014, and EUWL015 were installed prior to August 15, 1967. As a result, this equipment is considered “grandfathered” and is not subject to New Source Review (NSR) permitting requirements. However, future modifications of this equipment may be subject to NSR.

Although compressor engine EUWL016 was installed after August 15, 1967 (1973), this engine was exempt from New Source Review (NSR) permitting requirements at the time it was installed. However, future modifications of this equipment may be subject to NSR.

ANR Woolfolk has been subject to Rule 818 nitrogen oxide limits for stationary internal combustion engines. As allowed by Rule 818(3)(a), ANR submitted a compliance plan on April 25, 2006, to establish emission reductions at the Woolfolk Compressor Station and the ANR Bridgman Compressor Station in Bridgman, Michigan. Engine EUBG009 at ANR's Bridgman Compressor Station was subject to Rule 818 because it was considered a Large NOx SIP call engine under the rule. . A Large NOx SIP call engine is an engine that emits more than 1 ton of oxides of nitrogen per average ozone control period day in 1995. The required NOx limitation for Bridgeman appears to have been addressed by proposing NOx limitations for units EUWL001, EUWL002, EUWL003, EUWL004, EUWL005, EUWL006, EUWL007, EUWL008, EUWL009 at ANR Woolfolk and ANR Bridgman's unit EUBG009. ANR notified AQD of this proposal in a letter dated April 25, 2006, also noting that a Compliance Plan would be used, as allowed by Rule 818(3)(a) instead of the NOx limitations specified in Rule 818(3)(b). This compliance Plan established the 20.50 g/bh-hr emission limit for ANR Woolfolk which was approved by the AQD in a letter dated January 23, 2007. ANR is looking into whether or not Woolfolk remains subject to Rule 818 since engine EUBG009 at Bridgeman is being decommissioned.

The sorbead dehydrator equipment was initially installed prior to August 15, 1967. It consists of six (6) dry bed adsorption towers and a Broch furnace for drying the sorbeads. Any water evaporated out of the sorbeads is later condensed and stored in an onsite storage tank. The Broch furnace was replaced in 2017 under exemption Rule 282(b)(i) for boilers rated at no more than 50,000,000 Btu/hr. and burns only sweet natural gas. Since the towers can operate completely independently of the Broch furnace, they remain grandfathered from Rule 201 permitting requirements.

EUWLBOILER001, EUWLBOILER002, EUWLBOILER003, EUWLBOILER004, and EUWLFURN002 at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters promulgated in 40 CFR Part 63, Subparts A and DDDDD.

Compressor engines EUWL001, EUWL002, EUWL003, EUWL004, EUWL005, EUWL006, EUWL007, EUWL008 and EUWL009 at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) promulgated in 40 CFR Part 63, Subparts A and ZZZZ. The facility must maintain the catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test and maintain an exhaust temperature so that the catalyst inlet temperature is greater than or equal to 750°F and less than or equal to 1250°F as required by 40 CFR Part 63.6600. The facility maintains a Continuous Parameter Monitoring System (CPMS) Monitoring Plan as required by 40 CFR 63.6625(b). Emission units EUWL010, EUWL011, EUWL012, EUWL013, EUWL014, EUWL015, EUWL016, and EUWL017 are not subject to the RICE MACT because they are lean burn engines.

Emergency generators EUWLGEN003 and EUWLGEN004 at the stationary source are also subject to the National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) promulgated in 40 CFR Part 63, Subparts A and ZZZZ. However, since EUWLGEN004 was installed after June 12, 2006, and is subject to NSPS 40 CFR Part 60, Subpart JJJJ, compliance with this NESHAP is demonstrated by complying with 40 CFR Part 60, Subpart JJJJ. Emission unit EUWLGEN003 was installed prior to June 12, 2006, therefore it is not subject to 40 CFR Part 60, Subpart JJJJ.

The emission limitation(s) or standard(s) for Formaldehyde at the stationary source with the underlying applicable requirement(s) of NESHAP 40 CFR PART 63, MACT STANDARD, from EUWL001, EUWL002, EUWL003, EUWL004, EUWL005, EUWL006, EUWL007, EUWL008 and EUWL009 are exempt from the federal Compliance Assurance Monitoring (CAM) regulation pursuant to 40 CFR 64.2(b)(1)(i) because reduction of $\geq 76\%$ and/or concentration of ≤ 350 ppbvd @ 15% O₂ (40 CFR 63.6600(1) Table 1a) meet the CAM exemption for NSPS or MACT proposed after November 15, 1990.

C) Regulatory Analysis

1) MI-ROP-B7220-2017a

All engines are equipped with continuous monitoring systems (CMS) and are monitored and operated from the control room. Monitoring data and records are kept in the control room for a minimum of 5 years. All emission units on-site and discussed further below are natural gas-fired only. The facility continuously monitors and records fuel consumption and operating hours (**Attachment A**) for every engine. The operating status of each engine, as observed during this inspection, is detailed in **Table 2** below.

Table 2: Engine Status

Engine No.	Operating Status	Engine No.	Operating Status
1	Available	8	Available
2	Available	9	Running
3	Available	14	Available
4	Available	15	Available
5	Available	16	Available
6	Available	17	Running for emissions testing
7	Available	--	--

During this inspection, stack heights and diameters were not explicitly measured. However, visual inspections appeared to reflect the measurements specified in the ROP.

The 2021 ROP annual semi-annual certification reports were initially received on March 14, 2022, properly certified and on time. Deviations were reported for not conducting annual NO_x testing on unit 6 during the ozone control period and for having a high DP on unit 4 on 12/5/2021. A violation Notice was previously issued for failure to test unit 6.

a) EUWL017 (Engine 17)

Engine 17 NO_x Testing is required to be completed at least once within the five-year ROP cycle which was being conducted concurrently with this inspection. CR was onsite and observed most of

the testing. Unit 17 was operated at approximately 90% load and 95% torque for the entire test (See Activity Report CA_B722062459). Based on the preliminary results in **Table 3** below, Unit 17 operated within the emission limits specified in SC I.1 of 9.7 g/BHP-Hr. and SC I.2 of 85.7 lb./hr., which is derived from the 9.7 g/BHP-Hour for a 4,000 hp engine. A final test report is due June 6, 2022.

Table 3: unit 17 Preliminary Test Results

Run #	NOx (g/BHP-Hr.)	NOx (Lb./Hr.)
1	3.08	24.25
2	2.96	23.67
3	3.07	24.46
Average	3.04	24.13

Monthly records for January 2021 through March 2022 indicate that the highest NOx emission rate was 22.9 lb./hr. in January 2021 (7.989 mmscf of fuel consumed and 388 hours of operation) and March 2022 (3.140 mmscf of fuel consumed and 152.67 hours of operation). Fuel consumption and operating hours are included in **Attachment A** and NOx emission calculations are included in **Attachment B**.

b) FG-RICE-818-WLENGINES (Engines 1-9)

Engines 1-9 are currently subject to Rule 818 and the NESHAP RICE MACT (40 CFR Part 63, Subparts A and ZZZZ) requirements. Engines 1-9 are subject to a 76%, or greater, formaldehyde reduction limit per the RICE MACT. The facility meets this limit by operating the engines with a properly maintained Non-Selective Catalytic Reduction (NSCR) unit. Each unit has a pressure and temperature sensor installed as required. The facility continuously monitors and records atmospheric pressure and NSCR inlet pressure and temperature and maintains the catalyst so that the pressure drop across the catalyst does not change by more than 2" w.c. at 100% load plus or minus 10% from the pressure drop across the catalyst measured during the previous successful performance test and a catalyst inlet temperature of greater than or equal to 750°F and less than or equal to 1,250°F (40 CFR Part 63.6600). NSCR units are tested as required when replaced and differential pressure is continuously monitored to determine if maintenance or replacement is necessary. The stacks for units 1-9 were replaced in 2021, therefore the catalysts were tested in July of 2021. CR and Lindsey Wells (LW) from the Technical Programs Unit were onsite to observed testing of these engines which was done concurrently with the 2021 Ozone Season Testing (See Activity Report CA_B722059124). Between CR and LW units 1-5 and 7-9 were observed operating during these tests. No visible emissions or odor issues were noted. A test Plan was received, and an approval letter provided by the AQD prior to testing. A final report was received by the AQD on September 22, 2021, properly Certified and 1 day late. Sixty (60) days from the end of testing was 9/21/2021. Unit 6 was down for repairs and could not be tested. Based on discussions with staff and operating records this unit did operate in 2021, therefore required to be tested to demonstrate compliance with applicable ozone season emission limits as well as catalyst testing since this unit's catalyst was also replaced. Formaldehyde results from catalyst testing for the remaining units indicate compliance with the minimum 76% reduction requirement. See results in Table 5. Per discussions formaldehyde testing for unit 6 is going to take place in June of 2022.

The facility prefers to use multiple engines at reduced workloads rather than a single engine at maximum load for reliability and flexibility purposes. These levels of operation, for which conventional MACT differential pressure monitoring might not be appropriate, are covered by their

EPA-approved alternative monitoring supplement for load conditions less than 90%. These hours are tracked and totaled each semi-annual operating period. If an engine experiences a MACT excursion, then (per their MACT plan) it is shut down, catalyst replaced and re-tested.

Table 4: Engine Operating Conditions

Engine No.	Measured DP ("w.c.)	+/- 10% DP Limits (Based on most recent Stack Test, "w.c.)	
		Min DP	Max DP
1	6.01	4.01	8.01
2	5.86	3.86	7.86
3	6.32	4.32	8.32
4	8.33	6.33	10.33
5	5.55	3.55	7.55
6	3.47	1.47	5.47
7	5.71	3.71	7.71
8	5.65	3.65	7.65
9	4.37	2.37	6.37

Per Special Condition (SC) I.2 each engine (1-9) is subject to a NO_x emission limit of 20.5 g/brake hp-hr. (45.19 lb./hr. for engines 1-5 & 59.66 lb./hr. for engines 6-9). Per Rule 818(3) a subject facility may either comply with a Compliance Plan (Rule 818(3)(a)) or an established NO_x emission rate limitation (Rule 818(3)(b)). In a letter to the AQD, dated April 25, 2006 (Received April 27, 2006) ANR requested use of a Compliance Plan proposing the 20.50 g/bhp-hr. emission limit. This was formerly approved by the Department's SIP unit in a letter dated January 25, 2007, noting that the "plan meets the required NO_x emission reduction target". The pound per hour limits also in the ROP (SC I.3 and I.4) are derived from the g/bhp-hr. limits and were added for practicality purposes. They are more stringent than the g/bhp-hr. limit since they apply at any speed and torque.

$$(20.50 \text{ grams/brake HP Hour} \times (1\text{lb}/453.59237 \text{ grams})) \times 1,000 \text{ HP} = 45.19 \text{ lbs./hr.}$$

$$(20.50 \text{ grams/brake HP Hour} \times (1\text{lb}/453.59237 \text{ grams})) \times 1,320 \text{ HP} = 59.66 \text{ lbs./hr.}$$

Rule 818 allows for parametric monitor or testing. The facility does not have an approved Parametric Monitoring Program at this time. Therefore, the facility demonstrates compliance with the emission limit by conducting annual performance testing as allowed in SC VI.6. Engines 1-5 and 7-9 were tested for NO_x emissions during the 2021 Ozone Season. While preparing for the 2021 NO_x testing for Part 8 it was discovered that Unit 6 could not maintain proper load required for testing. Therefore, it was taken offline for repairs. Since Unit 6 ran during the Ozone Season (~109.50 hrs. in May) testing is required to be completed prior to the end of the Ozone season, however due to the repairs being conducted this deadline was not met. Failure to test an engine during the Ozone season in which it operated is a violation of SC VI.6.a of the ROP and Rule 818(4) (a)(ii)(A). A violation notice was issued on November 9, 2021. The 2022 Ozone season testing began on May 3, 2022, which included unit 6. CR was onsite to observe testing of units 5-7. No visible emissions or odors were observed. Preliminary data for all three was well below the 20.50 g/bh-hr limit (See Activity ReportCA_B722062771).

Based on the 2021 test reports, engines 1-5 & 7-9 are compliant with the 20.50 g/bhp emission limit. The most recent test results are summarized in **Table 5** below. This does not include unit 6 since the final report has not been received.

Table 5: 2021 NOx/Formaldehyde Testing Results

Engine No.	Limit (g/bhp-hr.)	Emission Rate (g/bhp-hr.)	Formaldehyde Reduction (%)	Load (%)
1	20.50 / engine	4.42	88.11	96.6
2		9.23	86.73	95.2
3		8.18	89.57	95.8
4		16.33	90.78	95.9
5		9.32	93.16	92.4
6		--	--	--
7		4.63	90.73	95.6
8		4.12	91.96	96.0
9		12.32	91.34	93.4

The 2021 Monthly NOx emission calculations were provided and are included in **Attachment B** and summarized in **Table 6**.

Table 6: 2019 Calculated NOx Emissions (lbs./hr.)

2021 Monthly Maximum Calculated NOx Emissions (lbs./hr.)								
Engine No.								
1	2	3	4	5	6	7	8	9
14.1 Feb.	15.6 Dec.	13.8 Dec.	29.9 Nov.	21.3 Jan.	12.7 March	10.2 Nov.	11.2 March & April	23.4 Dec.
*45.19 lb./hr. limit (May 1 – Sept. 30)					*59.66 lb./hr. limit (May 1 – Sept. 30)			

Note: Special Condition III.2 of the ROP requires the permittee to comply with the emission rate limitations listed in Rule 818(3)(b). This condition is incorrect since the facility operates under an approved Compliance Plan as allowed in Rule 818(3)(a). Initially, since the ROP Renewal application is in-house, and this condition was not rolled into the ROP through a PTI, the condition was going to be revised to reflect the use of a Compliance Plan. If ANR determines Woolfolk is no longer subject to Rule 818 this condition will be removed altogether.

c) FGWLENGINES (Engines 10-16)

Engine 16 is equipped with 6 compressors with hydraulic loaders. The hydraulic loaders allow the operator to load all 6 compressors simultaneously or independently as needed. The facility continuously monitors and records engine operating hours and natural gas consumption. These records were provided and are included in **Attachment A**.

d) FGLIMITED-RICEMACT (Emergency Generators)

Emergency generators EUWLGEN003 and EUWLGEN004, were not operating during this inspection. These generators are subject to 40 CFR Part 63, Subparts A and ZZZZ. Since EUWLGEN004 was installed after June 12, 2006, and is subject to NSPS 40 CFR Part 60, Subpart JJJJ, compliance with this NESHAP is demonstrated by complying with 40 CFR Part 60, Subpart JJJJ. Emission unit EUWLGEN003 was installed prior to June 12, 2006, therefore it is not subject to 40 CFR Part 60, Subpart JJJJ. EUWLGEN004 is not a certified engine therefore emissions testing is required every three (3) years or 8,760 hours of operation. Since the emergency generators don't operate frequently EUWLGEN004 is tested every three (3) years. Testing was last successfully

conducted on November 23, 2021 (See MACES Activity report CA_B722060912). CR was onsite during testing and observed EUWLGEN004 operating. No visible emissions or odors were observed.

All requirements appear to be properly addressed and implemented. Required hour meter and operating logs were readily accessible on the control panels. Total metered hours for generator 3 were 607.4 hours with 4.1 hrs. of it being for maintenance and 4.3 hrs. for emergency use. The total metered hours for Generator 4 were 257.9 hrs. with 3.0 hours of it being for maintenance and 3.3 hrs. for emergency use.

Generator logs were provided and are included in **Attachment C**. Generators at this facility typically do not operate for more than 500 hours per year. Therefore, the facility has opted to utilize an oil analysis program to extend the oil change requirement. The facility inspects air cleaners every 1,000 hours of operation or annually and all hoses and belts every 500 hours of operation or annually as required. The most recent oil analysis and maintenance records are included in **Attachment D**.

e) FGWL-BOILERMACT

The facility operates four (4) boilers (EUWBOILER001, EUWBOILER002, EUWBOILER003 and EUWBOILER004) and one process heater (EUWLFURN002) subject to the NESHAP BOILER MACT 5(D) requirements.

The facility originally indicated five (5) subject natural gas (only)-fired boilers, but the Energy Assessment covered only three (3) boilers. Because it was based on the facility's heat input for the affected sources (5 small units up to about 6 MMBtu/hr.), the Assessment is only required to cover 50% of the heat input capacity (and 8 on-site hours of activity.) By analyzing the three (3) largest units, this 50% requirement was met. An Energy Assessment for EUWLFURN002 was not required for this boiler because it's considered a "new" unit. An initial tune-up was conducted in 2018. The facility is required to complete a tune-up every five (5) years for boilers/process heaters less than or equal to 5 MMBtu/hr. and every two (2) years for boilers greater than 5 MMBtu/hr. and less than 10 MMBtu/hr. All required Energy Assessments and tune-ups have been completed and submitted as required. The facility appears to be current and up to date with all boiler MACT 5(D) requirements. Energy Assessments, notifications and tune-up reports were received by the AQD.

Table 7: 5(d) Submittal/Completion Dates

Boiler ID	Date of Energy Assessment	Date of Initial Notification (Received by AQD)		Required Tune-up Frequency (years)	Date of Initial Tune-up	Date of most recent Tune-ups
EUWLBOILER001 (Station #2)	4/17/2015	5/30/2013	11/2/2015	2	9/14/2015	9/24/2019 & 9/9/2021
EUWLBOILER002 (Breakroom – Small)	4/17/2015	5/30/2013	11/2/2015	5	9/14/2015	9/23/2019 & 12/17/ 2020
EUWLBOILER003 (Breakroom -Big one)	4/17/2015	5/30/2013	11/2/2015	5	9/14/2015	9/23/2019 & 12/17/2020
EUWLBOILER004 (Station #4 - Cleaver Brooks)	**NA	5/30/2013		5	9/11/2017	9/23/2019
*EUWLBOILER005	**NA	5/30/2013		5	--	--
EUWLFURN002 (Sorbead Dehy)	***NA	1/5/2018		2	NA	3/21/2019

NA = Not Applicable

*Boiler was determined to be for comfort heat only and not subject to 5(D) Requirements.

** Not Required. See Boiler MACT discussion.

*** Installed in 2017. Energy assessments and initial tune-ups are not required for "new" units.

2) MAERS

The facility's 2021 emissions were reported to MAERS on March 10, 2022, and review completed by AQD on May 4, 2022. The percent change in throughput and emissions very significantly from last year so CR provided a list of questionable sources to the facility for verification. Both Mr. Samuelkutty and Mr. MacFarlane reviewed the data and confirmed they were correct. Emission Unit EUWLFURN002 replaced EUWLFURN001 in 2017 but the MAERS id remains EUWLFURN001. For completeness this ID should be retired and replaced with EUWLFURN002, which CR discussed with the facility. No changes were made to the database as submitted. Reported source emission totals are summarized in the table below.

Pollutant	Amount (tons)
CO	297.15
NOx	452.64
PM	3.88
SO2	0.12
VOC	13.29

D) Compliance Determination

Based on observations made during this inspection and a records review, Woolfolk appears to be in compliance with ROP MI-ROP-B7220-2017a and any other applicable air rules and regulations.

Attachments

- A - Compressor Engine Fuel Consumption and operating Hours
- B - NOx Emission Calculations
- C - Generator Logs
- D - Engine Oil Analysis

NAME



DATE 5/16/2022

SUPERVISOR

