

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

N601660332

FACILITY: ASCENSION GENESYS HOSPITAL		SRN / ID: N6016
LOCATION: ONE GENESYS PARKWAY, GRAND BLANC		DISTRICT: Lansing
CITY: GRAND BLANC		COUNTY: GENESEE
CONTACT: Joseph Capizzo , Manager of Facilities		ACTIVITY DATE: 09/14/2021
STAFF: Julie Brunner	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled inspection of Ascension Genesys Hospital - This inspection was a Partial Compliance Evaluation (PCE), conducted as part of a Full Compliance Evaluation (FCE).		
RESOLVED COMPLAINTS:		

On September 14, 2021, AQD staff (Julie Brunner) conducted a scheduled off-site inspection of Ascension Genesys Hospital (Genesys). This inspection was a Partial Compliance Evaluation (PCE), conducted as part of a Full Compliance Evaluation (FCE). The facility is a medical complex including a hospital, MRI center, and supporting medical offices. The last inspection of this facility was on December 5, 2017.

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Facility Description and Regulatory Overview:

This facility is a medical center complex consisting of the hospital, MRI center in Genesys Health Park, and associated support facilities. With the compliance inspection on 7/14/2011, the state registration numbers (SRN) were consolidated. This means that the health park is considered one stationary source assigned SRN N6016. Previous SRNs used were M0784, N5665, D3674, and D3699 (which is actually a general permit for McLaren Medical Center).

The facility is located in Grand Blanc and is in a large medical center parkway right off of I-75.

Genesys is a minor source with a potential to emit of less than 250 tons per year (tpy) of any regulated air contaminant. The facility is considered minor for emissions of hazardous air pollutants (HAPs) with a potential to emit less than 10 tpy of any single HAP and 25 tpy of aggregate HAPs. The facility has opted out of the Title V - Renewable Operating Permit (ROP) Program. Genesys has one active Permit to Install (PTI): PTI 41-15. PTI 41-15 was issued June 4, 2015.

PTI 399-96 was voided on 1/15/16 and was for four (4) ethylene oxide (EtO) sterilizers to sterilize hospital equipment. The facility is in the process of removing the EtO sterilizer equipment from the facility.

PTI 41-15 is considered an opt-out permit which includes facility-wide synthetic minor restrictions so that the facility is not subject to the ROP Program. PTIs 316-95, 317-95, and 318-95 for the fire pump engine, two (2) emergency generators, and three boilers were rolled into PTI 41-15 along with an exempt emergency generator and small boiler located at the MRI center. The exempt units are now technically permitted. The emission units listed on this permit are as follows:

Emission Unit ID - Emission Unit Description

EUBOILER1* - 33 MMBtu/hr natural gas and fuel oil-fired boiler that provides steam to the hospital. (Manf. in 1995)

EUBOILER2* - 33 MMBtu/hr natural gas and fuel oil-fired boiler that provides steam to the hospital. (Manf. in 1995)

EUBOILER3* - 33 MMBtu/hr natural gas and fuel oil fired-boiler that provides steam to the hospital. (Manf. in 1995)

EUBOILER4 - 0.4 MMBtu/hr natural gas-fired boiler (2 boilers are located at the MRI center)

EUEMERGENGINE1 - 1482 hp (9.79 MMBtu/hr) diesel-fired reciprocating internal combustion engine (RICE) driving an emergency generator. (Manf. in 1995)

EUEMERGENGINE2 - 1482 hp (9.79 MMBtu/hr) diesel-fired RICE driving an emergency generator. (Manf. in 1995)

EUEMERGENGINE3 - 300 kW (4.16 MMBtu/hr) diesel-fired RICE driving an emergency generator at the MRI center. (Manf. in 2012)

EUEMERGENGINE4 - 160 hp (1.5 MMBtu/hr) diesel-fired RICE driving an emergency fire pump. (Manf. in 1995)

*EUBOILER1, EUBOILER2, and EUBOILER3 share a common stack, but PTI 41-15 lists three (3) separate stacks for the boilers. The three (3) boilers have always shared a stack as listed on the original permit (PTI 318-95) for the boilers.

Michigan Air Emissions Reporting System (MAERS):

The facility reports to MAERS as an SM Opt-Out, Fee Category E. The 2020 report was audited.

RG-BOILERS

AMMONIA - 61.80 LB

CO - 10501.48 LB

LEAD - 0.06 LB

NO_x - 12514.40 LB

PM₁₀,PRIMARY - 951.49 LB

PM_{2.5},PRIMRY - 951.31 LB

SO₂ - 75.14 LB

TNMOC - 0.24 LB

VOC - 687.37 LB

RG-EMERGENCY-EQP

CO - 19.50 LB

NOx - 90.60 LB

PM10,FLTRBLE - 6.38 LB

PM2.5,FLTRBL - 6.38 LB

SO₂ - 5.96 LB

VOC - 7.40 LB

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Review of Federal Regulations:

The following is a review of federal standards that may apply to the boilers and the diesel fuel-fired emergency engines at the facility. Listed are the applicability and/or definitions from each standard below.

For the dual fuel-fired boilers (EUBOILER1, EUBOILER2, EUBOILER3), they are subject to 40 CFR 60, Subpart Dc and possibly 40 CFR 63, Subpart JJJJJJ if they can't meet the definition of a gas-fired boiler.

40 CFR 60, Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

§60.40c Applicability and delegation of authority.

(a) Except as provided in paragraphs (d), (e), (f), and (g) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr).

§60.42c Standard for sulfur dioxide (SO₂).

(d) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 215 ng/J (0.50 lb/MMBtu) heat input from oil; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.

The sulfur content of the fuel oil used at the facility is 0.0015 % by weight meeting the requirements of 40 CFR 60, Subpart Dc.

40 CFR 63, Subpart JJJJJJ—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

§63.11195 Are any boilers not subject to this subpart?

The types of boilers listed in paragraphs (a) through (k) of this section are not subject to this subpart and to any requirements in this subpart....

(e) A gas-fired boiler as defined in this subpart.

§63.11237 What definitions apply to this subpart?

Gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

The three (3) dual fuel-fired boilers (EUBOILER1, EUBOILER2, and EUBOILER3) appear to meet the definition of gas-fired boiler. Each boiler operates on fuel oil for 0.5 hour per month for a total of 6 hours per year for reliability testing purposes. The usage of fuel oil is below 48 hours per calendar year, and therefore, the boilers do not appear to be subject to the requirements of 40 CFR 63, Subpart JJJJJJ. Records of fuel oil usage in the boilers will need to be maintained to demonstrate the boilers meet the definition of gas-fired.

For the emergency engines (EUEMERGENG1, EUEMERGENG2) and the fire pump engine (EUEMERGENG4) with manufacture dates of 1995, they are not subject to 40 CFR 60, Subpart III. For EUEMERGENG3, listed is the applicability below for future reference.

40 CFR 60, Subpart III—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

§60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator....

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are:

(i) Manufactured after April 1, 2006, and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

EUEMERGENG3 was manufactured in 2012 and appears subject to the requirements of 40 CFR 60, Subpart III. EUEMERGENG3 is subject to 40 CFR 63, Subpart ZZZZ as a new reciprocating internal

combustion engine (RICE). Compliance is demonstrated with 40 CFR 63, Subpart ZZZZ through compliance with 40 CFR 60, Subpart IIII.

Also, 40 CFR 63, Subpart ZZZZ does not apply to EUEMERGENE1, EUEMERGENE2 and EUEMERGENE4 because they are existing emergency RICE located at an institution (40 CFR 63.6585(f)(3)). The applicability is listed below for future reference.

40 CFR 63, Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

§63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand....

(f) The emergency stationary RICE listed in paragraphs (f)(1) through (3) of this section are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in §63.6675, which includes operating according to the provisions specified in §63.6640(f).....

(3) Existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

Inspection:

For the off-site inspection, the records request and the outline of the inspection process were provided via an email sent on September 7, 2021. No changes have been made to facility operations as in no new boilers, emergency generators, or removal of any permitted equipment. The areas that were inspected virtually (using Facetime) were the power plant and the MRI center. A facility virtual tour was taken with Joe and Denice starting with the power plant. (Various operations support staff joined in when needed.)

Power Plant:

The boilers (EUBOILER1, EUBOILER2, and EUBOILER3), two (2) emergency generators (EUEMERGENE1 and EUEMERGENE2), and a fire pump (EUEMERGENE4) are located in the power plant for the medical center. The power plant was built in 1995. The natural gas meter for the facility is located outside the power plant wall and was reading 1,588,573 MCF.

Three (3) identical Johnson Boiler Co. boilers (EUBOILER1, EUBOILER2, and EUBOILER3) are fired mainly on natural gas with fuel oil for backup. All have tags dated 1995. EUBOILER1 has tag number #9328-03, EUBOILER2 has tag number #9328-01, and EUBOILER3 has tag number #9328-02. They produce steam for the hospital and are not used for electrical generation. Only one boiler is operated at a time with one boiler on standby. The boilers are not operated at greater than 70% of capacity. The boilers vent out of one common stack. At the time of inspection, EUBOILER3 was operating at 17 - 18% load, and EUBOILER1 and EUBOILER2 were on standby / off-line.

The two (2) emergency generators (EUEMERGENGINE1 and EUEMERGENGINE2) are identical 12-cylinder CAT engines model: SR4 manufactured in 1995. EUEMERGENGINE1 (Serial No. 2GM00514) at the time of inspection had 1051.8 hours (951.1 hours last inspection) on the operating clock. EUEMERGENGINE2 (Serial No. 2GM00513) at the time of inspection had 1008.2 hours (905.0 hours at last inspection) on the operating clock. The engines are tested monthly for 1 hour and annually for 24 hours. The maintenance records are kept. (Pictures emailed.) The two (2) engines separately exhaust out the roof. Above the roof, the exhaust vents have elbows that direct the gases horizontally. This is to prevent rain from getting into the stack.

The fire pump engine (EUEMERGENGINE4) is a CAT Engine Model: 3208 (Serial No. 90N75392), 8-cylinder engine, manufactured in 1995 with a 150 – 200 gallon fuel oil tank. The operating log is kept in the room with the engine. It is tested weekly for 30 minutes. The hours of operation for the engine were 446.4 hours (324.7 hours at last inspection) according to the engine clock. The engine is exhausted horizontally out of an exterior wall about 8 feet above ground level. (Pictures of the operator log and procedures were emailed.)

Beside the power plant building are two (2) horizontal fuel oil tanks; a 15,000-gallon tank for the boilers (with almost 11,000 gallons in the tank) and an 8,000-gallon tank (with 4,250 gallons in the tank) for the emergency generators. Both tanks are clearly marked "LOW SULFUR".

Sterilizers:

The facility is using steam and hydrogen peroxide (H₂O₂) to sterilize equipment. There are four (4) steam sterilizers and four (4) H₂O₂ sterilizers currently used by the facility. Two (2) Amsco 3053 and two (2) Getinge steam sterilizers are used. Steam sterilization takes about 1.5 hours per load for processing time. Two (2) Sterrad 1000S models and two (2) Sterrad NX models are used for H₂O₂ sterilizations. The steam and H₂O₂ sterilizers are exempt per Rule 281(2)(i). (The sterilizer room was not part of the virtual tour for health and safety reasons.)

PTI 399-96 for four (4) ethylene oxide sterilizers was voided on January 13, 2016. This equipment has been removed.

MRI Center:

At the MRI center are two (2) natural gas-fired boilers. One boiler is on PTI 41-15 and is emission unit EUBOILER4. EUBOILER4 is a 399,000 Btu/hr Raypack water tube boiler with a manufacturer date of 1999. The other boiler is a 186,000 Btu/hr Raypack water tube boiler with a manufacturer date of 2005. This boiler is exempt per Rule 282(2)(b)(i). The MRI center has a separate (new) gas meter which was reading 766 ft³ of gas.

EUEMERGENGINE3 sits outside the MRI center on a concrete pad and is self-contained. It is a Cummins Power Generator, Model: DQHAB-10727805 (Serial No. C120311170), manufactured 3/13/2012 (300 kW) with a 300-gallon fuel oil tank. It is tested weekly for 15-20 minutes (Monday morning runs, pre-programed), once a month for 1-hr, and annually when Cummins brings in a load bank for the test. The hours of operation for the engine were 425.9 hours (296.9 hours at last inspection) according to the engine clock. The engine is exhausted vertically out of the small generator container. Requirements for 40 CFR 60, Subpart IIII were checked as follows:

1. **Engine certified to EPA NSPS (40 CFR 60, Subpart IIII) Stationary Emergency Tier 2 or 3 exhaust emission levels**
2. Fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used, that contain, at a minimum, the weight % sulfur and either the cetane index or volume % of aromatics in each delivery of diesel fuel oil. **(40 CFR 60.4207(b))**
3. **Records of the operation of EUEMERGENE3 in emergency and non-emergency services (as recorded through the non-resettable hour meter) including the hours of operation of EUEMERGENE3 and the reason the engine was in operation during that time. (40 CFR 60.4211(f), 40 CFR 60.4214(b))** Contacted Cummins to see if a digital operating record could be downloaded. Cummins has pre-programmed testing times in the generator controller. The generator has operated in an emergency situation in the last year. Called sales rep and figuring out how to get an operating log, and will need to go back to the last emergency operation (3 to 4 months ago). The information is in the engine controller but equipment to download it is probably not installed and they will need a Cummins technician to come out and show facility staff how to access the information in the controller. A log was created manually and provided as requested so that operating hours could be logged by the hospital. The reason why the engine was operated (e.g., emergency, non-emergency, and why) does need to be added to operating log sheet.
4. Copy of the manufacturer's installation, operating, maintenance instructions, and emission-related specifications throughout the life of EUEMERGENE3. **(40 CFR 60.4211(g)(2)) Part of the Cummins maintenance contract.**

Records Review:

The requested records were emailed and are in the file.

1. Emission rates of nitrogen oxides (NO_x) from boilers EUBOILER1, EUBOILER2, and EUBOILER3 (FGDUALFUELBOILER) for each calendar month and 12-month rolling time period from January 2018 to August 2021.
2. Fuel use (natural gas and fuel oil) in EUBOILER1, EUBOILER2, and EUBOILER3 (FGDUALFUELBOILER) for each calendar month from January 2018 to August 2021.
3. Emission rates of sulfur dioxide (SO₂) from all fuel burning equipment (EUBOILER1, EUBOILER2, EUBOILER3, EUBOILER4, EUEMERGENE1, EUEMERGENE2, EUEMERGENE3, and EUEMERGENE4 (FGFACILITY) for each calendar month and 12-month rolling time period from January 2018 to August 2021.
4. Records of the maximum sulfur content in the fuel oil for each delivery (SDS).
5. EUEMERGENE3 – Generator information and engine technical specifications including the "Exhaust Emission Data Sheet" for 300DQHAB.
6. EUEMERGENE3 – MRI maintenance checklist and monthly load test log.
7. EUEMERGENE4 (Main Campus) – generator test procedures and weekly test log.

For PTI 41-15, records of NO_x emissions from the boilers and facility-wide SO₂ emissions on a 12-month rolling time period are required. The records (from January 2018 to August 2021) indicate compliance with the permit limits of 60 tpy of NO_x and 4.0 tpy of SO₂ on a 12-month rolling time period. NO_x and SO₂ emission data is summarized below by AQD as provided by the facility:

Data	Natural gas usage	Fuel Oil Usage	Natural Gas Emission Factors for	Fuel Oil Emission Factors for	NOx Emissions	NOx Emissions
Month-year	(mcf)	(10 ³ gallon)	NOx (lb/10 ⁶ cf)*	NOx (lb/10 ³ gal)**	(tons/month)	(tons per 12-month rolling)
17-Nov	11943	0.287	100	24	0.6	
17-Dec	13155	0.287	100	24	0.66	
18-Jan	18513	0.287	100	24	0.93	
18-Feb	14194	0.287	100	24	0.71	
18-Mar	12227	0.287	100	24	0.61	
18-Apr	14382	0.287	100	24	0.72	
18-May	7452	0.287	100	24	0.38	
18-Jun	6218	0.287	100	24	0.31	
18-Jul	7582	0.287	100	24	0.38	
18-Aug	6451	0.287	100	24	0.33	
18-Sep	6870	0.287	100	24	0.35	
18-Oct	11525	0.287	100	24	0.58	6.6
18-Nov	12652	0.287	100	24	0.64	6.6
18-Dec	16638	0.287	100	24	0.84	6.8
19-Jan	15528	0.287	100	24	0.78	6.6
19-Feb	13162	0.287	100	24	0.66	6.6
19-Mar	13536	0.287	100	24	0.68	6.6

Data	Natural gas usage	Fuel Oil Usage	Natural Gas Emission Factors for	Fuel Oil Emission Factors for	NOx Emissions	NOx Emissions
Month-year	(mcf)	(10 ³ gallon)	NOx (lb/10 ⁶ cf)*	NOx (lb/10 ³ gal)**	(tons/month)	(tons per 12-month rolling)
19-Apr	12441	0.287	100	24	0.63	6.5
19-May	8890	0.287	100	24	0.45	6.6
19-Jun	7160	0.287	100	24	0.36	6.7
19-Jul	7816	0.287	100	24	0.39	6.7
19-Aug	6766	0.287	100	24	0.34	6.7
19-Sep	8655	0.287	100	24	0.44	6.8
19-Oct	9209	0.287	100	24	0.46	6.7
19-Nov	12652	0.298	100	24	0.64	6.7
19-Dec	<u>14000</u>	0.298	100	24	0.70	6.5
20-Jan	12204	0.298	100	24	0.61	6.4
20-Feb	12543	0.298	100	24	0.63	6.3
20-Mar	12253	0.298	100	24	0.62	6.3
20-Apr	12839	0.298	100	24	0.65	6.3
20-May	9286	0.298	100	24	0.47	6.3
20-Jun	7288	0.298	100	24	0.37	6.3
20-Jul	5840	0.298	100	24	0.30	6.2

Data	Natural gas usage	Fuel Oil Usage	Natural Gas Emission Factors for	Fuel Oil Emission Factors for	NOx Emissions	NOx Emissions
Month-year	(mcf)	(10 ³ gallon)	NOx (lb/10 ⁶ cf)*	NOx (lb/10 ³ gal)**	(tons/month)	(tons per 12-month rolling)
20-Aug	7610	0.298	100	24	0.38	6.3
20-Sep	6927	0.298	100	24	0.35	6.2
20-Oct	7123	0.298	100	24	0.36	6.1
20-Nov	12453	0.408	100	24	0.63	6.1
20-Dec	15340	0.408	100	24	0.77	6.1
21-Jan	13169	0.408	100	24	0.66	6.2
21-Feb	16331	0.408	100	24	0.82	6.4
21-Mar	14261	0.408	100	24	0.72	6.5
21-Apr	10375	0.408	100	24	0.52	6.4
21-May	8985	0.408	100	24	0.45	6.3
21-Jun	9219	0.408	100	24	0.47	6.4
21-Jul	4385	0.408	100	24	0.22	6.4
21-Aug	8074	0.408	100	24	0.41	6.4

* AP-42, Tables 1.4-1

** AP-42, Table 1.3-1

Estimated value

Data	Natural gas usage	Fuel Oil Usage	Natural Gas Emission Factors for	Fuel Oil Emission Factors for	SO ₂ Emissions	SO ₂ Emissions
Month-year	(mcf)	(10 ³ gallon)	SO ₂ (lb/10 ⁶ cf)*	SO ₂ (lb/10 ³ gal)**	(tons/month)	(tons per 12-month rolling)
17-Nov	11943	0.287	0.6	0.213	0.0036	
17-Dec	13155	0.287	0.6	0.213	0.0040	
18-Jan	18513	0.287	0.6	0.213	0.0056	
18-Feb	14194	0.287	0.6	0.213	0.0043	
18-Mar	12227	0.287	0.6	0.213	0.0037	
18-Apr	14382	0.287	0.6	0.213	0.0043	
18-May	7452	0.287	0.6	0.213	0.0023	
18-Jun	6218	0.287	0.6	0.213	0.0019	
18-Jul	7582	0.287	0.6	0.213	0.0023	
18-Aug	6451	0.287	0.6	0.213	0.0020	
18-Sep	6870	0.287	0.6	0.213	0.0021	
18-Oct	11525	0.287	0.6	0.213	0.0035	0.040
18-Nov	12652	0.287	0.6	0.213	0.0038	0.040
18-Dec	16638	0.287	0.6	0.213	0.0050	0.041
19-Jan	15528	0.287	0.6	0.213	0.0047	0.040
19-Feb	13162	0.287	0.6	0.213	0.0040	0.040
19-Mar	13536	0.287	0.6	0.213	0.0041	0.040

Data	Natural gas usage	Fuel Oil Usage	Natural Gas Emission Factors for	Fuel Oil Emission Factors for	SO₂ Emissions	SO₂ Emissions
Month-year	(mcf)	(10³ gallon)	SO₂ (lb/10⁶ cf)*	SO₂ (lb/10³ gal)**	(tons/month)	(tons per 12-month rolling)
19-Apr	12441	0.287	0.6	0.213	0.0038	0.039
19-May	8890	0.287	0.6	0.213	0.0027	0.040
19-Jun	7160	0.287	0.6	0.213	0.0022	0.040
19-Jul	7816	0.287	0.6	0.213	0.0024	0.040
19-Aug	6766	0.287	0.6	0.213	0.0021	0.040
19-Sep	8655	0.287	0.6	0.213	0.0026	0.041
19-Oct	9209	0.287	0.6	0.213	0.0028	0.040
19-Nov	12652	0.298	0.6	0.213	0.0038	0.040
19-Dec	<u>14000</u>	0.298	0.6	0.213	0.0042	0.039
20-Jan	12204	0.298	0.6	0.213	0.0037	0.038
20-Feb	12543	0.298	0.6	0.213	0.0038	0.038
20-Mar	12253	0.298	0.6	0.213	0.0037	0.038
20-Apr	12839	0.298	0.6	0.213	0.0039	0.038
20-May	9286	0.298	0.6	0.213	0.0028	0.038
20-Jun	7288	0.298	0.6	0.213	0.0022	0.038
20-Jul	5840	0.298	0.6	0.213	0.0018	0.037
20-Aug	7610	0.298	0.6	0.213	0.0023	0.038

Data	Natural gas usage	Fuel Oil Usage	Natural Gas Emission Factors for	Fuel Oil Emission Factors for	SO ₂ Emissions	SO ₂ Emissions
Month-year	(mcf)	(10 ³ gallon)	SO ₂ (lb/10 ⁶ cf)*	SO ₂ (lb/10 ³ gal)**	(tons/month)	(tons per 12-month rolling)
20-Sep	6927	0.298	0.6	0.213	0.0021	0.037
20-Oct	7123	0.298	0.6	0.213	0.0022	0.037
20-Nov	12453	0.408	0.6	0.213	0.0038	0.037
20-Dec	15340	0.408	0.6	0.213	0.0046	0.037
21-Jan	13169	0.408	0.6	0.213	0.0040	0.037
21-Feb	16331	0.408	0.6	0.213	0.0049	0.038
21-Mar	14261	0.408	0.6	0.213	0.0043	0.039
21-Apr	10375	0.408	0.6	0.213	0.0032	0.038
21-May	8985	0.408	0.6	0.213	0.0027	0.038
21-Jun	9219	0.408	0.6	0.213	0.0028	0.039
21-Jul	4385	0.408	0.6	0.213	0.0014	0.038
21-Aug	8074	0.408	0.6	0.213	0.0025	0.038

* AP-42, Tables 1.4-2

** AP-42, Table 1.3-1

Estimated value

The Material Safety Data Sheet (MSDS) for Marathon No. 2 Ultra Low Sulfur Diesel indicate that the sulfur content of the fuel oil is 0.0015% by weight in compliance with PTI 41-15, FGFACILITY, Special Condition (SC) II.1.

Summary:

The facility appeared to be in compliance with all applicable air quality rules and regulations, and PTI 41-15.

NAME Julie L. Brunner

DATE 9/30/2021

SUPERVISOR B.M.