

M4803
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**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection**

M480349313

FACILITY: GSA - Federal Building	SRN / ID: M4803
LOCATION: 985 MICHIGAN AVE, DETROIT	DISTRICT: Detroit
CITY: DETROIT	COUNTY: WAYNE
CONTACT: James Chastine , Director of Engineering	ACTIVITY DATE: 06/13/2019
STAFF: C. Nazaret Sandoval	COMPLIANCE STATUS: Compliance
SUBJECT: FY 2019 - Scheduled Inspection	SOURCE CLASS: SM OPT OUT
RESOLVED COMPLAINTS:	

SRN: M4803

Source: GSA-IRS Building

Location: 985 Michigan Avenue, Detroit MI 48226

Inspection Date: June 13, 2019

Inspector: Nazaret Sandoval, AQD

Contact: James Chastine, Urban Services Group, Director of Engineering
Eric Prince, Urban Services Group, Project Manager

FACILITY BACKGROUND

The GSA-IRS Building Center is a multi-story office building located in downtown Detroit. For several years Walsh Higgins & Company owned the building and the IRS was a tenant. In April 2015 the U.S. General Services Administration (GSA) took ownership of the building and Urban Services Group was hired by GSA to assume the management operations of the building as well as the air permit compliance responsibilities.

Originally, the facility had four (4) boilers and four (4) engine driven generators for emergency electric power. The boilers are natural gas fired with burners designed to fire No. 2 diesel fuel oil as a backup fuel. The boilers generate steam for heating the building. The boilers were built in mid-1993, the start-up date was December 1994 and overall operations started in April 1995. According to the records in AQD files, verified at the site's boiler plate, each boiler has a maximum firing rate of 29,295 MBH (approximately 29.3 Million Btu per Hour).

A letter in AQD files, dated September 22, 2006 from David Mitchell (President-Great Lakes Power) reports that in year 2002 one of the boiler's technician performed maintenance and repairs to the burners in all boilers to restore them to the correct factory standards and settings, so that the actual firing rates of the boilers matched that given on the boiler rating plate.

The emergency generators were installed in April 1995 to supply power to the facility in the event of a power outage. The engines are fired exclusively with diesel fuel. Each generator is rated at 2,500 KVA or 2000 KW power output -per boiler plate information- (equivalent to 19.3 million Btu /hour).

Over the years, the number of active boilers has changed. Boiler No. 4 became inoperative in 2012. A notification received by AQD Detroit District office on June 24, 2014 indicated that the boiler was last used in September 2012 and the disconnection work was completed in February 2013. The city inspector verified/certified the proper disconnection of the equipment in April 2013. According to the notification, due to costly repairs the company decided to permanently shut down Boiler No. 4.

In the last inspection, on February 28, 2018, I verified that all service lines (i.e. steam, gas, and water lines) and power input had been disconnected from Boiler No. 4. Although the boiler was still in the boiler room, it was inoperable. During the inspection of June 13, 2019, I noticed that boiler No.2 was not at the site. I was informed that both boilers, No. 2 and No. 4 were removed from the facility in late 2018. At the writing of this report there are only two boilers in operation, Boiler No. 1 and Boiler No. 3.

The facility has two underground storage tanks (UST) - east and west- for diesel fuel-oil; each tank with a volume of 20,000 gallons. Each generator has its own 300-gallon fuel oil individual tank.

REGULATORY REQUIREMENTS

According to AQD records, a letter dated March 20, 2000 from the Wayne County Air Quality Management Division (WCAQMD) to the former owners of the building (Walsh Higgins & Co.) refers to a permit to install application received by WCAQMD on May 15, 1998. In the letter, WCAQMD informed Walsh Higgins & Co. that the permit application, identified as C-11781-11788, for 4 emergency generators and 4 boilers located at 985 Michigan Avenue, Detroit MI 48226 was voided because the Wayne County Air Permit program had been suspended. Consequently, all the equipment described in the cited permit application was addressed by the Air Quality Division (AQD) under a Permit to Install (PTI) issued on February 15, 2000 under No. 216-98.

Under the state regulations, R 336.1201(1), also thereafter Rule 201(1), of the Michigan Administrative Rules for Air Pollution Control requires a PTI for boilers burning distillate oil alone or if distillate is used a backup fuel to natural gas, if the maximum design heat input capacity of the boiler is more than 20 million Btu per hour, or if the distillate oil contains more than 0.4% sulfur by weight. A PTI is also required when the maximum design heat input capacity of a natural gas only boiler is more than 50 million Btu per hour.

The boilers at the IRS building required a PTI because each boiler has a maximum design heat input capacity of 29.3 million Btu per hour and they use distillate oil as a backup fuel.

With respect to the emergency generator, the requirement of Rule 201(1) to obtain a permit to install does not apply to internal combustion engines that have less than 10,000,000 Btu per hour maximum heat input. Since each generator at the IRS building have a heat input rate of 19.3 MMBtu per hour, a permit was required.

The facility is a Title V opt-out source (synthetic minor) operating under permit PTI 216-98. The permit includes enforceable limits for fuel usage to stay below Prevention of Significant Deterioration (PSD), and a limit for NOx emissions below 100 tons. The potential to emit all other criteria pollutant is below 10 tons, so there are no enforceable limits for them.

The facility is an area source of hazardous air pollutant (HAPs) because it is a stationary source that has a potential to emit less than 10 tons per year of a single HAP and less than 25 tons per year of any combination of HAPs.

The boilers are small boilers in a commercial building meeting the applicability criteria cited on 60.40c of 40 CFR Part 60 Subpart Dc – Standards of Performance for Small Industrial -Commercial -Institutional Steam Generating Units (NSPS Dc):

The boilers are steam generating units for which construction has commenced after June 9, 1989

The maximum design heat input capacity is greater than or equal to 10 million Btu/hour and equal to or less than 100 million Btu/hour.

The AQD is the delegated authority to implement and enforce the standards cited under NSPS Subpart Dc. The specific requirements that apply to the boilers at IRS building are evaluated later in this report.

Existing emergency engines of any brake horse power constructed before June 12, 2006 located at residential, institutional, or commercial area sources of HAPs and not used for local reliability are exempt from the provisions of 40 CFR Part 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (NSPS – CI ICE). However, this type of engines (such as the ones in the IRS building) must meet the following emergency engine operational requirements specified in 40 CFR 63.6640(f) of the National Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE) – Part 63, Subpart ZZZZ (area source MACT- subpart ZZZZ):

- a) unlimited use for emergencies (e.g., power outage, fire, flood)
- b) may operate for 100 hours/year for maintenance/testing
- c) the 50 hours /year of the 100 hours / year allocation can be used for non-emergency situations if no financial

arrangement, or for local reliability as part of a financial arrangement with another entity if specific criteria is met (existing RICE at area sources of HAPs only).

The AQD has not accepted delegation from the EPA to implement and enforce the provisions of the area source MACT in subpart ZZZZ. This federal regulation has not been adopted into the State of Michigan, Air Quality Division, Part 9 rules. Consequently, the emergency generators at the IRS building were not evaluated with respect to the applicable requirements of the area source MACT in subpart ZZZZ. The EPA has the authority to do so.

MAERS – MICHIGAN AIR EMISSIONS REPORTING SYSTEM

Facilities subject to NSPS are Category II sources - subject to air quality fees. In Michigan, beginning in 2007, sources which have natural gas-fired boilers subject to NSPS Subpart Dc have been granted waivers of the air quality fee if they meet all the requirements cited below:

The sources are subject to fees only because of the Subpart Dc boilers

The boilers have a maximum design heat input capacity of 50 million BTU/hr or less.

The boilers are capable of burning only natural gas (no oil backup)

This source complies with the first two above listed criteria to qualify for the fee waiver but uses fuel oil as a back-up fuel. Therefore, based on their status as a Dc source not meeting one the requirements for fee waiver, the facility is subject to an annual fee. The annual fee includes a fix value or facility charge (Category II) plus a monetary charge per ton of billable emissions.

GSA failed to submit the 2018 MAERS report by the due date of March 15, 2019. A dunning letter was sent to GSA on April 4, 2019 reminding them to take action and submit the report. The facility did not take action and consequently AQD issued them a violation notice on 6/11/2019. GSA submitted the report electronically on 6/12/2019. The report was audited by AQD. During the audit a few errors were detected and after revisions were completed AQD re-submitted the report and passed the audit - see MACES report No. M480349230.

COMPLIANCE HISTORY

With the exception of the above cited violation notice which has been resolved, there have been no other compliance issues associated with the operations at the facility. Since the last inspection. AQD have not received any complaints and there are no pending administrative consent orders. However, the inspection conducted in year 2013 found that the facility had problems with the calculations of some of the reported emissions. Specifically, they had problems with the estimated 12-month rolling totals at the end of each month. The AQD inspector provided excel templates with embedded formulas for the calculations and requested the facility to submit revised records. The review was completed and AQD advised the facility to keep the suggested procedures as part of their routine calculations.

INSPECTION NARRATIVE

Due to security requirements in the IRS Building an advance phone call was necessary to schedule the visit. AQD staff arrived at the facility at about 10:00 AM on 6/13/2019. After clearing security, I met with the representatives of Urban Services, Mr. James Chastine and Mr. Eric Prince, who are the contacts for permitting and compliance issues pertaining the air sources of pollutants at the IRS Building.

After the introductions, I explained the purpose of the inspection. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451 and the Air Quality Division Rules and Regulations.

In the opening meeting I asked Urban Services about the status of an issue that was discussed last year when GSA representatives (Mr. Patrick B. Russel and Mr. John Peterson) joined us during the inspection of 2/22/2018. In that meeting we had talked about the transition of responsibilities with respect to the implementation of the

provisions and monitoring/recordkeeping conditions of the permit to install PTI 216-98 due to the change in ownership. I sent a follow up email to the representatives of GSA and Urban Services on 2/28/2018 explaining the procedure on how to submit a formal request to AQD for ownership transfer per Rule 219(1)(a). Three reminders were sent in year 2018 and the subject matter was also included in last year inspection report as a follow up item to be completed by GSA.

As of the day of the inspection (6/13/2019) AQD has not received any documentation/information from the parties involved to resolve the situation. GSA must assign a responsible official to be accountable for signing and certifying the truth, accuracy, and completeness of permit modifications, monitoring and other reports.

Mr. Chastine indicated that Urban Services has not been notified about the resolution of the cited issue but indicated that since the last inspection there have been changes in the utility operations at the building and GSA will need to submit a modification to the current PTI. Therefore, he will bring the ownership issue to the attention of GSA because it must be resolved at the time of the permit application/modification submittal.

The following procedure, to be followed by GSA, was revisited and explained to Urban Service representatives during our meeting:

“A writing request for change of ownership and operational control shall be submitted to the Detroit district supervisor with a copy sent to the AQD in Lansing. Request should include the following information as required by Rule 219(1)(a):

Description of the stationary source, process, or process equipment.

As applicable; a listing of the permits, voluntary agreements, consent orders, or judgments involved in the request.

Identification of the new owner and the specific date for the transfer of responsibility, coverage, and liability.

A written statement from the new owners accepting responsibility for terms of the permit and associated agreements or judgments.”

Our discussions continued with the evaluation of the PTI monitoring and recordkeeping requirements and the federal regulations (NSPS and MACT standards cited earlier in this report) applicable to the boilers and to the emergency generators installed at the IRS building. Natural gas and fuel oil usage records as well as emission calculations were requested for the period from 1/1/2018 to 5/31/2019. I also asked for the generator preventive maintenance logs and hourly meter readings for the last month in 2019.

Monthly and annual records for natural gas and fuel-oil usage, as well as emission calculations were available for review. Some records were handed out and others were sent (in a spreadsheet) via email during the inspection.

The records gathered for this inspection include:

Monthly and 12-month rolling period fuel consumption and NOx emissions calculations. I reviewed and revised some of the data in the spreadsheet submitted electronically by the facility. Please refer to emails dated 6/17/2019 and 6/26/2019 sent to Mr. Eric Prince and Mr. James Chastine.

Sample logs records for fuel oil and natural gas usage - monthly readings for September, October and December of year 2018.

Sample of boiler logs for Boiler No.1 (dates 5/1/2019 to 5/3/2019) and Boiler No. 3 (week of 6/1/2019 to 6/8/2019). The new boiler-log template prepared by Urban Services Group (USG) was used to record gas flow per boiler and operational conditions, every two-hours.

Underground Storage Tank (UST) Metering System printout sample record for June 13, 2019. The record shows the volumes of diesel at the East and West Diesel Tanks.

Safety Data Sheet (SDS) for “Marathon Petroleum No. 2 Low Sulfur Diesel Dyed 500 ppm Sulfur Max” indicating a maximum sulfur content of 0.05 %.

Loading Ticket /Bill of Lading – Diesel delivery on 4/1/2019.

Log records for generators #1 to #4 - operational conditions during generator testing. Sample records for 3/20/2019, 5/2/2019 and 5/22/2019.

Annual inspection and preventive maintenance checklist for the boilers – dated 6/1/2019.

After the initial discussions we toured the areas of the building where the permitted equipment is installed to ensure accounting for any changes. At the time of the walkaround, only two of the permitted boilers (Boilers No. 1 and No. 3) were in operation. The boilers have been fired with natural gas and tested with fuel-oil to verify functionality. Boilers No. 2 and No. 4 were not in the building and I was told that they had been removed from the building in January 2019.

With the "Building Modernization Project", there are big changes occurring at the building in reference to the utility system. Steam generation will be coming from four (4) new and more efficient natural gas boilers. The new boilers are already at the building, but they are not installed yet. The boilers are modular skids equipment that have a smaller footprint than the old boilers. They are in the same floor area that was originally occupied by the two decommissioned boilers No. 2 and No. 4. All four new boilers have the same rated capacity. I took pictures of the boilers and a close-up of the information on the boiler plates. Here is the information I got from there:

AERCO – Benchmark Series

Model: BMK 5000

Fuel: Natural Gas

Rating (Btu / Hr):

Max. Input: 5,000,000

Min. Input: 400,000

Output: 4,700,000

Thermal Eff.: 94% AHRI

Please note that the combined maximum heat input rate of the four new boilers (20 MMBtu per hour) does not reach the maximum heat input of one the old boilers (29.3 MMBtu per hour). Therefore, the facility has to reevaluate permit requirements and submit a modification to the permit for the installation and operation of the new boilers. Based on the type and size of the boilers inspected on 6/13/2019, it is apparent that an exemption from Rule 201(1) could be used for the equipment described above. However, it is the facility's responsibility to choose to utilize an exemption and, if chosen, to maintain the proper documentation to demonstrate the proper application of the exemption to the equipment.

I told the representatives of Urban Services that AQD will wait for their evaluation and submittal in the coming months. They indicated that the boilers will be connected soon.

We left the boiler room and proceeded to the Loading Dock in the Generator Room 1 E104. There were no changes in that room, the four generators are still in the same area with their respective daily tanks. I was told that during the most recent 12-month period the generators have only been operated for readiness testing purposes. All generators must be run under load for 30 minutes at 20% load on the last week of each month. Sample records were collected during the inspection.

Power-failures requiring their usage for emergencies purposes have not occurred.

We met again at the end of the facility tour for a closure meeting where we discussed the pending records and follow up. I left the facility at about 2:00 PM

Some of the requested records were provided as hard copies during the site visit and the emission calculations were in spreadsheets sent via email on the day of the inspection. AQD reviewed the records and provided some comments. Refer to the email dated 6/17/2019 sent to the facility representatives. AQD noted that from February 2016 to May 2019 there were missing records in the column corresponding to the Natural Gas Usage. Consequently, the 12-month rolling was incorrectly calculated. I revised the spreadsheet and incorporated the formula again in the cited cells. Also, the emission factor used by the facility to estimate the NOx emissions from

the boilers when using diesel was entered incorrectly. They used 0.2 lbs of NOx per gallon, instead of 0.02 lbs of NOx per gallon.

AQD assumes that the recorded values in the excel forms are consistent with the information in the logs. AQD did not verify if the natural gas and diesel usage records on the monitoring logs match the monthly entries that were recorded in the spreadsheet.

In summary, although the facility continues monitoring and keeping monthly records for fuel-oil and natural gas usage and calculating monthly emissions, the 12-month rolling values still showed a few errors. Therefore, I provided a revised excel-forms to Mr. Chastine and Mr. Prince (via email on 6/26/2019). The revised sheet shows the monthly natural gas and fuel-oil consumption records collected by the facility from January 2015 to May 2019, as well as the 12-month rolling fuel usage and emissions calculations. Summary tables with the final records are saved with the inspection report in AQD facility files.

COMPLIANCE EVALUATION

NSPS Subpart Dc – Applicable Requirements

This section of the report examines the portion of Subpart Dc that applies to the boilers at IRS building which burn distillate oil as a back up to natural gas.

Distillate oil is defined in Subpart Dc (60.41c) as fuel oil numbers 1 and 2, per ASTM D396-78. According to this definition, distillate oil contains a maximum of 0.5 % percent sulfur by weight.

Standard for sulfur dioxide (SO₂) – 60.42c – Partial Compliance

Section 60.42c of NSPS Subpart Dc regulates the amount of SO₂ that may be emitted. Compliance with the SO₂ standard for boilers that combust distillate oil may be demonstrated using one of the following options cited under 60.42c(d):

- Demonstrate that actual SO₂ emissions are less than or equal to 0.50 pounds of SO₂ per million Btu heat input, or
- Demonstrate that the fuel sulfur content is less than or equal to 0.5 percent by weight.

Fuel supplier certification is required under 60.42c(h)(1) for distillate oil-fired facilities with heat input between 10 and 100 MMBtu/hr. This section of the regulation indicates that for each shipment of distillate oil received from the supplier, the fuel supplier should provide a certification to demonstrate that the sulfur content of the oil is below the limit. Fuel supplier certification for distillate oil must be maintained for at least two years (per NSPS Dc) and made it available to AQD upon request. The certification must include the information listed under 60.48c(f)(1) - described later in this report.

Evaluation:

60.42c(d) – In Compliance

This facility elected to demonstrate compliance with the standards for SO₂ based on the sulfur content in the fuel oil used for combustion in the boilers, which is the alternative option described under 60.42c(d). The boilers combust "Marathon Petroleum No. 2 Low Sulfur Diesel Dyed 500 ppm Sulfur Max" as a backup fuel. The SDS for this product which was provided during initial notification in 2006 confirms a maximum 0.05 weight percent sulfur. A revised SDS dated 6/1/2016 is attached to this report.

60.42c(h)(1) – Compliance

The facility has failed to provide recent fuel supplier certification records for the shipments of diesel received from the supplier. There is a record in AQD's files of product certification for shipments received from the supplier on 7/11/2006. A fax from Charles White (D& W Oil Co) sent to Darryl Snabes (GSA) was forwarded to AQD. The fax cover indicated that a shipment of 10,000 gallons of fuel oil was scheduled for delivery to the facility on July 14, 2006.

During the inspection of 6/13/2019 AQD requested fuel oil certification/fuel delivery records. The information

provided was a Loading Ticket/ Bill of Lading that indicates a delivery of diesel, with DOT Shipping Name identified as: NA 1993, Diesel Fuel, 3, PGIII, for a total quantity of 9400 gallons (one cargo tank). The load was delivered on 4/1/2019.

Standard for Particulate Matter (PM) – 60.43c – Not Applicable

Federal enforceable limits for PM and standards for opacity performance testing are regulated under 60.43c. Section 60.43c(c) applies to boilers that combust coal, wood or oil; however, the opacity standard only applies to boilers with heat input capacities between 30 and 100 million Btu/hour. The boilers at the IRS building have maximum heat input capacities of 29.3 million Btu/hour.

Performance Tests Methods and Monitoring for SO2 and PM – 60.44c to 60.47c:

The following provisions cited under sections 60.44c to 60.47c apply to the boilers at the IRS building:

60.44c(h) – Compliance

This section of the regulation applies to affected facilities that chose to demonstrate compliance with the SO2 standards based on fuel supplier certification. The performance test shall consist of the certification from the fuel supplier, as described in §60.48c(f), as applicable.

The facility has not submitted the required fuel certification from the supplier of the diesel fuel since 2006 (for details see 60.42c(h)(1) above). However, the Diesel Safety Data Sheets (SDS) from Marathon has been accepted as an alternative for compliance with fuel certification.

60.45c – Not Applicable

The boilers are not subject to performance tests described in this section for particulate matter because they are not subject to standard for particulate matter of section 60.43c

60.46c(e) – Not Applicable

According to this section, affected facilities that chose to demonstrate compliance with the SO2 emissions standards based on fuel supplier certification are not subject to emission limits or monitoring requirements for SO2. Such is the case of the boilers at the IRS building.

60.47c – Not Applicable

The boilers are not subject to opacity standards or emissions monitoring for PM because they are covered under the exception cited in 60.47c(c), which allows owners and operators of affected facilities that burn only distillate oil that contains no more than 0.5 weight percent sulfur to follow the fuel supplier certification requirements in 60.48c(f).

Reporting and recordkeeping requirements - 60.48c – Substantial Compliance

The following requirements cited under section 60.48c are applicable to the IRS boilers:

60.48c(a)(1) – In Compliance

Per section 60.48c(a)(1) an initial notification must be submitted to AQD. The notification shall include the date of construction or reconstruction of the boilers, the actual startup date, the design heat input capacity of the boilers, and identification of fuels to be combusted in the boilers. The other requirements of section 60.48c(a) do not apply.

The information required by this section of Subpart Dc was provided by the facility in various documents submitted to the former Wayne County Department of Environment (WCDE) or to AQD during the permit process application in 1998. A letter dated May 12, 1998 from Michael Sadowski (Walsh Higgins's Property Manager)

acknowledges that the boilers at the facility are subject to the NSPS Subpart Dc regulations. The letter indicated an initial construction in mid-1993, the start-up in December 1994 and full operation in April 1995. In addition, the technical information for the boilers was provided as part of the "equipment list and operational data" submitted by Michael Sadowski with the permit application packet dated May 15, 1998. According to the information in file, the facility has four identical boilers manufactured by Kewanee (serial numbers were provided for each boiler) using natural gas as primary fuel and low sulfur fuel-oil No. 2 as back-up fuel. The maximum firing rate for each boiler is 29,295 MBH -as it is marked on the boiler plate-

60.48c(d), 60.48c(e)(1) and 60.48c(e)(11) and 60.48c(j) – Partial Compliance

Section 60.48c(d) requires the source to submit reports to AQD. The reports shall include the following information from 60.48c(e), as applicable:

Per 60.48c(e)(1), the calendar dates covering in the reporting period. For example, from July 1, 2006 to December 31, 2006.

Per 60.48c(e)(11), the records of fuel supplier certifications and a certified statement signed by the owner or operator of the facility indicating that the records of fuel supplier certifications submitted represent all the fuel combusted during the reporting period.

According to 60.48c(j), the reporting period for the reports required under this subpart is each six-month period. Reports shall be submitted to AQD and shall be postmarked by the 30th day following the end of the reporting period.

The reports as described above have not been submitted to AQD.

60.48c(f)(1) – In Compliance

Per 60.48c(f)(1), the fuel supplier certification shall include the following information:

- 1) The name of the oil supplier.
- 2) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 60.41c.
- 3) The sulfur content or maximum sulfur content of the oil.

AQD is accepting the SDS for "Marathon Petroleum No. 2 Low Sulfur Diesel Dyed 500 ppm Sulfur Max" to satisfy this requirement.

60.48c(g) – In Compliance

Paragraph (g)(1) of section 60.48c requires the owner or operator of each affected facility to record and maintain records of the amount of each fuel combusted during each operating day.

Paragraphs (g)(2) and (g)(3) of section 60.48c offer alternatives to meeting the requirements of paragraph (g)(1), as follows:

60.48c(g)(2) - the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in 60.48c(f) to demonstrate compliance with the SO₂ standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

60.48c(g)(3) - the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in 60.42c to use fuel certification to demonstrate compliance with the SO₂ standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

Currently, the facility is recording and maintaining records of the total amount of each fuel (distillate-oil and natural gas) that is delivered to the property during each calendar month. Thus, the facility is using the alternative described in section 60.42c(g)(3).

60.48c(i) – Partial Compliance

All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

The fuel records are maintained for more than two years but not all the fuel supplier certification records were available.

Exempt Equipment

The underground 20,000-gallon tanks - east and west - used for the storage of diesel fuel are exempt pursuant to R 336.1284 (2)(d) which states (in part) that the requirement of Rule 201(1) to obtain a permit to install does not apply to containers, reservoirs, or tanks used exclusively for the storage of no. 1 to no. 6 fuel oils as specified in ASTM D396.

PTI 216-98 – Evaluation of Special Conditions

Records for the period from January 2015 to May 2019 were used to evaluate compliance with the monitoring and recordkeeping requirements of PTI 216-98.

For practical purposes the special conditions of the PTI 216-98 are in some cases paraphrased:

1. Not Applicable - This condition refers to the submittal of records, notifications or request for approval to Wayne County. The AQD is the regulatory authority.

2. In Compliance - The total combined nitrogen oxide emissions as nitrogen dioxide (NO_x) from the boilers and emergency generators while burning natural gas and No. 2 fuel oil shall not exceed 78.1 tons per year (TPY) on a 12-month rolling time period as determined at the end of each calendar month.

The highest 12-month rolling for the evaluated period was 1.224 TPY, reported for the 12-month period ending September 2016. The NO_x emissions were calculated based on the emissions factors cited on PTI 216-98; 0.02 pounds of NO_x per gallon of No. 2 fuel oil usage in boilers, 0.87 pounds of NO_x per gallon of No. 2 fuel oil usage in generators and 140 pounds of NO_x per million cubic feet of natural gas.

3. In Compliance – The facility shall not operate these boilers unless all the applicable provisions of the federal requirements of 40 CFR, Part 60, Subpart Dc are met.

This condition was evaluated in detail under “NSPS Subpart Dc – Applicable Requirements”. The facility is compliance with all the applicable requirements except for the reporting requirements described under 60.48c(d) which are related to the fuel oil certification for shipments received from the supplier. The frequency of reporting is described under 60.48c(f). The last record in our files is dated 7/11/2006. Regardless the frequency of fuel delivery, the facility shall submit the reports to AQD every six-month period. However, during the inspection I was informed about the last delivery of diesel, which occurred on 4/1/2019.

4. In Compliance - The facility shall burn only natural gas or virgin No. 2 fuel oil in Boilers 1, 2, 3 or 4. The diesel generators 1, 2, 3 or 4 shall only burn virgin No. 2 fuel oil. This permit condition defines a fuel oil as a product originated from a petroleum refinery not adulterated by the addition of any amount of used oils, off-specification oils, waste oils, recycled oils, or hazardous substances.

The facility uses Red-Dyed Fuel Oil No. 2 from Marathon Petroleum. The SDS from Marathon includes the composition and specs for the fuel. Samples of the fuel oil in the tanks were not taken during the inspection, but to the best of our knowledge the fuel oil has not been adulterated.

5, 6, and 7 – Not evaluated - Facility estimates pounds per year of NO_x

The permit sets NOx emission rates limit for each equipment, as follows:

Fuel	Each Boiler	Each Generator
Firing Natural Gas	4.1 pound per hour	
Firing Fuel Oil No. 2	4.1 pound per hour	120.1 pound per hour

These short-term limits were not evaluated during this inspection. Stack test information is not available, and testing has not been requested by AQD.

8. In Compliance - The total virgin No. 2 fuel oil usage in all the boilers and generators does not exceed the permit limit of 1,100,000 gallons per year. The total combined virgin No.2 oil usage in all emergency generators does not exceed 100,000 gallons per year. Both totals are based on a 12-month rolling time period as determined at the end of each calendar month.

The highest 12-month rolling total fuel oil burned at the facility was 2,603 gallons, reported for the 12-month period ending September 2016. Please note that the cited record represents the total fuel oil burned at the facility assuming that all the fuel oil is burned by the emergency generators. It appears as if the facility has not maintained separate records of the fuel-oil burned in the boilers or they have not been tracked consistently over the years. In the last couple of years, the facility started tracking fuel oil burned in the boilers, in a more consistent manner; however, I noticed that the amount of 1,238 gallons, reported for December 2018, is too high when it is compared with the amounts reported for the rest of the months in previous years. It is unclear if there is a reasoning behind the "unexpected high" recorded value; this need to be clarified in future inspections.

Nevertheless, the estimated NOx is a conservative approach in terms of the estimated pollutants. The estimated NOx emissions assuming all fuel oil from the storage tanks is burned in the generators are higher than the emissions calculated if a portion of the fuel oil stored in the tanks is being burned in the boilers.

9. In Compliance - The total combined natural gas usage in all the boilers shall not exceed 350.4 million cubic feet per year based on a 12-month rolling time period as determined at the end of each calendar month.

The highest total combined natural gas usage in all the boilers was 2.144 million cubic feet reported for the 12-month period ending December 2015. However, that amount might be lower than estimated. Based on the range of the monthly natural gas usage (i.e. 90,000 to 127,000 CF per month), AQD suspects that likely the amount of natural gas recorded for the month of July 2015 is incorrect. It should read 0.0973 MMCF, and not 0.973 MMCF as reported. AQD did not make any corrections to the records.

10. In Compliance - The sulfur content of the virgin No. 2 fuel oil as combusted in the boilers shall not exceed 0.1 percent by weight. The facility shall obtain and record the sulfur content of each shipment of the fuel oil as received in a manner and with test methods acceptable to AQD. All data shall be kept on file for a period of at least five years and made available to AQD upon request. This condition is necessary to assure compliance with the emission limits for sulfur dioxide which have been established pursuant to Wayne County Ordinance, Section 6, Rule 6010.

The SDS from Marathon Petroleum reports the usage of Fuel Oil No. 2 Low Sulfur Diesel Dyed with a maximum sulfur contain of 500 ppm (0.05 percent weight) which is below the 0.1 percent required by permit limits. The facility has failed to obtain and record the sulfur content for each shipment of the fuel oil as received; but AQD has accepted the SDS information for compliance purposes.

11. In Compliance - According to this condition the facility shall monitor and record the monthly natural gas burned in each boiler and the monthly No. 2 fuel oil burned at the facility in each of the boilers in a manner and with instrumentation acceptable to AQD. All such records including the 12-month rolling time period of fuel usage calculations shall be kept on file for the most recent five-year period and be made available to the Division upon request.

Based on the samples of boiler-logs that were collected during this inspection, the operators use a daily log to record the natural gas used at each boiler in a two-hour interval. However, they also keep daily records in CCF of the total natural gas from the main distribution line entering the facility, which is monitored by the main gas meter (totalizer). This total is used for the estimated monthly and 12-month rolling time natural gas usage in the boilers and the NOx emissions estimate.

The records of natural gas usage are available for the required five-year period.

Fuel-oil records for the amount used in the boilers has been recorded more recently.

In conclusion, at this time, AQD accepted the alternative monitoring described in section 60.42c(g)(3) of the NSPS Subpart Dc. and the facility is recording and maintaining records of the total amount of each fuel (distillate-oil and natural gas) that is delivered to the property during each calendar month.

12. In Compliance – The facility shall monitor and record the monthly No. 2 fuel oil burned at the facility for all the generators combined in a manner and with instrumentation acceptable to AQD. All such records including the 12-month rolling time period of fuel usage calculations shall be kept on file for the most recent five-year period and be made available to the AQD upon request.

The facility uses the TLS-350 Veeder-Root system to monitor the amount of fuel oil stored in the underground east and west storage tanks (UST). This UST monitoring system is a diesel fuel level and leak detection system that tracks the gallons of fuel oil used monthly. The highest monthly fuel oil usage was 1,121 gallons recorded for October 2015 and the highest 12-month rolling was 2,603 gallons per year recorded at the end of September 2016

13. In Compliance - The facility estimates and records the total combined NOx emissions from all the sources in a manner acceptable to AQD. All such records including the 12-month rolling time period of NOx emission calculations are kept on file for the most recent five-year period and were available to the AQD when requested. Records from 2015 to 2019 were provided to AQD.

14. In Compliance - The exhaust gases from the boilers shall be discharged unobstructed vertically upwards to the ambient air from stacks with the configurations cited in the permit.

Since the permit was issued, there have been no changes to the configuration, diameters or heights of the stacks.

FINAL COMPLIANCE DETERMINATION AND FOLLOW UP ITEMS

The facility appears to be in substantial compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451 and with the provisions and requirements of the permit to install No. 216-98.

The following items need improvement or immediate action

1. Implement quality control to assure that the records and calculations sheets are carefully reviewed to minimize omissions and/or human errors.
2. Fuel supplier certifications reports shall be submitted to AQD each six-month period in accordance with 60.48c (d) of NSPS Subpart Dc. Reports shall be postmarked by the 30th day following the end of the reporting period.
3. A writing request for change of ownership and operational control shall be submitted to the Detroit district supervisor with a copy sent to the AQD in Lansing. Request should include the following information as required by Rule 219(1)(a):
 - Description of the stationary source, process, or process equipment.
 - As applicable; a listing of the permits, voluntary agreements, consent orders, or judgments involved in the request.
 - Identification of the new owner and the specific date for the transfer of responsibility, coverage, and liability.
 - A written statement from the new owners accepting responsibility for terms of the permit and associated agreements or judgments.

AQD will follow up with the facility to ensure that the action items listed above are implemented.

NAME Chamondral

DATE 10/11/2019

SUPERVISOR JK