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

B281154659

FACILITY: DTE Electric Company - Trenton Channel Power Plant		**SRN / ID:** B2811
LOCATION: 4695 W JEFFERSON AVE, TRENTON		**DISTRICT:** Detroit
CITY: TRENTON		**COUNTY:** WAYNE
CONTACT: Austin Sash , Environmental Engineer		**ACTIVITY DATE:** 08/19/2020
STAFF: Jonathan Lamb	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Scheduled inspection, FY 2020		
RESOLVED COMPLAINTS:		

INSPECTED BY: Jonathan Lamb, EGLE-AQD
PERSONNEL PRESENT: Austin Sash, Environmental Engineer
CONTACT PHONE NUMBER: 734-362-2237 (DTE Trenton Channel Environmental Office)

FACILITY BACKGROUND:

DTE Electric Company, Trenton Channel Power Plant (DTE Trenton Channel), is a coal-fired electrical generating plant located along the Detroit River in Trenton, Michigan. The facility was originally constructed in 1924; the only active electric generating unit (EGU) currently at the facility is Unit 9, which was constructed in 1965. Unit 9 consists of one boiler and two turbines.

DTE Trenton Channel is a New Source Review major source for carbon monoxide (CO), nitrogen oxides (NOx), sulfur dioxide (SO_2), and particulate matter (PM). The source is also a Clean Air Act Section 112 major source for Hazardous Air Pollutants (HAPs), primarily due to emissions of hydrogen chloride (HCl). Therefore, the source is subject to the Title V program. Unit 9 is also subject to the MACT standards at 40 CFR 63, Subpart UUUUU, and Unit 9 and its electrostatic precipitator (ESP) control is subject to the federal Compliance Assurance Monitoring (CAM) regulation at 40 CFR 64. The auxiliary boilers are subject to 40 CFR Part 63, Subpart DDDDD and 40 CFR Part 60, Subpart Dc. The diesel Slocum peaker units and emergency generators at the site are subject to the MACT standards at 40 CFR 63, Subpart ZZZZ.

COMPLAINT/COMPLIANCE HISTORY:

DTE Trenton Channel was issued a Finding of Violation by U.S. EPA on September 12, 2018, for an exceedance of the MATS Hg limit for the time period March 3 through March 12, 2018. To resolve the violation, the facility entered into Administrative Consent Order EPA-5-19-113(a)-MI-2 on June 28, 2019, which requires the facility to follow an Elevated Mercury Emissions Response Plan and submit semi-annual reports of compliance status relating to Subpart UUUUU. Compliance with the Order is determined by U.S. EPA.

DTE Trenton Channel was issued a Violation Notice on November 21, 2017, for failure to perform testing to verify that the maximum heat release capacity of each auxiliary boiler does not exceed 99.9 MMBtu/hour at maximum steam production rate within 180 days of initial startup. To resolve the violation, the facility performed the required testing on November 22, 2017 (Boiler 23) and November 29, 2017 (Boiler 21 and Boiler 22). During testing, it was determined that Boiler 22 exceeded the maximum heat input capacity of 99.9 MMBtu/hour due to an actual higher Btu value of the natural gas consumed during testing (1052 Btu/scf) than what was used during permitting (1020 Btu/scf). Boiler 22 was modified on December 27, 2017 to restrict the gas flow to the boiler to keep maximum heat release capacity below 99.9 MMBtu/hour. The boiler was retested on January 10, 2018 and demonstrated a maximum heat release capacity of 99.1 MMBtu/hour to show compliance. Boiler 21 (94.5 MMBtu/hour) and Boiler 23 (97.4 MMBtu/hour) demonstrated compliance during the initial testing.

On July 24, 2009, and again on March 13, 2013, U.S. EPA Region 5 issued a Notice of Violation and Finding of Violation (NOV/FOV) to DTE Energy for the Trenton Channel, Monroe, St. Clair, River Rouge, and Belle River power plants. EPA cites violations of Rule 301, major New Source Review, NSPS Da, and Title V at the Trenton Channel power plant. The violations were resolved with Consent Decree 2:10-cv-13101-BAF-RSW, filed on March 14, 2020.

PROCESS DESCRIPTION AND EQUIPMENT:

Most coal used at the facility is delivered via rail and is unloaded at the Rail Car Dumper, located on the west side of West Jefferson, across the street from the power plant. To unload the coal, each railcar goes in the enclosed coal dumper and is flipped, dumping the coal from the railcar into the coal feeder bin. This process is controlled by a baghouse. The coal then transported over West Jefferson via an enclosed conveyor to the coal storage piles, which are segregated based on type of coal. During this transfer, the conveyor crane is adjusted to minimize drop height to reduce fugitive emissions; water sprays installed near the end of the conveyor are also used to reduce fugitive dust. Some coal (mostly eastern coal) is also delivered via freighter from the Detroit River; water sprayers are used to control fugitive emissions during unloading. Water trucks are also used to spray down unpaved lots and traffic areas to control fugitive dust.

The coal storage piles sit on top of grates, which allow the coal to drop to below-ground conveyors which carry the coal to bunkers inside the plant. Coal from the bunkers is fed into the coal mill feeder, which drops the coal into coal mills, which pulverize the coal to size 50 mesh. There are six coal mills for Unit 9. The pulverized coal is then fed into the boiler using exhaust fans to be burned as fuel. At present time, the boiler mainly uses 100% western subbituminous coal during normal operation, though a blend of western subbituminous and eastern bituminous coal, usually at a ratio of roughly 85% western/15% eastern coal, may be used at times of peak loading. This ratio may vary depending on the market price of coal, coal availability, or to meet regulatory emission limits. Fuel oil is used to fire the boiler during startup; the facility uses an ultra-low sulfur No. 2 diesel fuel.

The pulverized coal is fed into Boiler 9A, which is a 520 MW, tangentially-fired boiler. As the boiler burns the fuel and creates heat, the unit generates steam which is piped to two turbines to produce electricity for the grid; Boiler 9A and the turbines are known collectively as Unit 9. Emissions from the boiler are controlled by an electrostatic precipitator (ESP) to remove particulate. In addition, a dry sorbent injection (DSI) and activated carbon injection (ACI) system was installed in April 2016 to achieve MATS compliance required in Subpart UUUUU. The DSI/ACI system is injected upstream of the ESP. The DSI uses trona (a sodium carbonate compound) to reduce HCl emissions and the ACI uses activated carbon to control mercury emissions. The trona and activated carbon are delivered via pneumatic truck, which pumps the materials into the storage silos. There are two 200-ton DSI silos (each marked with a white stripe) and one 150-ton ACI silo (marked with a black stripe).

All emissions from the ESP are exhausted through a 587-foot stack and are monitored using a continuous emission monitoring system (CEMS) and a continuous opacity monitoring system (COMS) to monitor and record emissions and opacity. Particulate wastes from the burning of coal include bottom ash, which is a heavier material that collects at the bottom of the boiler, and fly ash, which is a lighter material that is collected in the ESP. There are three bottom ash storage silos and one fly ash silo; material from the bottom ash and fly ash silos are loaded into trucks and disposed of at DTE's Sibley Quarry in Riverview. Some of the fly ash may also be used in cement manufacturing.

Boiler 9A has operated sporadically for the past two years. At the time of inspection, Boiler 9A was in an unplanned outage due to a boiler tube leak for the past two weeks, so Boiler 9A was not operating during the inspection. Boiler 9A is currently scheduled to be permanently idled by May 2022.

Three natural gas-fired auxiliary boilers (Boiler 21, Boiler 22, and Boiler 23) with oxygen trim and a heat input capacity of 10-100 MMBtu/hour were installed in October 2016 and put into operation on December 7, 2016 (Boiler 22) and December 29, 2016 (Boiler 21 and Boiler 23). Steam produced by these auxiliary boilers is piped to Solutia and is also used on site to heat the buildings. The boilers are subject to 40 CFR Part 63, Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters and 40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. During the inspection, Boiler 22 was in operation and Boilers 21 and 23 were idle.

There are five 2.75 MW Slocum peaker units, which are used to create electricity during times of high consumer demand. The peakers are fueled by ultra-low sulfur No. 2 fuel oil and are operated infrequently; the

peakers only operated more than 10 hours total in two months during the compliance period: 18.3 hours in September 2018 and 117.9 hours in July 2020; the peakers were idle most months. The Slocum peakers are subject to 40 CFR Part 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. Since the peakers are limited to under 100 hours of operation per year, the peakers are designated as "limited use stationary RICE".

The High Side Boilers (Boilers 16 through 19) were permanently idled in April 2016.

APPLICABLE RULES/ PERMIT CONDITIONS:
Trenton Channel was issued ROP No. 199600204 on September 22, 2003, with a revision issued June 1, 2004; the application is currently going through renewal. However, Trenton Channel has been issued four PTIs which have since superseded many of the conditions listed in ROP No. 199600204, Section 1. As such, the conditions of the following PTIs were evaluated in determining compliance during this FCE, in addition to the conditions of ROP No. 199600204 which remain applicable:

- PTI No. 139-19, issued September 10, 2019, and revised on February 28, 2020, for Unit 9.
- PTI No. 227-15A, issued November 10, 2016, for the installation of up to five natural gas-fired auxiliary boilers with a heat input capacity between 10-100 MMBtu//hr.
- PTI No. 178-14, issued February 4, 2015, for installation of a MATS compliance project, including the DSI and ACI sorbent injection systems.
- PTI No. 151-18, issued on May 22, 2019, for a refined coal project. This project had not yet commenced operation, so this permit was not evaluated during this inspection. Per Austin Sash, DTE Trenton Channel Environmental Engineer, it is unlikely that the facility will ever start the project prior to the facility idling Boiler 9A.

Section 2 of ROP No. 199600204 covers the Slocum peaker units.

Records from September 2018 through July 2020 were reviewed in determining compliance for this inspection. Most of these records can be found in the orange facility file.

PTI No. 139-19, Special Conditions:

EU-BOILER_9A – Boiler 9A, a tangentially-fired boiler with 520 MW nameplate capacity.

I. EMISSION LIMITS

Pollutant	Limit	Actual Emissions	Compliance Status
1. SO_2	90.78 tons per calendar day	Highest daily total SO_2 emissions was 54.6 tons on February 28, 2019. The higher daily total SO_2 in 2020 was 36.1 tons on July 8, 2020.	IN COMPLIANCE
2. SO_2	23,841 tons per 12-month rolling time period	Highest 12-month rolling total SO_2 was 4,261.8 tons for the 12-month rolling time period ending October 2018. 12-month rolling total through July 2020 was 1,619.4 tons.	IN COMPLIANCE
3. SO_2	5,907 pph per 720-clock hour rolling average, as determined at the end of each calendar day	Highest hourly average was 4,530.5 pph for the 720-clock hour rolling average ending June 21, 2019. The highest 720-clock hour rolling average in 2020 was 3,054.3 pph on July 8, 2020.	IN COMPLIANCE

4. PM	0.15 pounds per 1000 pounds exhaust gases on a wet basis, corrected to 50% excess air	0.016 pounds per 1000 pounds exhaust gas on a wet basis, corrected to 50% excess air.*	IN COMPLIANCE

*Based on testing of PM emission rates performed on August 18, 2008.

II. MATERIAL LIMITS
1. IN COMPLIANCE. Monthly average sulfur content of coal did not exceed the permit limit of 0.83 lb/MMBtu as fired to EU-BOILER_9A. The highest monthly average sulfur content during the compliance period was 0.76 lb/MMBtu in July 2020. Facility uses continuous emission monitors (CEM) and associated data acquisition and handling system (DAHS) to demonstrate compliance with this condition.
2. IN COMPLIANCE. The facility uses ultra-low sulfur No. 1 diesel, which has a sulfur content of 0.0015 percent by weight (15 ppm), in EU-BOILER_9A, which is below the permit limit of 0.3 percent sulfur by weight.

III. PROCESS/OPERATIONAL RESTRICTIONS
1. IN COMPLIANCE. The only fuels burned in EU-BOILER_9A are coal and ultra-low sulfur No. 1 diesel fuel.
2. IN COMPLIANCE. EU-BOILER_9A is equipped with low NOx burners, which are properly installed, operated, and maintained.
3. IN COMPLIANCE. EU-BOILER_9A is operated with the ESP installed and operating properly. Proper operation of the ESP is demonstrated through review of the COMS data and inspection and maintenance records for the ESP.
4. IN COMPLIANCE. Facility maintains and implements a malfunction abatement plan (MAP) for EU-BOILER_9A which addresses the Low NOx Burners and ESP.
5. IN COMPLIANCE. The facility follows the Elevated Mercury Emissions Response Plan, as approved in U.S. EPA Administrative Consent Order EPA-5-19-113(a)-MI-2, issued on June 28, 2019. The facility is required to continue to follow and maintain the plan after termination of the Consent Order.

IV. DESIGN/EQUIPMENT PARAMETERS
1. IN COMPLIANCE. ESP design specifications meet the permit requirements.
2. IN COMPLIANCE. Each transformer-rectifier set of the ESP is capable of operating at the optimum spark-limited mode and meters and displays the primary RMS voltage and amperage, the average secondary amperage, and average spark rate. DTE staff monitors these parameters to make sure all the transformers are operating properly.

V. TESTING/SAMPLING
1. NOT EVALAUATED. Facility has until April 29, 2021, to verify the particulate emission rate from EU-BOILER_9A by testing. The most recent testing for PM emission rates was performed on August 18, 2008, which showed a PM emission rate of 0.016 lb/1000 lb exhaust gas on a wet basis, corrected to 50% excess air, in compliance with the permit limit of 0.15 lb/1000 lb exhaust gas on a wet basis, corrected to 50% excess air.

VI. MONITORING/RECORDKEEPIING
1. IN COMPLIANCE. Facility monitors and records the sulfur dioxide, nitrogen oxide, stack gas flow, carbon dioxide, and opacity on a continuous basis in EU-BOILER_9A in accordance with the monitoring requirements of 40 CFR Part 75.
2. IN COMPLIANCE. Facility maintains records of fuel oil specifications of the fuel oil burned in EU-BOILER_9A. The amount of fuel oil combusted in EU-BOILER_9A is maintained on a calendar day basis.
3. IN COMPLIANCE. Facility maintains records of the sulfur content, amount, and type of coal as it is fired in EU-BOILER_9A.
4. IN COMPLIANCE. Facility maintains a quality assurance and quality control program as described in 40 CFR Part 75 for the continuous monitoring devices installed.
5. IN COMPLIANCE. Facility monitors and records SO_2 emissions and exhaust gas flow in accordance with 40 CFR Part 75. SO_2 emissions are monitored using a CEMS.
6. IN COMPLIANCE. Facility maintains a record of all actions taken to comply with the Elevated Mercury Emissions Response Plan, as required by EU-BOILER_9A, S.C. III.5.

VII. REPORTING
1. IN COMPLIANCE. Facility submits a written report to AQD for each calendar quarter which includes days of operation and average daily sulfur dioxide emission rates.
2. IN COMPLIANCE. Facility submits a written report to AQD for each calendar quarter which includes the information required in this condition to demonstrate proper operation of the COMS.
3. IN COMPLIANCE. Facility submits excess emission and summary reports to AQD on a quarterly basis which includes any SO_2 exceedances and CEMS downtime, if applicable. During the compliance period, the facility did not report any exceedances of SO_2 limits. CEMS downtime is reviewed by AQD-Technical Programs Unit and all quarterly reports during the compliance period were determined to be acceptable upon review.

VIII. STACK/VENT RESTRICTIONS
1. IN COMPLIANCE. According to facility documentation, stack SV0007 appears to meet permit specifications.

IX. OTHER REQUIREMENTS
1 and 2. NOT EVALUATED. Compliance with the acid rain permitting provisions of 40 CFR Part 72.1 to 72.94, as outlined in the Phase II Acid Rain Permit and incorporated in ROP No. 199600204 as Appendix 9, is evaluated by the U.S. EPA.
3. NOT EVALUATED. Compliance with the NOx Budget Trading permitting provisions of 40 CFR Part 96.1 to 96.88, as outlined in the NOx Budget Trading permit as issued by AQD, is evaluated by the U.S. EPA.
4. IN COMPLIANCE. The facility is determined to be in compliance with the applicable provisions of the National Emission Standards for Hazardous Air Pollutants as set forth in 40 CFR Part 63 Subparts A and UUUUU for EU-BOILER_9A. Please see compliance evaluation for PTI No. 178-14, S.C. 1.3a for further detail.

PTI No. 227-15A, Special Conditions:

FG-AUXBOILERS-S1 – Three (3) natural gas-fired boilers subject to 40 CFR Part 63, Subpart DDDDD with heat inputs between 10-100 MMBtu/hour. Boilers are equipped with oxygen trim systems, low NOx burners, and flue gas recirculation. Note: Facility was originally permitted for five boilers, but only three boilers were installed. These boilers are designated as EU-TCHAUX1-S1 (Boiler 21), EU-TCHAUX2-S1 (Boiler 22) and EU-TCHAUX3-S1 (Boiler 23). EU-TCHAUX4-S1 and EU-TCHAUX5-S1, listed in the emission unit summary table, were not installed and since installation was not commenced within 18 months of permit issuance, these emission units cannot be installed under this permit.

I. EMISSION LIMITS

Boiler	NOx Emission Rate	Permit Limit	Compliance Status
1. EU-TCHAUX1-S1 (Boiler 21)	2.38 lb/hr*	6.99 lb/hr	IN COMPLIANCE
1. EU-TCHAUX2-S1 (Boiler 22)	2.40 lb/hr*	6.99 lb/hr	IN COMPLIANCE
1. EU-TCHAUX3-S1 (Boiler 23)	2.13 lb/hr*	6.99 lb/hr	IN COMPLIANCE

*Based on testing performed on August 21-23, 2019.

II. MATERIAL LIMITS
1. IN COMPLIANCE. The total natural gas consumed in FG-AUXBOILERS-S1 did not exceed the 12-month rolling limit of 2,573.8 MMSCF. The highest 12-month total natural gas consumed during the compliance period was 379.9 MMSCF for the 12-month rolling time period August 2019 through July 2020.
2. IN COMPLIANCE. This condition limits the natural gas usage to 97,941 scf/hour per boiler based on a natural gas higher heating value of 1,020 Btu/scf to keep the maximum heat release capacity of each boiler under 99.9 MMBtu/hour and demonstrate compliance with 40 CFR 60, Subpart Dc. However, based on the highest actual higher heating value (1,053 Btu/scf) of natural gas consumed during the compliance period, the hourly natural gas limit required to keep each boiler under 99.9 MMBtu/hour and demonstrate Subpart Dc compliance is 94,872 scf/hour. Due to the large amount of data, a cursory review of hourly gas usage records

was performed to determine compliance with the natural gas usage limit of 94,872 scf/hour per boiler and no exceedances were noted. Furthermore, based on the hours of operation and amount of natural gas burned in each boiler on a monthly basis, there were no exceedances of this hourly limit on a monthly average. The highest hourly average for each boiler during the compliance period was 62,351 scf/hour in August 2019 for Boiler 21, and 90,829 scf/hour in July 2020 for Boiler 22 and Boiler 23 (note: Boiler 21 was not operated in July 2020). A more thorough review of the natural gas usage on an hour-by-hour basis may be performed during the next complaince inspection, if warranted.

III. PROCESS/OPERATIONAL RESTRICTIONS
1. IN COMPLIANCE. Facility only uses pipeline quality natural gas in FG-AUXBOILERS-S1.
2. IN COMPLIANCE. All boilers in FG-AUXBOILERS-S1 have demonstrated compliance with the maximum heat input capacity limit of 99.9 MMBtu/hour based on a higher heating value of natural gas of 1052 Btu/scf at the time of testing.
3. IN COMPLIANCE. The combined maximum heat input capacity of FG-AUXBOILERS-S1 does not exceed 299.7 MMBtu/hour, as demonstrated in S.C. III.2 and the fact that only three boilers were installed.
4. NOT EVALUATED. 5-year performance tune-ups must be performed within 61 months the initial start-up. The initial start-up month was December 2016 for all three boilers.
5. NOT EVALUATED. The boilers in FG-AUXBOILERS-S1 are not subject to initial tune-up requirements since the boilers are equipped with oxygen trim. The 5-year tune-ups have yet to be performed. The initial start-up month was December 2016 for all three boilers.
6. IN COMPLIANCE. The boilers have the following oxygen concentration setpoints: Boiler 21: 7% O_2; Boiler 22: 10% O_2; and Boiler 23: 10% O_2. Since the boilers have yet to reach the required tune-up dates, the setpoints are based on the oxygen concentrations measured during testing to verify the maximum heat input capacity of each boiler.
7. NOT APPLICABLE. The boilers in FG-AUXBOILERS-S1 have not yet reached the required date for the 5 -year tune-up. The initial start-up month was December 2016 for all three boilers.
8. NOT APPLICABLE. The permittee has not requested to use an alternative to the work practice standards in S.C. III.4.
9. IN COMPLIANCE. VOC emissions are controlled to a level representing BACT through low NOx burners, flue gas recirculation, and good combustion practices maintained through proper maintenance and operation of the equipment.

IV. DESIGN/EQUIPMENT PARAMETERS
1. IN COMPLIANCE. All boilers in FG-AUXBOILERS-S1 are equipped and operated with low NOx burners and flue gas recirculation.

V. TESTING/SAMPLING
1. IN COMPLIANCE. Testing to verify that the maximum heat release capacity of each boiler does not exceed 99.9 MMBtu/hour at maximum steam production rate was not performed within 180 days of initial startup; testing was required to be performed by June 5, 2017 (for Boiler 22) and June 27, 2017 (for Boiler 21 and 23). As a result, AQD issued a Violation Notice to DTE Trenton Channel on November 21, 2017. To resolve the violation, testing was performed on November 22, 2017 (Boiler 23) and November 29, 2017 (Boiler 21 and Boiler 22). During testing, it was determined that Boiler 22 exceeded the maximum heat input capacity of 99.9 MMBtu/hour due to an actual higher Btu value of the natural gas consumer during testing (1052 Btu/scf) than what was used during permitting (1020 Btu/scf). Boiler 22 was modified on December 27, 2017 to restrict the gas flow to the boiler to keep maximum heat release capacity below 99.9 MMBtu/hour. The boiler was retested on January 10, 2018 and demonstrated a maximum heat release capacity of 99.1 MMBtu/hour to show compliance. Boiler 21 (94.5 MMBtu/hour) and Boiler 23 (97.4 MMBtu/hour) demonstrated compliance during the initial testing. Therefore, this condition is now determined to be in compliance.
2. IN COMPLIANCE. Testing to determine the NOx emission rate of each boiler was conducted on August 21-23, 2019. Results show the following NOx emission rates: EU-TCHAUX1-S1 (Boiler 21) = 2.38 lb/hr; EU -TCHAUX2-S1 (Boiler 22) = 2.40 lb/hr; and EU-TCHAUX3-S1 (Boiler 23) = 2.13 lb/hr. These results demonstrate compliance with the permitted NOx emission rate of 6.99 lb/hr.

VI. MONITORING/RECORDKEEPING
1. IN COMPLIANCE. Facility retains copies of each notification and report submitted to comply with 40 CFR Part 63, Subpart DDDDD.
2. IN COMPLIANCE. All required records are maintained either on site or accessible through the company's internal computer network.
3. IN COMPLIANCE. The natural gas usage for each boiler in FG-AUXBOILERS-S1 on a clock hour, monthly, and 12-month rolling time period basis, as determined at the end of each calendar month.
4. IN COMPLIANCE. The facility maintains records of the heating value of the natural gas on a monthly basis, as provided by the natural gas supplier. The monthly heating value of the natural gas ranged from 1,049 MMBtu/hour to 1,063 MMBtu/hour from the time period September 2018 through July 2020.
5. IN COMPLIANCE. Records of the initial capacity testing of each boiler in FG-AUXBOILERS-S1 is maintained.

VII. REPORTING
1. IN COMPLIANCE. Initial startup notifications for FG-AUXBOILERS-S1 were received within 15 days of initial startup of each boiler. Initial startup for EU-TCHAUX2-S1 was December 7, 2016 and the notification was received on December 16, 2017. Initial startup for EU-TCHAUX1-S1 and EU-TCHAUX3-S1 was December 29, 2016 and the notification was received on January 11, 2017.
2 and 3. NOT EVALUATED. FG-AUXBOILERS-S1 are only required to perform 5-year tune-ups, so there have not been any boiler tune-up reports to submit since installation of the boilers. The boilers are not subject to initial tune-up requirements.
4. IN COMPLIANCE. Initial startup notification for EU-TCHAUX2-S1 was received on December 16, 2017. Initial startup notification for EU-TCHAUX1-S1 and EU-TCHAUX3-S1 was received on January 11, 2017. Since the boilers are standard pre-built "package boilers", notification of the date of construction is not required to be submitted, per Subpart Dc.
5. NOT EVALUATED. Written notification of the permanent shutdown of the High Side Boilers (Boiler 16, 17, 18, and 19) was not provided to AQD, as required; however, non-compliance with this condition was addressed in a previous inspection and the requirements of the condition are now obsolete.

VIII. STACK/VENT RESTRICTIONS
1. IN COMPLIANCE. According to information provided by the facility, Stack SV-TCHAUXBOILERS meets permit specifications.

IX. OTHER REQUIREMENTS
1. IN COMPLIANCE. Facility has complied with the applicable provisions of 40 CFR Part 63, Subpart DDDDD upon startup of the boilers.
2. IN COMPLIANCE. Based on a review of operating and maintenance records, the facility appears to be in compliance with the applicable work practice standards in 40 CFR Part 63, Subpart DDDDD.
3. NOT EVALUATED. 5-year boiler tune-ups have yet to be performed.
4. NOT EVALUATED. The boilers have not been in operation for 72 months, so burner inspections are not yet required to be performed.
5. IN COMPLIANCE. The High Side Boilers were permanently idled by April 15, 2016. Boilers 16 and 17 were last operated in 2015 due to operational issues. The last date of operation for each boiler:
    Boiler 16 - September 24, 2015
    Boiler 17 - April 15, 2015
    Boiler 18 - April 10, 2016
    Boiler 19 - April 15, 2016
6. IN COMPLIANCE. FG-AUXBOILERS-S1 are operated in compliance with the provisions of 40 CFR Part 60, Subpart Dc.

PTI No. 178-14, Special Conditions:

FG-DSI/ACI – MATS Compliance Project (40 CFR Part 63, Subpart UUUUU) for Boiler 9A, including the installation of dry sorbent injection (DSI) and activated carbon injection (ACI) systems on Boiler 9A. Associated Emission Unit ID: EU-BOILER9A.

I. EMISSION LIMITS
1a. IN COMPLIANCE. PM is monitored as a surrogate for non-Hg HAP metals, so the limit in S.C. I.1a is chosen as the compliance option. Facility reported a PM emission rate of 0.01 lb/MMBtu, in compliance with the MATS emission limit of 0.03 lb/MMBtu. In its semiannual reports, the facility reported no exceedances of the MATS PM emission limit during the compliance period. Initial compliance was demonstrated using PM CEMS values averaged over a 30-boiler operating day average from June 5 through July 12, 2016.
2a. IN COMPLIANCE. Testing to determine the HCl emission rate is performed on a quarterly basis to demonstrate continuous compliance, so the limit in S.C. I.2a is chosen as the compliance option. Facility is in compliance with the MATS HCl emission limit of 0.002 lb/MMBtu. The highest HCl emission rate reported during the compliance period was 0.0015 lb/MMBtu during 1st Quarter 2019 testing performed on February 19, 2019. Testing during 2nd Quarter 2020 performed on June 25, 2020, demonstrated an HCl emission rate of 0.0003 lb/MMBtu.
3a. IN COMPLIANCE. Facility reported no exceedances of the 30-day rolling MATS Hg emission limit of 1.2 lb/TBtu during the compliance period. Note: Facility entered into Administrative Consent Order EPA-5-19 -113(a)-MI-2 on June 28, 2019, as a result of a Finding of Violation issued by U.S. EPA on September 12, 2018, for an exceedance of the MATS Hg limit for the time period March 3 through March 12, 2018. Compliance with the Administrative Order is determined by U.S. EPA.

II. MATERIAL LIMITS
1. IN COMPLIANCE. Facility provided notification of compliance with the initial compliance standards for material limits in accordance with 40 CFR Part 63, Subpart UUUUU for FG-DSI/ACI. Notification was received by AQD on September 9, 2016.

III. PROCESS/OPERATIONAL RESTRICTIONS
1. IN COMPLIANCE. Facility certifies compliance with the work standards and operating limits for FG-DSI/ACI, according to 40 CFR Part 63, Subpart UUUUU, Tables 3 and 4. These requirements are included in the MATS Site-Specific Monitoring Plan.
2. IN COMPLIANCE. Facility operates and maintains FG-DSI/ACI, including associated air pollution control equipment and monitoring equipment, in a satisfactory manner.

IV. DESIGN/EQUIPMENT PARAMETERS
1 and 2. NOT APPLICABLE. No changes to FG-DSI/ACI have been made which have affected the applicability of 40 CFR Part 63, Subpart UUUUU for FG-DSI/ACI.

V. TESTING/SAMPLING
1. IN COMPLIANCE. Initial compliance demonstration for EU-BOILER9A of FG-DSI/ACI to demonstrate compliance with the applicable emission rates of FG-DSI/ACI, I.1a., I.2a., and I.3a.was performed as required per 40 CFR Part 63, Subpart UUUUU. Notification of Compliance was received by AQD on September 8, 2016.

VI. MONITORING/RECORDKEEPING
1. IN COMPLIANCE. Facility maintains records of each occurrence, measurement, maintenance, corrective action, report, and record, as applicable according to 40 CFR Part 63, Subpart UUUUU.
2. IN COMPLIANCE. Facility maintains a site-specific monitoring plan for the continuous monitoring system. A copy of the monitoring plan was provided to AQD during the inspection.
3. IN COMPLIANCE. Facility maintains records of all periodic tune-ups performed for EU-BOILER9A, as specified in 40 CFR.10021(e). The most recent MATS tune-up was completed on June 13, 2019.
4. IN COMPLIANCE. Facility maintains the following records of the following information for startups, shutdowns, and malfunctions:
a. Each occurrence and duration of each startup and/or shutdown;
b. Each occurrence and duration of each malfunction of an operation or the air pollution control or monitoring equipment;

c. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal manner of operation;
d. Records of the types and amounts of fuel used during each startup or shutdown.

VII. REPORTING
1. IN COMPLIANCE. Facility has submitted the required notifications, per 40 CFR Part 63, Subpart UUUUU, including initial compliance notification, which was received by AQD on September 8, 2016.
2. IN COMPLIANCE. Facility reported no deviations of the applicable limits in Tables 1 through 4 of 40 CFR Part 63, Subpart UUUUU, during the compliance period. Note: Facility entered into Administrative Consent Order EPA-5-19-113(a)-MI-2 on June 28, 2019, as a result of a Finding of Violation issued by U.S. EPA on September 12, 2018, for an exceedance of the MATS Hg limit for the time period March 3 through March 12, 2018. The Administrative Order requires semi-annual reporting of compliance status relating to Subpart UUUUU. Compliance with the Administrative Order is determined by U.S. EPA.

IX. OTHER REQUIREMENTS
1. IN COMPLIANCE. Based on the information reviewed during this compliance period, the facility appears to be in compliance with the applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subparts A and UUUUU, for Coal and Oil-fired Electric Utility Steam Generating Units, as it applies to FG-DSI/ACI.

FG-ISLAND – DSI and ACI sorbents delivered and conveyed pneumatically to the appropriate storage silo. Associated Emission Unit IDs: EU-TCP9A-DSI_SILO1, EU-TCP9A-DSI_SILO2, EU-TCP9A-ACI_SILO.

I. EMISSION LIMITS
1. IN COMPLIANCE. Opacity from the dust collectors of the silos of FG-ISLAND are below 7%/6-minute average. Visible emission readings are required to be performed on each emission unit a minimum of once per calendar year. Austin Sash performed Method 9 readings on the ACI silo on September 24, 2019, DSI silo 1 on June 21, 2019, and DSI silo 2 on July 29, 2019; no visible emissions were observed during these readings, so compliance was demonstrated for 2019. Mr. Sash performed visible emission readings on DSI silo 1 on July 9, 2020 and did not observe any visible emissions; visible emission readings have not yet been performed on the ACI silo or DSI silo 2 in 2020.
2, 3, and 4. NOT DETERMINED. AQD has not required testing to determine the PM, PM10, and PM2.5 emission rates from each bin vent filter or dust collector for FG-ISLAND.

III. PROCESS/OPERATIONAL RESTRICTIONS
1. IN COMPLIANCE. A fugitive dust plan for all material handling operations of FG-ISLAND is implemented and maintained.
2. IN COMPLIANCE. A malfunction abatement plan (MAP) for FG-ISLAND is implemented and maintained.
3. IN COMPLIANCE. Based on operating records, the facility did not operate FG-ISLAND for more than 12 hours per day during the compliance period. The highest total hours operated in a day during the compliance period was 11 hours on July 10, 2020. Note: based on the emission unit description, FG-ISLAND “operation” refers to when the DSI or ACI sorbents (trona or activated carbon) are being unloaded from trucks to the storage silos.

IV. DESIGN/EQUIPMENT PARAMETERS
1. IN COMPLIANCE. All conveying systems are enclosed and each silo is equipped with a particulate filter, which is properly installed and maintained in accordance with the MAP. Based on a review of maintenance records, the filters are changed on a monthly basis.

V. TESTING/SAMPLING
1. NOT EVAULATED. AQD has not requested testing of the PM emission rates from each emission unit of FG-ISLAND.

2. NOT EVALUATED. AQD has not requested testing of the PM10 or PM2.5 emission rates from each emission unit of FG-ISLAND.
3. IN COMPLIANCE. Facility is required to perform Method 9 visible emission readings of each emission unit of FG-ISLAND at a minimum of once per calendar year. Based on a review of records, Austin Sash performed Method 9 readings on the ACI silo on September 24, 2019, DSI silo 1 on June 21, 2019, and DSI silo 2 on July 29, 2019; no visible emissions were observed during these readings, so compliance was demonstrated for 2019. Mr. Sash performed visible emission readings on DSI silo 1 on July 9, 2020 and did not observe any visible emissions; visible emission readings have not yet been performed on the ACI silo or DSI silo 2 in 2020.

VI. MONITORING/RECORDKEEPING
1. IN COMPLIANCE. Non-certified visible emission readings are performed and recorded on a daily basis by staff whenever trucks are unloading into the silos in FG-ISLAND.
2. IN COMPLIANCE. Facility monitors and records the hours of operation of FG-ISLAND in a daily basis.

VII. REPORTING
1. IN COMPLIANCE. Facility provided notification to AQD on October 29, 2015, that the commencement of operation of FG-ISLAND should begin on or shortly after October 29, 2015, satisfying the 30-day notification requirement.

VIII. STACK/VENT RESTRICTIONS
1, 2, and 3. IN COMPLIANCE. According to facility documentation, silo stacks SV-TCP9A_SILO1, SV-TCP9A_SILO2, and SV-TCP9A-ACI_SILO meet permit specifications.

ROP No. 199600204, Special Conditions:

SECTION 1

EG09 – Boiler No. 9A

The conditions of ROP 199600204 for EG09 (Boiler No. 9A) have been superseded by the conditions of PTI No. 139-19, EU-BOILER_9A.

FG-BLR_16-19 – Boiler Nos. 16, 17, 18, and 19

These boilers have been idled and were not evaluated as part of this inspection.

FG-BLR-9&16-19 – Boiler Nos. 9A, 16, 17, 18, and 19

The conditions of ROP 199600204 for FG-BLR-9&16-19 were superseded by the conditions of PTI No. 125-11C, FG-BOILER_9A&16-19. This flexible group was dissolved on April 16, 2016 and was not evaluated during this inspection.

FGCOLDCLEANERS – Any new cold cleaner (placed into operation after July 1, 1979) that is exempt from NSR permitting by R 336.1281(h) or R 336.1285(r)(iv)

I. DESIGN PARAMETERS; C. OTHER DESIGN PARAMETERS
1. IN COMPLIANCE. Cold cleaners are installed with covers that are kept closed when parts are not being cleaned.
2. NOT APPLICABLE. Vapor pressure of solvent (Zep 143) is less than 0.3 psia and is not heated.
3. IN COMPLIANCE. Cold cleaner allows parts to be drained.

II. MATERIAL USAGE/EMISSION LIMITS
1. IN COMPLIANCE. Cold cleaners use Zep 143 as the cleaning solvent, which is 90-100% aliphatic naptha and does not contain any of the compounds listed in this condition.

III.A. MONITORING/RECORDKEEPING
3. IN COMPLIANCE. Facility maintains the required records for the cold cleaners, including installation date, identification, and cleaning solvent information.

VII. REPORTING
1. IN COMPLIANCE. Deviations are reported pursuant to GC 21 and 22 of Part A.
2. IN COMPLIANCE. Semiannual reports of monitoring and deviations are submitted by March 15 (for reporting period July 1 through December 31) and September 15 (for reporting period January 1 through June 30) each year, as required per GC 23 of Part A.
3. IN COMPLIANCE. Annual compliance certification is submitted by March 15 for the previous calendar year, as required per GC 19 and 20 of Part A.

V. OPERATIONAL PARAMETERS
1. IN COMPLIANCE. All cold cleaners have an air/vapor interface less than 10 square feet and are used for cleaning metal parts only.
2. IN COMPLIANCE. Any waste solvent is stored in closed containers.
3. IN COMPLIANCE. Parts are drained for no less than 15 seconds.
4. IN COMPLIANCE. Routine maintenance is performed in accordance with manufacturer recommendations.
5. IN COMPLIANCE. Vapor pressure of cleaning solvent is less than 0.6 psia.

VI. OTHER REQUIREMENTS
1. IN COMPLIANCE. Facility posts written operating procedures near each cold cleaner.
2. IN COMPLIANCE. Facility has not installed any new equipment in FGCOLDCLEANERS which would require a minor or significant modification to the ROP.

FGRULE290 – Any existing or future emission unit that emits air contaminants which are exempt from the requirements of R 336.1201 pursuant to R 336.1290. The only emission units currently identified as operating under Rule 290 are all related to coal handling operations.

II. MATERIAL USAGE/EMISSION LIMITS
B.1. IN COMPLIANCE. This condition limits each emission unit in FGRULE290 to less than 1,000 pounds uncontrolled/500 pounds controlled particulate emissions per month to allow each emission unit to meet the permitting exemption allowed per Rule 290(2)(i). The following emission units are identified by DTE Trenton Channel as being exempt per Rule 290; each emission unit is controlled by a baghouse:

EU05-04 Dumber House Dust Collector A
EU05-04 Dumber House Dust Collector B
EU05-09 Unit 9 Dust Collector

Based on emission records provided by the facility (using a baghouse emission factor of 99%), the highest monthly total controlled particulate emissions for all emission units in FGRULE290 during the compliance period was 36.4 pounds in July 2019.

III. COMPLIANCE EVALUATION; A. MONITORING/RECORDKEEPING
3.1. IN COMPLIANCE. Required records of emissions from FGRULE290 are maintained on a monthly basis.
3.2. IN COMPLIANCE. Facility maintains an inventory of each emission unit covered by FGRULE290.
3.3. IN COMPLIANCE. Monthly visible emission readings are performed on all coal handling equipment covered by FGRULE290. Records were reviewed on site during the inspection.

VII. REPORTING
1. IN COMPLIANCE. Deviations are reported pursuant to GC 21 and 22 of Part A.
2. IN COMPLIANCE. Semiannual reports of monitoring and deviations are submitted by March 15 (for reporting period July 1 through December 31) and September 15 (for reporting period January 1 through June 30) each year, as required per GC 23 of Part A.
3. IN COMPLIANCE. Annual compliance certification is submitted by March 15 for the previous calendar year, as required per GC 19 and 20 of Part A.

V. OPERATIONAL PARAMETERS
1. IN COMPLIANCE. The provisions of FGRULE290 apply to each emission unit operating under R 336.1290.
2. IN COMPLIANCE. All control devices associated with FGRULE290 is installed, maintained, and operated in a satisfactory manner.

VI. OTHER REQUIREMENTS
1. IN COMPLIANCE. Facility has not constructed, reconstructed, modified, installed, or commenced operation of any emission units in FG290 which would be defined as a minor or significant modification to the ROP.
2. IN COMPLIANCE. Facility implements and maintains a fugitive dust plan for the roads, lots, storage piles, coal and ash handling operations, and open areas. During the inspection, water trucks were being used on the roadways and the water cannon was in use on the coal piles.

SECTION 2

FG08 – Slocum Peaker Generating Units: DG 11-1, DG 11-2, DG 11-3, DG 11-4, and DG 11-5.

II. MATERIAL USAGE/EMISSION LIMITS
B. IN COMPLIANCE. Facility did not exceed the sulfur dioxide emission rate of 1.11 pounds per MMBtu. Facility uses an ultra-low sulfur fuel with a sulfur content of 0.0040% by weight, which allows the facility to maintain compliance with this limit.

III. COMPLIANCE EVALUATION; A. MONITORING/RECORDKEEPING
3.1. IN COMPLIANCE. Facility maintains records of fuel usage in gallons on a monthly basis. During the compliance period, the highest monthly total of diesel fuel consumed was 21,500 gallons in July 2020. The peaker units were idled much of the compliance period.
3.2. IN COMPLIANCE. Facility maintains records of fuel oil analysis, which were provided during the inspection. The facility uses only ultra-low sulfur diesel fuel in the peakers.

VII. REPORTING
1. IN COMPLIANCE. Deviations are reported pursuant to GC 21 and 22 of Part A.
2. IN COMPLIANCE. Semiannual reports of monitoring and deviations are submitted by March 15 (for reporting period July 1 through December 31) and September 15 (for reporting period January 1 through June 30) each year, as required per GC 23 of Part A.
3. IN COMPLIANCE. Annual compliance certification is submitted by March 15 for the previous calendar year, as required per GC 19 and 20 of Part A.

V. OPERATIONAL LIMITS
1. IN COMPLIANCE. Sulfur content of fuel oil is below 1.0% by weight. The peakers only use an ultra-low sulfur No. 2 diesel fuel which has a sulfur content of 0.0040% by weight, based on DTE Energy's contractual spec sheet provided by Marathon Oil.

MACT ZZZZ

IN COMPLIANCE. Each Slocum peaker is operated less than 100 hours per year, which allows them to be designated as "limited use stationary RICE". As such, FG08 is not required to meet the operational and emission limitations of 40 CFR Part 63, Subpart ZZZZ; only the initial notification requirements apply. Initial notification was received by AQD on May 17, 2002, in a letter dated May 13, 2002.

FINAL COMPLIANCE DETERMINATION:

At the time of inspection, DTE Trenton Channel Power Plant was determined to be in substantial compliance with PTI Nos. 139-19, 227-15A, and 178-14, and the applicable conditions of ROP No. 199600204. PTI No. 151-18 was not evaluated during this inspection.

NAME _____ DATE 8-19-2021 SUPERVISOR JK