

STATE OF MICHIGAN

Rick Snyder, Governor



DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY DIVISION

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PUBLIC PARTICIPATION DOCUMENTS

For

DTE Electric Company
Trenton Channel Power Plant

PERMIT APPLICATION NUMBERS

227-15 and 125-11C

March 9, 2016

FACT SHEET

March 9, 2016

Purpose and Summary

The Michigan Department of Environmental Quality (MDEQ), Air Quality Division (AQD), is proposing to act on Permit to Install (PTI) application Nos. 227-15 and 125-11C for DTE Electric Company (DTE), Trenton Channel Power Plant. Application No. 227-15 is for the installation of five permanent natural gas-fired package boilers which will replace four existing coal-fired boilers. Application No. 125-11C is to reduce the allowed sulfur dioxide (SO₂) emissions from existing Boiler 9A.

The proposed project is subject to permitting requirements of the Department's Rules for Air Pollution Control. Prior to acting on this application, the AQD is holding a public comment period and a public hearing to allow all interested parties the opportunity to comment on the proposed PTIs. All relevant information received during the comment period and hearing will be considered by the decision maker prior to taking final action on the applications.

Background Information

DTE is an existing electric utility steam generating facility located at 4695 Jefferson Avenue, in Trenton, Wayne County, Michigan. The facility currently includes five coal-fired boilers (9A, 16, 17, 18, and 19) and five oil-fired Slocum peaking generation units. Boilers 16, 17, 18, & 19 have a combined heat input capacity of 3,023 million British Thermal Units (MMBTU's) per hour. These four boilers are collectively referred to as the "High Side" boilers.

Effective April 16, 2016, the existing coal-fired boilers at DTE will become subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) From Coal and Oil-Fired Electric Utility Steam Generating Units, 40 CFR, Part 63, Subpart UUUUU. This subpart establishes Mercury and Air Toxics Standards (MATS) for coal and oil fired electric utility steam generating units (EGUs). Previously, DTE has undertaken a MATS Compliance Project involving modifications to Boiler 9A allowing it to meet these requirements.

As they currently exist, the High Side boilers cannot be operated in compliance with MATS. Therefore, DTE will be shutting them down on or before April 15, 2016.

The Trenton Channel Power Plant is a major source of hazardous air pollutants (HAPs). Therefore, the proposed natural gas-fired package boilers will be subject to the NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63 Subpart DDDDD. In accordance with Subpart DDDDD, a new boiler with a continuous oxygen trim system that maintains an optimum air to fuel ratio must conduct a tune-up of the boiler every 5 years, while a new boiler without a continuous oxygen trim system must conduct a tune-up of the boiler annually. Subpart DDDDD also requires work practice standards. These are the only operational requirements for these new natural gas-fired package boilers. In addition, draft PTI No. 227-15 includes monitoring, recordkeeping and reporting conditions.

Proposed Facility

Each of the five natural gas-fired package boilers will be rated at a steam delivery rate of 75,000 pounds per hour and have a nominal heat release capacity of 99.9 MMBTU's per hour. Only three of the five boilers are proposed to operate simultaneously. The boilers will each be equipped with low NO_x burners and an oxygen trim system. The oxygen trim system will be used to control the combustion process and minimize emissions of volatile organic compounds (VOCs) and carbon monoxide (CO). These boilers will be installed on the operating floor of the low pressure turbine building.

No changes are proposed to the existing five oil-fired Slocum peaking generation units. All of the proposed changes together will result in decreases in allowed emissions of all regulated pollutants except for CO. Allowed CO emissions will increase by 24.6 tons per year.

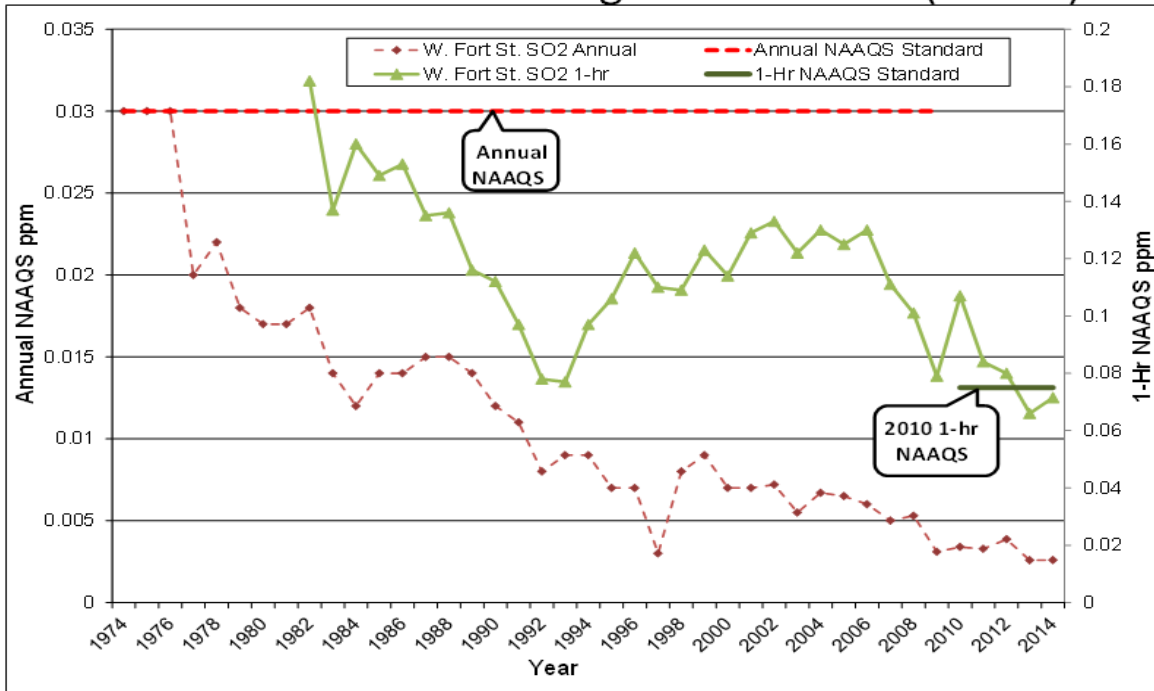
While there is an increase in CO emissions, the increase is considered to be "insignificant" from both an emissions standpoint and an ambient impact standpoint. Dispersion modeling was performed to predict the ambient impact of CO emissions and the predicted impact was less than the significant impact level (SIL). Under both federal regulations and state rules, emission increases of CO less than 100 tons per year are considered to be insignificant increases in emissions. Additional information related to these topics will be presented later in this document.

Present Air Quality

The AQD operates a comprehensive air quality monitoring network across the state with air monitoring stations in southeast Wayne County located in Wyandotte, River Rouge, Dearborn, Allen Park and Detroit. Between these stations, the AQD measures the following criteria pollutants: particulate matter less than or equal to 10 microns in size (PM₁₀), particulate matter less than or equal to 2.5 microns in size (PM_{2.5}), SO₂, CO, ozone (O₃), and lead (Pb). However, not every pollutant is measured at every station. While nitrogen oxides (NO_x) is also a criteria pollutant, the AQD does not monitor for it in southeastern Wayne County. The following figures show that the air pollutant levels measured at these stations have been decreasing over the past several years.

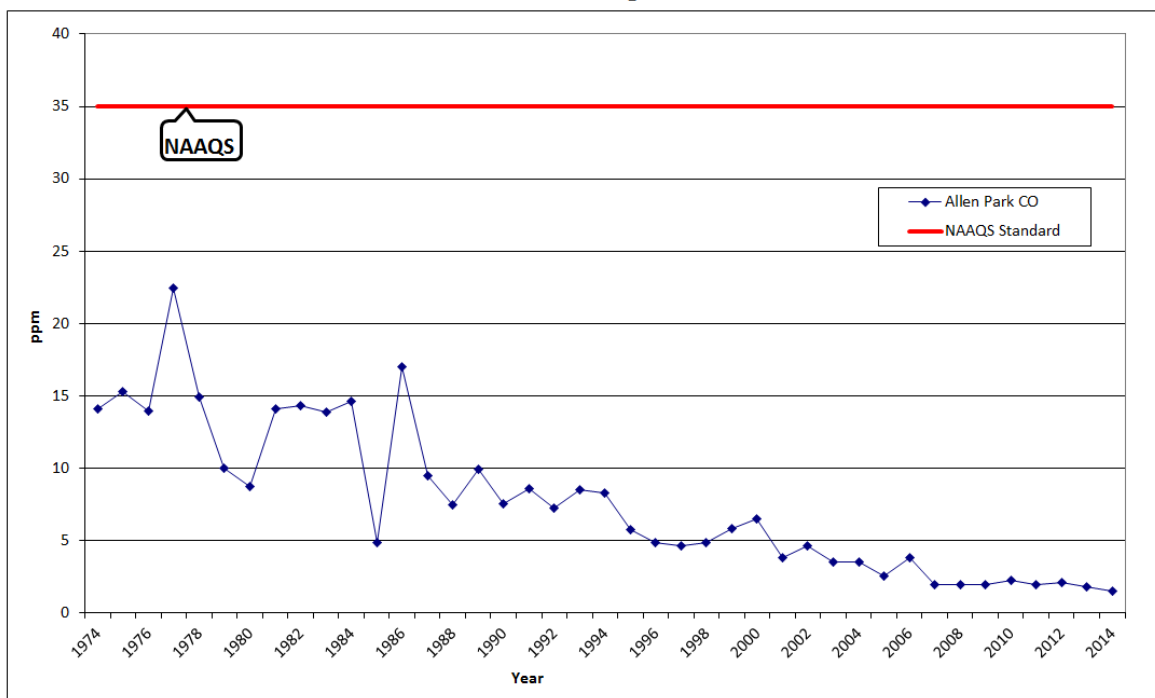
Sulfur Dioxide (SO₂)

Annual and 1-Hour Averages Fort Street (SWHS)

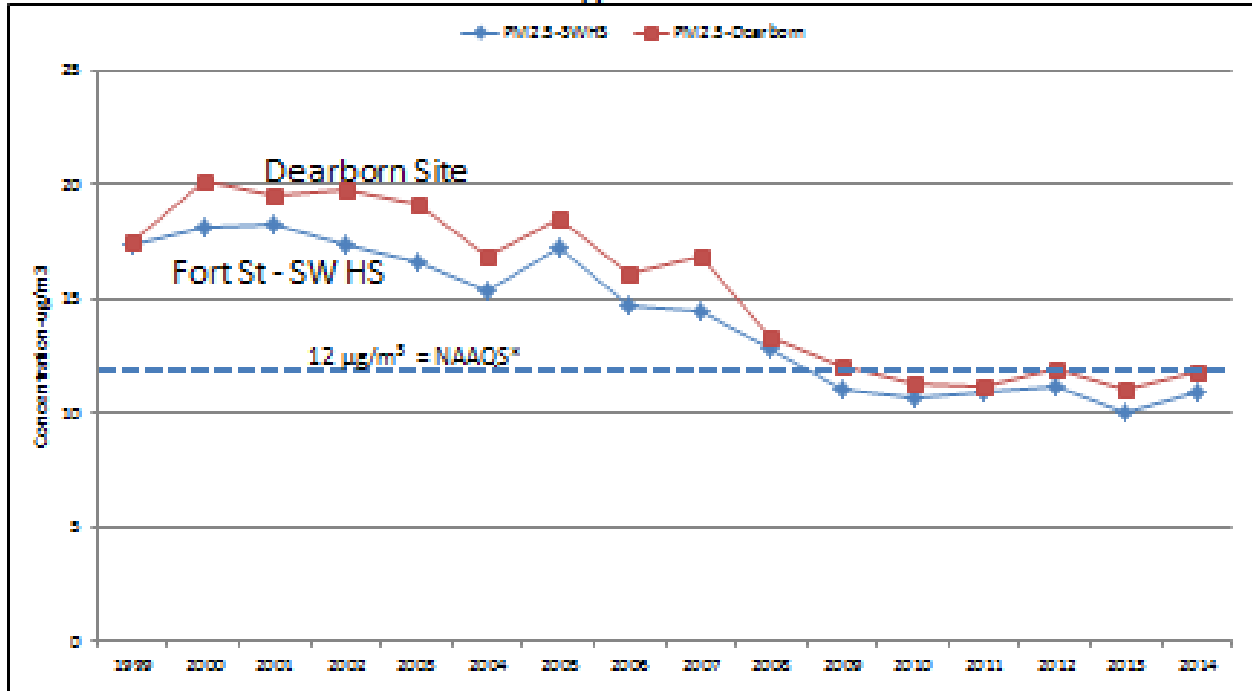


Carbon Monoxide (CO)

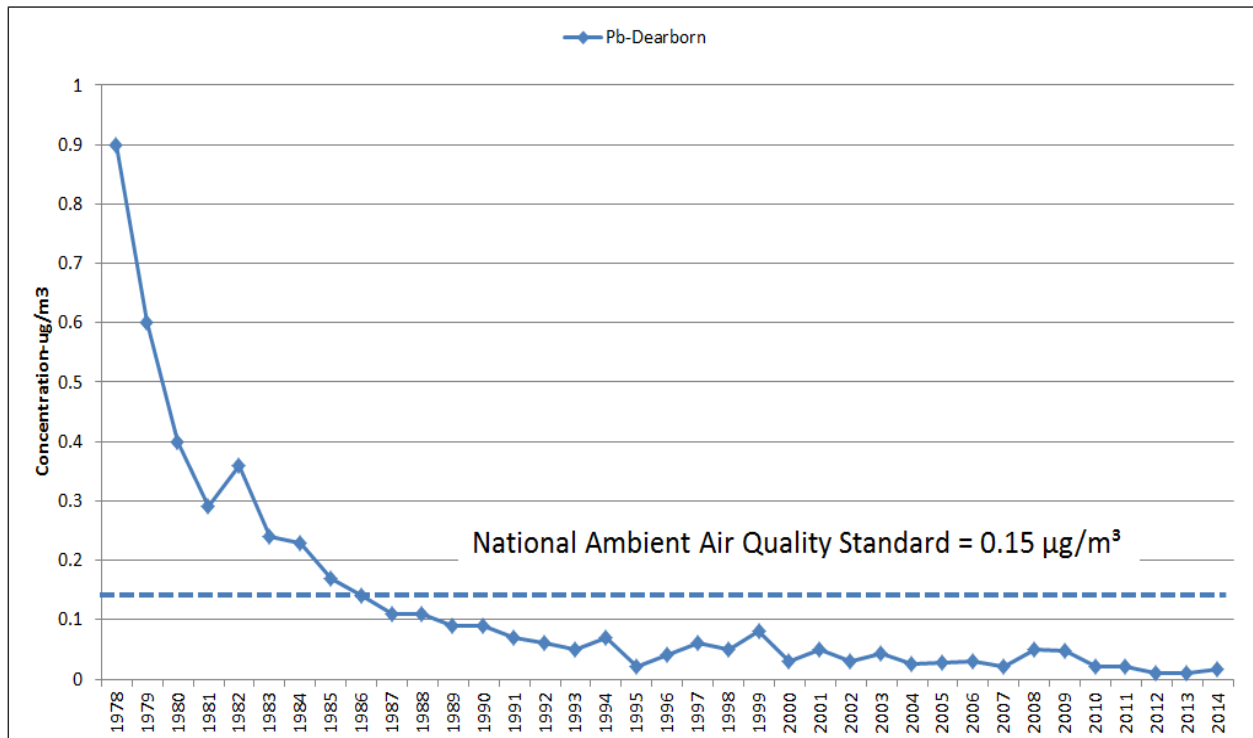
Historical 1-hour Averages at Allen Park



Particulate Matter <2.5 μm diameter (PM2.5) "Fine" PM Annual Average Concentrations

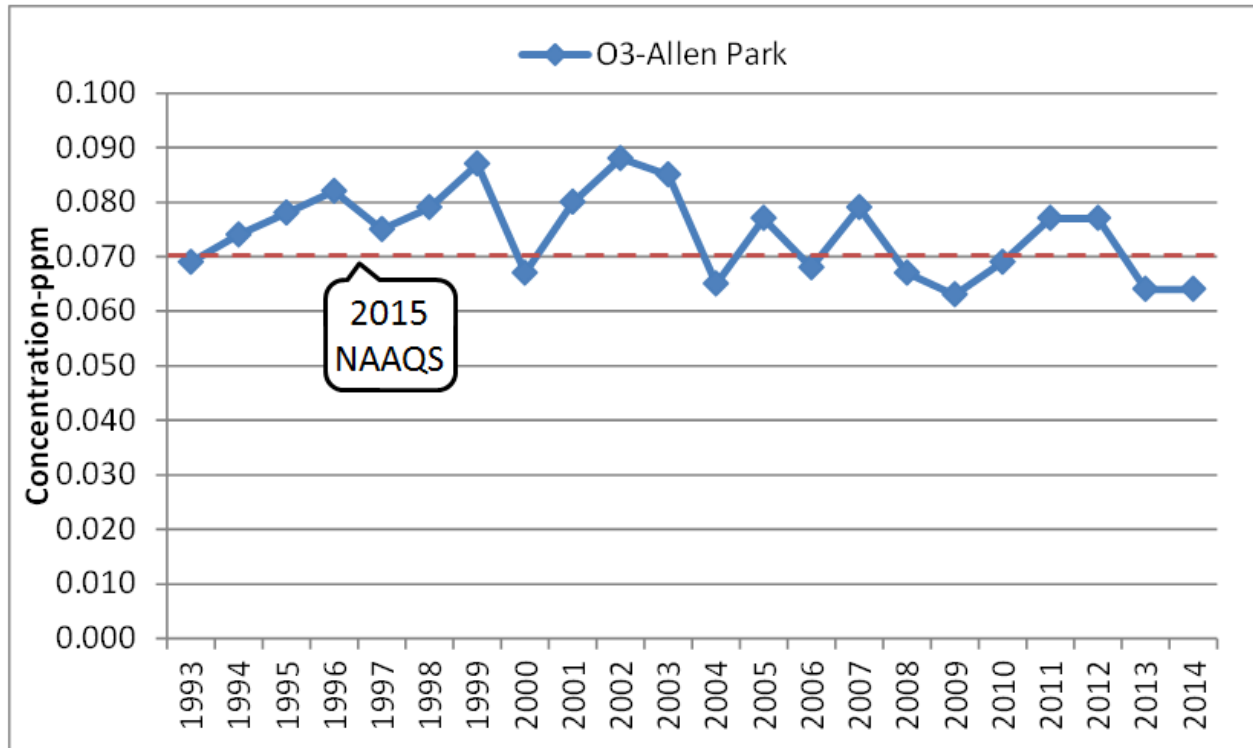


Lead (Pb) Concentration (3 Months Avg.) Highest Quarter per Yr. at Dearborn

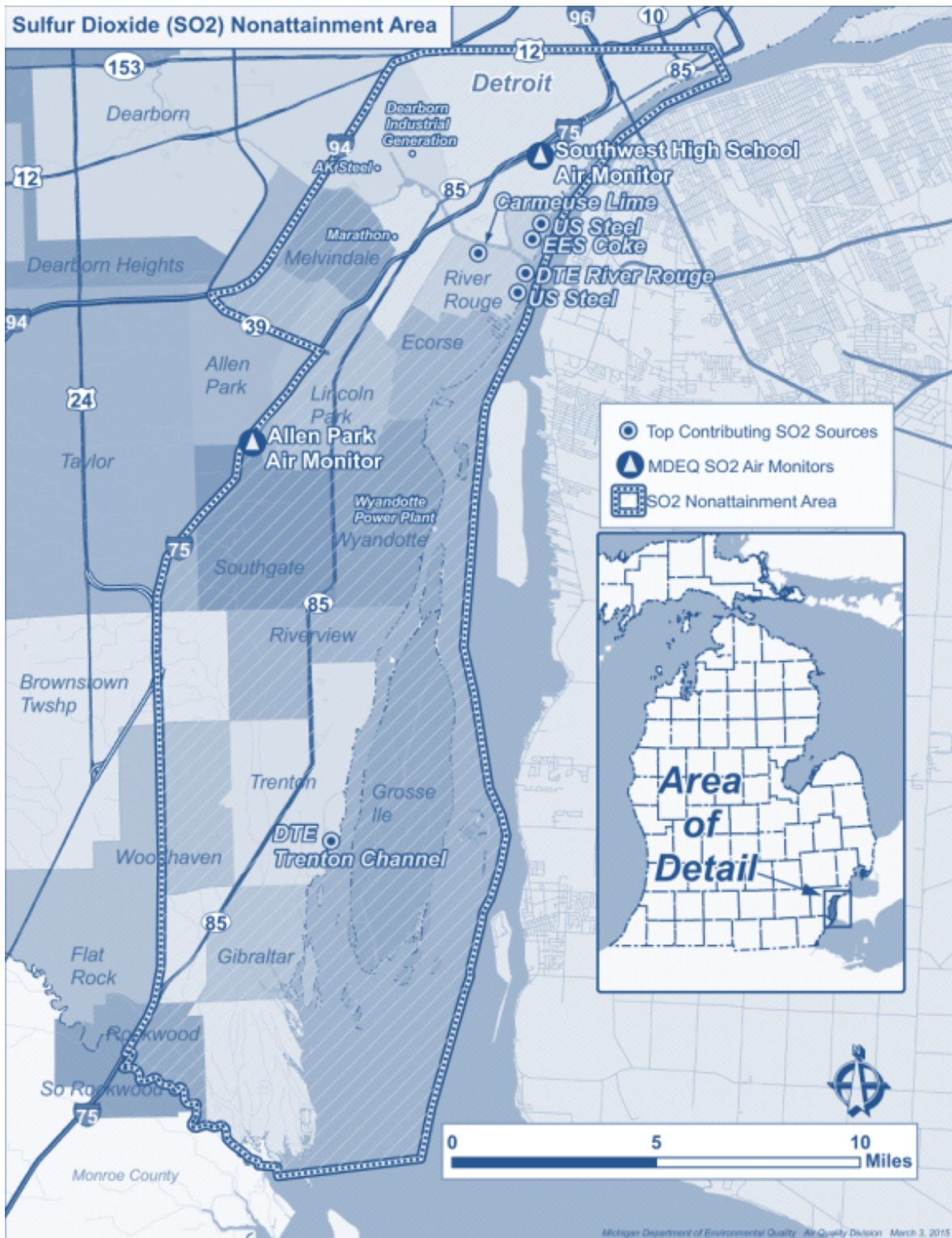


Ozone (O₃)

4th Maximum 8-Hour Concentration at Allen Park



Under the federal Clean Air Act, the U.S. Environmental Protection Agency (USEPA) formally designates an area as “attainment” or “non-attainment” with respect to the NAAQS. These designations are specific to each of the criteria pollutants with non-attainment designations given to areas that do not meet the NAAQS. Once an area is designated as non-attainment by USEPA, an enforceable air pollution abatement plan must be developed by the MDEQ to bring the area back into attainment. Based on earlier air monitoring data, the health protective SO₂ NAAQS was not being met in Wayne County. Because of this, and because MDEQ has not completed our air pollution abatement plan, a portion of Wayne County is designated as non-attainment for SO₂. That portion is a corridor that runs from the southern border with Monroe County, along I-75, M-39, M-94 and US-12 and extending east to the Detroit River. The DTE Trenton Channel Power Plant is located within this SO₂ non-attainment area. The following figure shows the SO₂ non-attainment area and the location of the Trenton Channel Power Plant within it.



The proposed project will result in a net SO₂ emissions reduction of over 4,000 tons per year from the facility. Based upon this reduction, the proposed project will assist the area in returning to attainment for SO₂.

On October 1, 2015, USEPA established a new ozone NAAQS of 0.070 parts per million. The AQD is currently collecting ozone data to determine whether the attainment status for Wayne County needs to be changed from attainment to non-attainment. It is anticipated that AQD will make a recommendation on this matter to USEPA in October of 2016. Both NOx and VOCs are considered to be pre-cursors to the formation of ozone in the atmosphere. As such increases of either typically result in an increase in ozone. The proposed changes to DTE's boilers will result in a reduction of ozone precursors.

Pollutant Emissions

DTE's facility is an existing Prevention of Significant Deterioration (PSD) source, which means that its potential emissions of one or more regulated pollutants are greater than 100 tons per year (tpy). The threshold is 100 tpy because the facility is a "Fossil fuel-fired steam electric plant of more than 250 million British thermal units per hour heat input" which is one of 28 listed major stationary source categories within the Michigan PSD rules (R 336.2801(cc)). In order to be subject to PSD, a project at an existing major source must result in both a significant emissions increase and a significant net emissions increase.

The following table provides the projected emissions from the project for each regulated pollutant as well as the PSD significant levels. The emissions are based upon only three of the five natural gas-fired package boilers operating 8,760 hours per year with the other two boilers acting in reserve or standby capacity.

Table 1: Project Emission Increases and PSD Significant Emission Limits

Pollutant	Total Project Estimated Emissions Increase (tpy) Three Boilers Combined	PSD Significant Increase Emission Rate (tpy)	Significant Emissions Increase?
Particulate Matter (PM)	7.9	25	No
PM10	7.9	15	No
PM2.5	7.9	10	No
SO2	0.8	40	No
CO	157.5	100	Yes
NOx	91.9	40	Yes
VOCs	7.2	40	No
Lead	0.0007	0.6	No
Fluorides	0.6	3	No
Sulfuric Acid Mist (H ₂ SO ₄)	0.0079	7	No
Greenhouse Gases (GHG) as Carbon Dioxide Equivalent (CO ₂ e)	153,595.7	75,000	Yes

As the above table shows, the project will result in a significant emission increase for NOx, CO, and GHG. In determining whether there is a net emissions increase, all contemporaneous increases and decreases at the facility must be evaluated. Contemporaneous increases and decreases are those which occur during the period starting five years prior to start of

construction and ending when the project begins initial operation. The decreases in emissions during the contemporaneous period are identified as the shutdown of the High Side boilers. Increases in emissions during the contemporaneous period include the following:

- Installation of five new natural gas fired boilers (a maximum of three of which will be operated simultaneously), and
- Installation of the MATS Compliance Project for Boiler 9A.

Table 2 below provides a summary of the increases and decreases at the facility for the contemporaneous period for this project. As can be seen, there will be an overall decrease in all criteria pollutant emissions, with the exception of CO. The increase in CO emissions is not considered to be significant.

Table 2: Net Emission Changes

Pollutant	Creditable Decreases due to Shutdown of the High Side Boilers (tpy)	Project Estimated Emissions Increase (tpy)	MATs Compliance Project Increases (tpy)	Net Emissions Change (tpy)	PSD Significant Increase Emission Rate (tpy)	Subject to PSD
PM	252.7	7.9	0.6	-244.2	25	No
PM10	176.2	7.9	0.3	-168	15	No
PM2.5	158.6	7.9	0.10	-150.6	10	No
SO2	4515.5	0.8		-4514.7	40	No
CO	132.9	157.5		24.6	100	No
NOx	1782.8	91.9		-1690.9	40	No
VOCs	15.9	7.2		-8.7	40	No
Lead	0.11	0.001		-0.1	0.6	No
Fluorides	39.9	0.617		-39.2	3	No
H ₂ SO ₄	69.1	0.008		-69.1	7	No
GHGs as CO ₂ e	1,026,577	153,595		-872,982	75,000	No

For no pollutant will the proposed project result in both a significant emissions increase and a significant net emissions increase. As such, the proposed project will be a minor modification to an existing major stationary source, and therefore, not subject to the PSD Regulations in Part 18 of the Michigan Air Pollution Control Rules and 40 CFR 52.21.

Key Permit Review Issues

Staff evaluated the proposed project to identify all state rules and federal regulations which are, or may be, applicable. The tables in Appendix 1 summarize these rules and regulations.

Application No. 227-15 –

- **PSD Regulations** – Based on the potential significant emissions increases and the potential significant net emissions increases (Please see Tables 1 and 2 above), the proposed project

is not subject to PSD review. Review under the PSD regulations requires Best Available Control Technology (BACT), a source impact analysis, an air quality impact analysis, and an additional impact analysis for each regulated air pollutant for which the project will result in significant emissions. Because this proposed project is not subject to PSD, it is not subject to any of these requirements. Once a source is major for a single criteria pollutant, it is major for other criteria pollutants at their significant level.

- **Minor/Major Modification Determination for Attainment Pollutants** – The facility is an existing PSD major stationary source. A modification at the facility where the emissions of any regulated pollutant will increase by more than both a significant emissions increase and a significant net emissions increases results in the modification being subject to PSD requirements for that pollutant. The proposed project is not subject to PSD because the emission increase for each regulated pollutant is less than the significant level for that pollutant. Table 2 above summarizes the proposed changes of each regulated pollutant.
- **Minor/Major Modification Determination for Nonattainment Pollutants** – DTE is located in a portion of Wayne County which is in attainment area for all criteria pollutants except for SO₂. The facility is an existing major offset source for SO₂. As such, an increase in SO₂ emissions above its significant level of 40 tpy would result in the change being subject major non-attainment New Source Review. The proposed project will result in a net SO₂ emissions reduction of over 4000 tons per year from the facility and therefore is not subject to major non-attainment New Source Review.
- **Federal NSPS Regulations** – New Source Performance Standards (NSPS) were established under Title 40 of the Code of Federal Regulations (40 CFR) Part 60. The five new natural gas-fired boilers are each are subject to the NSPS for small industrial-commercial-institutional steam generating units, 40 CFR Part 60 Subpart Dc. Subpart Dc includes notification and reporting requirements as well as recordkeeping for natural gas usage.
- **Federal NESHAP Regulations** – NESHAPs were established under 40 CFR Part 61 and Part 63. The new natural gas-fired boilers will be subject to the NESHAP for “Major Sources; Industrial, Commercial, and Institutional Boilers and Process Heaters”, 40 CFR 63 Subpart DDDDD. For natural gas fired boilers, this NESHAP requires work practice standards and boiler tune ups.
- **Rule 224 TBACT Analysis** – Michigan Air Pollution Control Rule R 336.1224 (Rule 224) requires TBACT for toxic air contaminant (TAC) emissions from new or modified emission units that require a PTI. Under Rule R 336.224(2)(a) a process is not subject to TBACT if it is subject to a standard promulgated under section 112(d) of the federal clean air act. Section 112(d) of the clean air act addresses the emissions of hazardous air pollutants (HAPs). The five proposed natural gas-fired boilers are subject to the NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD, which was promulgated pursuant to section 112(d) of the clean air act. Therefore they are not subject to Rule 224 for T-BACT.
- **Rule 225 Toxics Analysis** – The MDEQ Rules for Air Pollution Control require the ambient air concentration of toxic air contaminants (TACs) be compared against health-based screening levels. AQD staff reviewed DTE’s air quality modeling and evaluation of TAC impacts. The review found that all TACs show impacts less than 10% of their respective

established health-based screening levels and will comply with the requirements of Rule 225.

- **Rule 702 VOC Emissions** – This rule requires an evaluation of the following four items to determine what will result in the lowest maximum allowable emission rate of VOCs:
 - a. BACT or a limit listed by the MDEQ on its own initiative
 - b. New Source Performance Standards (NSPS)
 - c. VOC emission rate specified in another permit
 - d. VOC emission rate specified in the Part 6 rules for existing sources

An evaluation of these four items determined that the lowest maximum allowable emissions rate of VOCs from the proposed five gas-fired boilers is BACT per Rule 702(a). While NSPS, Subpart Dc applies to the new boilers, it does not restrict VOC emissions. Therefore, it cannot be a factor in evaluating compliance with this rule.

DTE evaluated control of the VOC emissions from the five boilers using good combustion practices, oxidations catalysts, and thermal oxidation. They stated that thermal oxidation has never been demonstrated on a natural gas fired boiler and therefore was technically infeasible. MDEQ concurred with that determination. Oxidation catalysts are used primarily for the control of CO, but also control VOCs to a lesser extent with control efficiencies of 25% to 50%. Based on the total projected VOC emissions from the five boilers of 7.2 tpy, the cost of VOC emission reduction using an oxidation catalyst was calculated to be approximately \$21,700 per ton. That value was determined to not be cost effective and as such use an oxidation catalyst was not determined to be BACT. Good combustion practices include the following design components: optimum air/fuel mixing in the combustion zone; high temperatures and low oxygen levels in the primary combustion zone; overall excess oxygen levels high enough to complete combustion while maximizing boiler thermal efficiency; and sufficient residence time to complete combustion. Good combustion practices were determined to be BACT for the five proposed gas-fired boilers. The draft permit includes requirements to ensure that the good combustion practices will be maintained throughout the operational life of the boilers. It should also be noted that under 40 CFR 63 Subpart DDDDD, the four gas fired boilers will each be equipped with an oxygen trim system. The oxygen trim systems will monitor flue gas oxygen and/or carbon monoxide and maintain an optimum air to fuel ration in the boiler combustion zone. Maintaining an optimum air to fuel ratio will minimize both VOC and CO emissions.

- **Criteria Pollutants Modeling Analysis** – An air quality impact analysis was performed using computer dispersion modeling to predict the ambient air impacts from nitrogen dioxide (NO₂), PM10, and PM2.5 emissions. NO_x refers specifically to nitrogen oxide and NO₂, with the larger portion being NO₂. NO₂ is a highly reactive gas and is the pollutant for which the USEPA established air quality standards under the Clean Air Act. The NO₂, PM10, and PM2.5 emissions were evaluated against both the NAAQS and the PSD increments. The NAAQS are intended to protect public health. The PSD increments are intended to allow industrial growth in an area, while ensuring that the area will continue to meet the NAAQS.

The first step in an air quality impact analysis is to determine the predicted impacts from the proposed project. After the impacts are determined, they are compared to the PSD Significant Impact Level (SIL). If the project impacts are less than the SIL, then no further review is required. The impacts of PM10, and PM2.5 for all averaging periods were determined to all be below their respective SILs. Table 3 shows the results of the SIL analysis.

Table 3 – Significant Impact Level Modeling Results

Pollutant	Averaging Time	PSD Significant Impact Level ($\mu\text{g}/\text{m}^3$)	Predicted Impact ($\mu\text{g}/\text{m}^3$)	Impact Below SIL?
NO ₂	Annual	1.0	1.35	No
NO ₂	1-hr	7.5	25.4	No
PM10	Annual	1	0.16	Yes
PM10	24-hr	5	1.7	Yes
PM2.5	Annual	0.3	0.13	Yes
PM2.5	24-hr	1.2	1.15	Yes

If the project impacts exceed the SIL, then a facility-wide NAAQS and PSD increment modeling analysis is required, as applicable. The NO₂ standards were the only impacts above their respective SILs. A NAAQS analysis incorporates background impacts and additional nearby facilities (offsite sources) with the total facility impact. This combined impact is compared to the NAAQS. The results of the NAAQS analysis are shown in Table 4.

Table 4 – NAAQS Modeling Results

Pollutant	Averaging Time	Cumulative Impact ($\mu\text{g}/\text{m}^3$)	Background ($\mu\text{g}/\text{m}^3$)	Total ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)	% of NAAQS
NO ₂	Annual	1.8	23	25	100	25%
	1-hr	58	85	143	188	76%

The results of PSD increment analysis are shown in Table 5.

Table 5 – PSD Increment Modeling Results

Pollutant	Averaging Time	Maximum Impact ($\mu\text{g}/\text{m}^3$)	PSD Increment ($\mu\text{g}/\text{m}^3$)	% of PSD Increment
NO ₂	Annual	2.43	100	10%

There is not a PSD increment for NO₂ on a 1-hour average. In summary, the proposed project will not cause or contribute to a violation of any NAAQS or PSD increment.

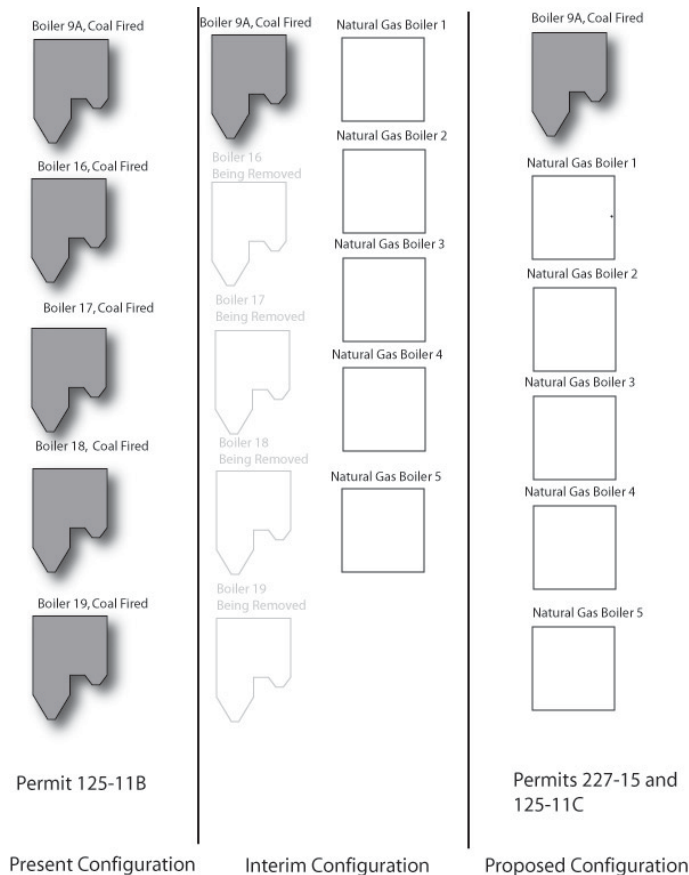
Application No. 125-11C –

On July 24, 2015, AQD issued permit No. 125-11B to DTE. That permit was to reduce the allowed SO₂ emissions from the facility as a part of AQD’s overall plan to bring the non-attainment portion of Wayne County back into attainment. Both boiler 9A and the High Side boilers were included in PTI No. 125-11B.

In order to make the shutdown of the four High Side boilers creditable and enforceable which in-turn allows the resulting emission reductions to be used in determining the net emissions change for the proposed project, PTI No. 125-11B must be modified. The modifications will include the removal of the High Side boilers and effective January of 2017, a reduction in allowed hourly and yearly SO₂ emissions from Boiler 9A.

As these modifications do not include the installation of any new equipment; physical modifications to any existing equipment; or a change in method of operation; they are not subject to new source review. The proposed modifications are instead administrative in nature. As such, application No. 125-11C was not subject to various regulations and reviews discussed above for application No. 227-15.

The following diagram illustrates the proposed changes at the facility and how the two applications are related.



Key Aspects of Draft Permit Conditions

Draft Permit No. 227-15 –

- **Emission Limits** – The draft permit includes a NOx mass emission limit of 6.99 pounds per hour (lb/hr) per boiler.
- **Natural Gas Usage Limits** – The draft permit contains limits on the amount of natural gas which may be burned in the proposed new boilers. The limits are expressed on both an hourly and a 12-month rolling time period basis.
- **Process/Operational Restrictions** – The draft permit contains several process and/or operational restrictions including:
 - A limitation that only three of the proposed five new natural gas-fired boilers may be operated at any one time. Records are to be kept showing when and for how long each boiler is operated.
 - A requirement that the four existing High Side boilers be permanently shut down by April 15, 2016.
 - A requirement that the maximum design heat input capacity for each of the five boilers should not exceed 99.9 MMBTU's per hour.
- **Federal Regulations** – The proposed natural gas-fired boilers are subject to the NSPS for small industrial-commercial-institutional steam generating units, 40 CFR Part 60 Subpart Dc. The draft permit includes conditions to demonstrate compliance with Subpart Dc, including reporting and recordkeeping requirements for each boiler.

The proposed boilers are also subject to the NESHAP for Major Sources; Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63 Subpart DDDDD. Subpart DDDDD outlines required work practice standards for operation of the boilers and tune ups of the boilers on a prescribed schedule. The draft permit includes conditions ensuring these items.

- **Emission Control Device Requirements** – The draft permit requires each of the proposed natural gas-fired boilers to be equipped with low NOx burners, flue gas recirculation, and an oxygen trim combustion control system.
- **Testing & Monitoring Requirements** – The draft permit includes the following requirements:
 - NOx mass emission testing for each of the five natural gas-fired boilers.
 - Capacity testing to assure that the maximum heat input capacity of each natural gas-fired boiler is less than 100 MMBTU's per hour.

- **Recordkeeping** – The draft permit includes recordkeeping and calculation requirements to demonstrate compliance with the allowed NOx emission limits and the natural gas usage limits.

Draft Permit 125-11C –

- **Emission Limits** – The draft permit includes SO2 mass emission limits of 5,907 lb/hr, 70.9 tons per day, and 23,841 tpy for boiler 9A which take effect on January 1, 2017.
- **Process/Operational Restrictions** – The draft permit limits the sulfur content of the fuels allowed to be burned in boiler 9A.
- **Emission Control Device Requirements** – The draft permit requires that boiler 9A be equipped with both low NOx burners and an electrostatic precipitator.
- **Recordkeeping** – The draft permit includes recordkeeping and calculation requirements to demonstrate compliance with the allowed SO2 emission limits and the sulfur content limits of the fuels burned in boiler 9A.

Conclusion

Based on the analyses conducted to date, the AQD staff concludes that the proposed project would comply with all applicable state and federal air quality requirements. Staff also concludes that this project, as proposed, would not violate the federal NAAQS or the state and federal PSD increments.

Based on these conclusions, staff has developed draft permit terms and conditions which would ensure that the proposed facility design and operation are enforceable and that sufficient monitoring, recordkeeping, and reporting would be performed by the applicant to determine compliance with these terms and conditions. If the permit applications are deemed approvable, the delegated decision-maker may determine a need for additional or revised conditions to address issues raised during the public participation process.

If you would like additional information about this proposal, please contact Mr. John Vial, AQD, at 517-284-6805.

Appendix 1
STATE AIR REGULATIONS

State Rule	Description of State Air Regulations
R 336.1201	Requires an Air Use Permit for new or modified equipment that emits, or could emit, an air pollutant or contaminant. However, there are other rules that allow smaller emission sources to be installed without a permit (see Rules 336.1279 through 336.1290 below). Rule 336.1201 also states that the Department can add conditions to a permit to assure the air laws are met.
R 336.1205	Outlines the permit conditions that are required by the federal Prevention of Significant Deterioration (PSD) Regulations and/or Section 112 of the Clean Air Act. Also, the same types of conditions are added to their permit when a plant is limiting their air emissions to legally avoid these federal requirements. (See the Federal Regulations table for more details on PSD.)
R 336.1224	New or modified equipment that emits toxic air contaminants must use the Best Available Control Technology for Toxics (T-BACT). The T-BACT review determines what control technology must be applied to the equipment. A T-BACT review considers energy needs, environmental and economic impacts, and other costs. T-BACT may include a change in the raw materials used, the design of the process, or add-on air pollution control equipment. This rule also includes a list of instances where other regulations apply and T-BACT is not required.
R 336.1225 to R 336.1232	The ambient air concentration of each toxic air contaminant emitted from the project must not exceed health-based screening levels. Initial Risk Screening Levels (IRSL) apply to cancer-causing effects of air contaminants and Initial Threshold Screening Levels (ITSL) apply to non-cancer effects of air contaminants. These screening levels, designed to protect public health and the environment, are developed by Air Quality Division toxicologists following methods in the rules and U.S. EPA risk assessment guidance.
R 336.1279 to R 336.1290	These rules list equipment to processes that have very low emissions and do not need to get an Air Use permit. However, these sources must meet all requirements identified in the specific rule and other rules that apply.
R 336.1299(2)(b)	Adopts by reference the provisions of 40 CFR 63.40 to 63.44 (2002) and 40 CFR 63.50 to 63.56 (2002), the federal hazardous air pollutant regulations governing constructed or reconstructed major sources.
R 336.1301	Limits how air emissions are allowed to look at the end of a stack. The color and intensity of the color of the emissions is called opacity.
R 336.1331	The particulate emission limits for certain sources are listed. These limits apply to both new and existing equipment.
R 336.1370	Material collected by air pollution control equipment, such as dust, must be disposed of in a manner, which does not cause more air emissions.
R 336.1401 and R 336.1402	Limit the sulfur dioxide emissions from power plants and other fuel burning equipment.
R 336.1601 to R 336.1651	Volatile organic compounds (VOCs) are a group of chemicals found in such things as paint solvents, degreasing materials, and gasoline. VOCs contribute to the formation of smog. The rules set VOC limits or work practice standards for existing equipment. The limits are based upon Reasonably Available Control Technology (RACT). RACT is required for all equipment listed in Rules 336.1601 through 336.1651.
R 336.1702	New equipment that emits VOCs is required to install the Best Available Control Technology (BACT). The technology is reviewed on a case-by-case basis. The VOC limits and/or work practice standards set for a particular piece of new equipment cannot be less restrictive than the Reasonably Available Control Technology limits for existing equipment outlined in Rules 336.1601 through 336.1651.
R 336.1801	Nitrogen oxide emission limits for larger boilers and stationary internal combustion engines are listed.
R 336.1901	Prohibits the emission of an air contaminant in quantities that cause injurious effects to human health and welfare, or prevent the comfortable enjoyment of life and property. As an example, a violation may be cited if excessive amounts of odor emissions were found to be preventing residents from enjoying outdoor activities.

STATE AIR REGULATIONS

State Rule	Description of State Air Regulations
R 336.1910	Air pollution control equipment must be installed, maintained, and operated properly.
R 336.1911	When requested by the Department, a facility must develop and submit a malfunction abatement plan (MAP). This plan is to prevent, detect, and correct malfunctions and equipment failures.
R 336.1912	A facility is required to notify the Department if a condition arises which causes emissions that exceed the allowable emission rate in a rule and/or permit.
R 336.2001 to R 336.2060	Allow the Department to request that a facility test its emissions and to approve the protocol used for these tests.
R 336.2501 to R 336.2514	Regulates mercury emissions from any stationary coal-fired electric generating unit (EGU) serving a generator with a nameplate capacity of more than 25 megawatts producing electricity for sale. The program begins January 1, 2015 and contains provisions for existing and new EGUs. Mercury program eligibility provisions and prohibitions, demonstration plans, testing, monitoring, record keeping, and reporting are all part of the rule.
R 336.2801 to R 336.2804 Prevention of Significant Deterioration (PSD) Regulations Best Available Control Technology (BACT)	<p>The PSD rules allow the installation and operation of large, new sources and the modification of existing large sources in areas that are meeting the National Ambient Air Quality Standards (NAAQS). The regulations define what is considered a large or significant source, or modification.</p> <p>In order to assure that the area will continue to meet the NAAQS, the permit applicant must demonstrate that it is installing the BACT. By law, BACT must consider the economic, environmental, and energy impacts of each installation on a case-by-case basis. As a result, BACT can be different for similar facilities.</p> <p>In its permit application, the applicant identifies all air pollution control options available, the feasibility of these options, the effectiveness of each option, and why the option proposed represents BACT. As part of its evaluation, the Air Quality Division verifies the applicant's determination and reviews BACT determinations made for similar facilities in Michigan and throughout the nation.</p>
R 336.2901 to R 336.2903 and R 336.2908	<p>Applies to new "major stationary sources" and "major modifications" as defined in R 336.2901. These rules contain the permitting requirements for sources located in nonattainment areas that have the potential to emit large amounts of air pollutants. To help the area meet the NAAQS, the applicant must install equipment that achieves the Lowest Achievable Emission Rate (LAER). LAER is the lowest emission rate required by a federal rule, state rule, or by a previously issued construction permit. The applicant must also provide emission offsets, which means the applicant must remove more pollutants from the air than the proposed equipment will emit. This can be done by reducing emissions at other existing facilities.</p> <p>As part of its evaluation, the AQD verifies that no other similar equipment throughout the nation is required to meet a lower emission rate and verifies that proposed emission offsets are permanent and enforceable.</p>

FEDERAL AIR REGULATIONS

Citation	Description of Federal Air Regulations or Requirements
Section 109 of the Clean Air Act – National Ambient Air Quality Standards (NAAQS)	The United States Environmental Protection Agency has set maximum permissible levels for seven pollutants. These NAAQS are designed to protect the public health of everyone, including the most susceptible individuals, children, the elderly, and those with chronic respiratory ailments. The seven pollutants, called the criteria pollutants, are carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter less than 10 microns (PM10), particulate matter less than 2.5 microns (PM2.5), and sulfur dioxide. Portions of Michigan are currently non-attainment for sulfur dioxide. Further, in Michigan, State Rules 336.1225 to 336.1232 are used to ensure the public health is protected from other compounds.

FEDERAL AIR REGULATIONS

Citation	Description of Federal Air Regulations or Requirements
40 CFR 51 Appendix S Emission Offset Interpretive Ruling	Appendix S applies during the interim period between nonattainment designation and EPA approval of a SIP that satisfies nonattainment requirements specified in Part D of the Clean Air Act. Appendix S would apply in nonattainment areas where either no nonattainment permit rules apply or where the existing state rules are less stringent than Appendix S.
40 CFR 52.21 – Prevention of Significant Deterioration (PSD) Regulations Best Available Control Technology (BACT)	<p>The PSD regulations allow the installation and operation of large, new sources and the modification of existing large sources in areas that are meeting the NAAQS. The regulations define what is considered a large or significant source, or modification.</p> <p>In order to assure that the area will continue to meet the NAAQS, the permit applicant must demonstrate that it is installing BACT. By law, BACT must consider the economic, environmental, and energy impacts of each installation on a case-by-case basis. As a result, BACT can be different for similar facilities.</p> <p>In its permit application, the applicant identifies all air pollution control options available, the feasibility of these options, the effectiveness of each option, and why the option proposed represents BACT. As part of its evaluation, the Air Quality Division verifies the applicant's determination and reviews BACT determinations made for similar facilities in Michigan and throughout the nation.</p>
40 CFR 60 – New Source Performance Standards (NSPS)	The United States Environmental Protection Agency has set national standards for specific sources of pollutants. These New Source Performance Standards (NSPS) apply to new or modified equipment in a particular industrial category. These NSPS set emission limits or work practice standards for over 60 categories of sources.
40 CFR 63— National Emissions Standards for Hazardous Air Pollutants (NESHAP)	The United States Environmental Protection Agency has set national standards for specific sources of pollutants. The National Emissions Standards for Hazardous Air Pollutants (NESHAP) (a.k.a. Maximum Achievable Control Technology (MACT) standards) apply to new or modified equipment in a particular industrial category. These NESHAPs set emission limits or work practice standards for over 100 categories of sources.
Section 112 of the Clean Air Act Maximum Achievable Control Technology (MACT) Section 112g	<p>In the Clean Air Act, Congress listed 189 compounds as Hazardous Air Pollutants (HAPS). For facilities which emit, or could emit, HAPS above a certain level, one of the following two requirements must be met:</p> <ol style="list-style-type: none"> 1) The United States Environmental Protection Agency has established standards for specific types of sources. These Maximum Achievable Control Technology (MACT) standards are based upon the best-demonstrated control technology or practices found in similar sources. 2) For sources where a MACT standard has not been established, the level of control technology required is determined on a case-by-case basis.

Notes: An "Air Use Permit," sometimes called a "Permit to Install," provides permission to emit air contaminants up to certain specified levels. These levels are set by state and federal law, and are set to protect health and welfare. By staying within the levels set by the permit, a facility is operating lawfully, and public health and air quality are protected.

The Air Quality Division does not have the authority to regulate noise, local zoning, property values, off-site truck traffic, or lighting.

These tables list the most frequently applied state and federal regulations. Not all regulations listed may be applicable in each case. Please refer to the draft permit conditions provided to determine which regulations apply.