

STATE OF MICHIGAN

Rick Snyder, Governor



DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY DIVISION

CONSTITUTION HALL • 525 WEST ALLEGAN STREET • P.O. BOX 30260 • LANSING, MICHIGAN 48909-7760
www.michigan.gov/air

PUBLIC PARTICIPATION DOCUMENTS

For

Wyandotte Municipal Services
Wyandotte, Michigan

PERMIT APPLICATION NUMBER

202-14

June 17, 2015

FACT SHEET

June 17, 2015

Purpose and Summary

The Michigan Department of Environmental Quality (MDEQ), Air Quality Division (AQD), is proposing to act on Permit to Install (PTI) application No. 202-14 from Wyandotte Municipal Services (Wyandotte). The permit application is for the proposed installation and operation of two new boilers and a combustion turbine with heat recovery steam generator (HRSG). The proposed project is subject to permitting requirements of the MDEQ's Rules for Air Pollution Control. Prior to acting on this application, the AQD is holding a public comment period and a public hearing, if requested in writing, to allow all interested parties the opportunity to comment on the proposed PTI. All relevant information received during the comment period and hearing if held, will be considered by the decision-maker prior to taking final action on the application.

Background Information

The facility is located at 2555 Van Alstyne, Wyandotte, Wayne County, Michigan. Wyandotte is an existing major stationary source under the State and federal Prevention of Significant Deterioration (PSD) regulations, and is currently a major source of hazardous air pollutants (HAPs) emissions.

Wyandotte is a community owned and operated entity that provides electricity, water, telephone, internet and cable television services to residents of Wyandotte. Under existing Renewable Operating Permit (ROP) No. MI-ROP-B2132-2010, Wyandotte currently operates three boilers (Units 5, 7, and 8), and three engine generators for back-up power. Unit 5 is a natural gas-fired boiler and is used for back-up to the other two boilers. Unit 7 is a wall-fired pulverized coal-fired boiler that is capable of firing natural gas and propane as well. Unit 8 is a circulating fluidized bed boiler capable of firing coal, untreated virgin wood chip waste, and tire-derived fuel.

Proposed Facility and Present Air Quality

Wyandotte is proposing to install new natural gas-fired equipment [two boilers (Unit 9 and Unit 10) and a combustion turbine with HRSG], as well as permanently shutdown the Unit 8 boiler. The proposed new natural gas-fired boilers are rated at 160 million British thermal units per hour (MMBtu/hr) and 90 MMBtu/hr. The combustion turbine is natural gas-fired and is rated at 20 megawatts output or 247 MMBtu/hr heat input. The natural gas-fired duct burner for the HRSG is rated at 90 MMBtu/hr, and is not capable of operating separately from the combustion turbine. Besides the proposed new equipment, and the shutdown of the Unit 8 boiler, no other equipment is affected by this project.

Wayne County is currently in attainment with all National Ambient Air Quality Standards (NAAQS) for carbon monoxide (CO), nitrogen dioxide (NO₂), particulate matter (PM) that has an aerodynamic diameter less than or equal to a nominal 10 microns (PM₁₀), PM that has an aerodynamic diameter less than or equal to a nominal 2.5 microns (PM_{2.5}), ozone, and lead. There are no NAAQS for volatile organic compounds (VOCs), PM, and greenhouse gases (GHGs). Note that GHGs are typically expressed in terms of carbon dioxide equivalents (CO₂e). Wyandotte is located in the portion of Wayne County that is considered to be a non-attainment area for sulfur dioxide (SO₂).

Pollutant Emissions

The existing facility is a PSD and non-attainment major stationary source. Therefore, a determination must be made to see if the proposed project is subject to the PSD requirements in Part 18 of the Michigan Air Pollution Control Rules, or the non-attainment requirements in Part 19 of the Michigan Air Pollution Control Rules, and Title 40 of the Code of Federal regulations(CFR) Section 52.21. In order to be subject to PSD or non-attainment new source review (NANSR), the proposed project must result in both a significant emissions increase and a significant net emissions increase of one or more regulated new source review (NSR) pollutants.

Wyandotte's analysis, submitted as part of the permit application, demonstrates that the project has estimated potential emissions over the significance threshold for PM2.5, CO, nitrogen oxides (NO_x), and CO₂e. However, with the decrease in emissions from the shutdown of the Unit 8 boiler, the net emissions increase for the project is below the significance threshold for all regulated NSR pollutants.

The following table provides the estimated project emissions for each regulated NSR pollutant, the net emissions increase or decrease for each regulated NSR pollutant, and the regulated pollutants' respective significant threshold.

Table 1: Emission Summary

Pollutant	Estimated Project Emissions (tpy*)	Contemporaneous Increases and Decreases Source-wide (tpy*)	Total Net Emission Increase or Decrease (tpy*)	PSD/ Non-attainment Significant Threshold (tpy*)	Subject to PSD/NANSR?
PM	13.1	Not needed.	13.1	25	No
PM10	13.1	Not needed.	13.1	15	No
PM2.5	11.0	-2.9	8.1	10	No
SO ₂	6.5	Not needed.	6.5	40	No
CO	140.8	-46.9	93.9	100	No
NO _x	208.5	-181.1	27.4	40	No
VOCs	12.7	Not needed.	12.7	40	No
Lead	5.37E-4	Not needed.	5.37E-4	0.6	No
CO ₂ e	249,294.4	-152,400.9	96,893.5	75,000	No**

* Tons per year

**CO₂e can only be subject to PSD review if another regulated pollutant has also triggered PSD review.

Pollutant Emissions during the Transition Period

The new equipment needs time to verify that installation was performed correctly and that the equipment will operate as specified by the vendor. During this time, the facility will still need to provide electricity and steam to its customers; therefore, the Unit 8 boiler must remain active to aid in steam production. A transition period is included in the draft permit conditions (FGTRANSITION) to address this situation.

The transition period proposes restrictions so that the combined emissions for each regulated NSR pollutant from the two boilers and combustion turbine with HRSG are emitted at less than their respective significant threshold; therefore, no further requirements are needed. However, in order to utilize the new equipment at the desired capacities for the project, the Unit 8 boiler will need to be shutdown. The transition period will remain active until the Unit 8 boiler is permanently shutdown.

Key Permit Review Issues

The AQD 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.

- **Minor Modification Determination for Attainment Pollutants**

Wyandotte is an existing PSD major stationary source. A modification (project) at the facility where the emissions of any regulated NSR pollutant will increase by more than the significant level for that pollutant results in the modification being subject to the PSD requirements for that pollutant. This proposed project is not subject to PSD review because the net emissions increase for each regulated NSR pollutant is less than its respective significant level, with the exception of CO_{2e}. However, as noted above, CO_{2e} can only be subject to PSD review if another regulated pollutant has also triggered PSD review. Since no other regulated pollutant has triggered PSD review, CO_{2e} is not subject to PSD review.

- **Minor Modification Determination for Non-attainment Pollutants**

The facility is an existing non-attainment major stationary source for SO₂ because it is located in the portion of Wayne County which is currently designated as non-attainment for SO₂. An increase in SO₂ emissions above the significant level would result in the project being subject to major NANSR for SO₂. The significant level for SO₂ is 40 tpy. The proposed emission increase of SO₂ from the project is 6.5 tpy. As such, the proposed SO₂ increase is not subject to major NANSR.

- **Federal NSPS Regulations**

New Source Performance Standards (NSPS) were established under 40 CFR Part 60. The proposed new 160 MMBtu/hr natural gas-fired boiler (EUUNIT9BLR) will be subject to the NSPS for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR Part 60 Subpart Db, because the subpart applies to new steam generating units with a heat input capacity greater than 100 MMBtu/hr. The proposed new 90 MMBtu/hr natural gas-fired boiler (EUUNIT10BLR) will be subject to the NSPS for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR Part 60 Subpart Dc, because the subpart applies to new steam generating units with a heat input capacity of 10 MMBtu/hr to 100 MMBtu/hr.

The proposed new combustion turbine with HRSG will be subject to the NSPS for Stationary Combustion Turbines, 40 CFR Part 60 Subpart KKKK, because the subpart applies to new stationary combustion turbines with a heat input at peak load equal to or greater than 10 MMBtu/hr.

- **Federal NESHAP Regulations**

National Emission Standards for Hazardous Air Pollutants (NESHAP) were established under 40 CFR Part 63. The proposed new natural gas-fired boilers will be subject to the NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters at major sources of HAPs, 40 CFR Part 63 Subpart DDDDD, because the subpart applies to boilers or process heaters installed at a major source of HAP emissions. The subpart separates the requirements based on whether the equipment is new or existing, and what subcategory applies. Since the proposed new boilers burn natural gas, the 'Units designed to burn gas 1 fuels' subcategory applies.

The proposed new combustion turbine will be subject to the NESHAP for Stationary Combustion Turbines at major sources of HAPs, 40 CFR Part 63 Subpart YYYY, because the subpart applies to stationary combustion turbines at major sources of HAPs. However, the subpart does not include duct burners or HRSGs. Instead, duct burners and HRSGs are considered steam generating units, but are excluded from the definition of boiler, and are therefore, not subject to Subpart DDDDD.

- **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. The AQD staff reviewed Wyandotte's evaluation of TAC impacts and found that all TACs show impacts less than the established health-based screening levels. Therefore, the requirements of Rule 225 have been met.

- **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. Best Available Control Technology (BACT) or a limit listed by the MDEQ on its own initiative
- b. NSPS
- c. VOC emission rate specified in another permit
- d. VOC emission rate specified in the Part 6 rules for existing sources

A VOC BACT analysis (702(a)) was performed and the combustion of natural gas and following good combustion practices was determined to be BACT for the new equipment. Further add-on control was considered to be cost prohibitive based upon the two boilers having estimated combined VOC emissions of 3.6 tpy and the combustion turbine with HRSG having estimated VOC emissions of 9.1 tpy. The other analyses (702(b), (c), and (d)) are not applicable to any of the new equipment. Therefore, the lowest maximum allowable emission rate was determined by Rule 702(a).

- **Criteria Pollutants Modeling Analysis**

An air quality impact analysis was performed using computer dispersion modeling to predict the ambient air impacts from CO, NO_x, PM₁₀, and PM_{2.5} emissions. These 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. Different operating scenarios were reviewed and the worst case emissions were used in the model to predict the ambient air impacts. 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 CO, PM10, and PM2.5 for all averaging periods, and NO₂ on an annual average were determined to all be below their respective SIL. Table 2 has the results of the SIL analysis.

Table 2: Significant Impact Level Analysis

Pollutant	Averaging Period	SIL (ug/m ³)	Total Maximum Impact	Below SIL?
CO	1-Hour	2,000	52.14	Yes
	8-Hour	500	31.32	Yes
NO ₂	1-Hour	7.5	42.73	No
	Annual	1	0.43	Yes
PM10	24-Hour	5	1.41	Yes
	Annual	1	0.08	Yes
PM2.5	24-Hour	1.2	0.96	Yes
	Annual	0.3	0.05	Yes

If the project impacts exceed the SIL, then a facility-wide NAAQS and PSD increment modeling analysis is required, as applicable. The 1-hour NO₂ standard was the only impact above its respective SIL. Since there is no PSD increment for 1-hour NO₂, only a NAAQS analysis is applicable. The NAAQS analysis added the background impacts and additional nearby facilities (offsite sources) to the total facility impact. This combined impact is compared to the NAAQS. The results of the NAAQS analysis are below in Table 3.

Table 3: National Ambient Air Quality Standards Analysis

Pollutant	Averaging Period	Total Maximum Concentration* (ug/m ³)	NAAQS (ug/m ³)	Below NAAQS?
NO ₂	1-Hour	152.09	188	Yes

* This is the total impact from the facility plus background and offsite sources.

There is no SIL, NAAQS, or PSD Increment for PM, VOCs, or GHGs.

Key Aspects of Draft Permit Conditions

The draft permit conditions contain emission limits, material limits, process/operational restrictions, monitoring, recordkeeping, and reporting requirements necessary for an enforceable permit that meets all applicable state and federal requirements. The following is a brief discussion of the key aspects of the draft permit conditions:

- **Emission Limits (By Pollutant)**

The draft permit includes emission limits for NO_x, CO, VOC, PM10, PM2.5, and GHGs as CO₂e. These limits are necessary to make the permit enforceable as required by state rules and federal regulations, and to protect the air quality standards.

- **Usage Limits**

The draft permit requires natural gas as the fuel used in the new equipment. During the transition period, the fuel used in the new equipment is limited to 686.27 million cubic feet to make the permit enforceable as required by state rules and federal regulations.

- **Process/Operational Restrictions**

The draft permit requires a malfunction abatement plan for the new equipment. The purpose of this plan is to prevent, detect, and correct malfunctions or equipment failures that may result in emissions exceeding any applicable limitation. Also, the draft permit requires a plan that describes how emissions will be minimized during startup and shutdown for the combustion turbine with HRSG. This plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporate standard industry practices.

The emissions estimates for startup and shutdown for the combustion turbine differ based upon whether or not the HRSG is in operation during these times. Wyandotte reviewed startup and shutdown emissions by reviewing the emissions without the HRSG in operation and by adding the startup and shutdown emissions together. The draft permit contains a condition prohibiting operation of the duct burner in the HRSG while the combustion turbine is starting up or shutting down and limits the number of startup events for the combustion turbine to 365 events per year, which is a conservative estimate for a baseload plant. During the transition period, the number of startup events for the combustion turbine is limited to 180 events per year.

Additionally, the draft permit contains an hours restriction for the duct burner in the HRSG (4,380 hours) and a combined hours restriction for both boilers (13,140 hours). These restrictions are necessary to make the permit enforceable as required by state rules and federal regulations.

- **Federal Regulations**

The proposed Unit 9 boiler will be subject to the NSPS for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR Part 60 Subpart Db. Since the boiler burns natural gas, it is not required to have a sulfur or PM emission limit; however, it must obtain and maintain fuel receipts proving that their fuel meets the Subpart's definition of natural gas. Wyandotte must utilize a continuous monitoring system to demonstrate compliance with the NO_x emission limit of 0.20 pound per MMBtu. The monitoring system may be a Continuous Emission Monitoring System (CEMS) for NO_x or it may be a Predictive Emission Monitoring System (PEMS) that monitors a specified parametric in an alternate monitoring plan. Wyandotte has not yet chosen whether they will demonstrate compliance with a CEMS or PEMS, so the draft permit has the flexibility of both.

The proposed Unit 10 boiler will be subject to the NSPS for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR Part 60 Subpart Dc. Although there are no emission limits for boilers burning natural gas in this subpart, they are required to monitor fuel usage on a monthly basis.

The proposed new natural gas-fired boilers will also be subject to the NESHAP for Major Sources of Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63 Subpart DDDDD. Units designed to burn gas 1 fuels (which includes natural gas) are not subject to emissions limits, but are subject to work practice standards. The applicable work practice standard of an initial tune-up and annual or 5-year performance tune-ups have been included in the draft permit.

The proposed new combustion turbine with HRSG will be subject to the NSPS for Stationary Combustion Turbines, 40 CFR Part 60 Subpart KKKK. Wyandotte will demonstrate compliance with the NSPS NO_x emission limit through testing and will keep fuel records demonstrating that the natural gas used complies with the sulfur content restriction in the NSPS.

The proposed new combustion turbine, but not the HRSG, will also be subject to the NESHAP for Major Sources of Stationary Combustion Turbines, 40 CFR Part 63 Subpart YYYY. The subpart differentiates requirements based upon fuel and burner types, and it contains a provision in 40 CFR 63.6095(d) called the *Stay of standards for gas-fired subcategories*, which states that gas-fired stationary combustion turbines need not comply with any requirements other than the applicable initial notification requirements until the United States Environmental Protection Agency (USEPA) takes final action. The reporting section of the draft permit contains the notification requirements for the combustion turbine with HRSG.

- **Emission Control Device Requirements**

The draft permit requires the NO_x emissions from the proposed combustion turbine be controlled by low NO_x burners. Also, NO_x emissions from the proposed boilers will be controlled by low NO_x burners and flue gas recirculation.

- **Testing & Monitoring Requirements**

The draft permit includes testing, monitoring, and recordkeeping requirements for all proposed new equipment.

Combustion turbine with HRSG:

- The maximum design heat input capacity for the combustion turbine, on a fuel heat input basis, is limited to 247 MMBtu/hr and the duct burner is limited to 90 MMBtu/hr.
- A device to monitor and record the fuel usage rate is required. Records must be kept on a monthly and 12-month rolling basis.
- Testing for NO_x, CO, VOC, PM10, and PM2.5 emission rates from the combustion turbine is required.
- Records of the mass emissions of NO_x, CO, VOC, PM10, PM2.5, and CO₂e from the combustion turbine with HRSG are required on a monthly and 12-month rolling basis.
- Records of the number of startup events are required.
- Records of the fuel quality characteristics for the fuel used specifying that the sulfur content meets the NSPS specifications are required.

Boiler Units 9 and 10:

- On a fuel heat input basis, the maximum design heat input capacity for the Unit 9 boiler is limited to 160 MMBtu/hr and for the Unit 10 boiler is limited to 90 MMBtu/hr.
- A device to monitor and record the fuel usage rate is required for each boiler.
- For the Unit 9 boiler, monitoring and recording NO_x emissions with a CEMS, or monitoring operating conditions and predicting NO_x emission rates with a PEMS, is required.
- Emission testing is required for NO_x, CO, VOC, PM10, and PM2.5 emission factors from each boiler and for NO_x emission rates from each boiler.
- The Unit 9 boiler will be required to keep natural gas usage records on a calendar day basis, a calendar month basis, and a 12-month rolling time period basis.
- The Unit 10 boiler will be required to keep natural gas usage records on a calendar month basis and a 12-month rolling time period basis.
- Wyandotte will be required to calculate, and also keep records of, the monthly and 12-month rolling annual capacity factor for natural gas for the Unit 9 boiler.

- Calculate and keep records of the monthly and 12-month rolling total NO_x, CO, VOC, PM10, PM2.5, and CO₂e mass emissions for the two proposed new boilers combined.
- Keep records of the calendar month, and 12-month rolling, total hours of operation for the two proposed new boilers combined.
- Keep records of the fuel receipts from the fuel supplier certifying that the natural gas meets the definition of natural gas found in NSPS Subpart Db.
- Perform annual or 5-year tune-ups for each proposed new boiler.
- Keep records of the total hours per calendar year where an alternate fuel was burned and the total hours per calendar year that the unit operated during periods of gas curtailment or gas supply emergencies.

The transition period:

- Records of the calendar month and 12-month rolling natural gas usage are required for all new equipment combined.
- Calculate and keep records of the monthly and 12-month rolling total NO_x, CO, VOC, PM10, PM2.5, and CO₂e mass emissions for all of the new equipment combined.
- Records of the number of startup events for the combustion turbine.

- **Other**

The Unit 8 boiler is required to be permanently shut-down prior to the new equipment operating at full capacity. This will correspond to the transition period ending.

Conclusion

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

Based on these conclusions, the AQD staff has developed draft permit terms and conditions which would ensure the proposed facility design and operation are enforceable and sufficient monitoring, recordkeeping, and reporting would be performed by the applicant to determine compliance with these terms and conditions. If the permit application is 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 Ms. Catherine Asselin, AQD, at 517-284-6786.

**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 MDEQ 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 the AQD toxicologists following methods in the rules and the USEPA 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 MDEQ, 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 MDEQ 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 MDEQ to request that a facility test its emissions and to approve the protocol used for these tests.
<p>R 336.2801 to R 336.2804 Prevention of Significant Deterioration (PSD) Regulations</p> <p>Best Available Control Technology (BACT)</p>	<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 AQD verifies the applicant's determination and reviews BACT determinations made for similar facilities in Michigan and throughout the nation.</p>
<p>R 336.2901 to R 336.2903 and R 336.2908</p>	<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 non-attainment 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
<p>Section 109 of the Clean Air Act – National Ambient Air Quality Standards (NAAQS)</p>	<p>The USEPA 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 (SO₂). A portion of Michigan is currently designated as non-attainment for SO₂. Further, in Michigan, State Rules 336.1225 to 336.1232 are used to ensure the public health is protected from other compounds.</p>

FEDERAL AIR REGULATIONS

Citation	Description of Federal Air Regulations or Requirements
<p>40 CFR 52.21 – Prevention of Significant Deterioration (PSD) Regulations</p> <p>Best Available Control Technology (BACT)</p>	<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 AQD verifies the applicant’s determination and reviews BACT determinations made for similar facilities in Michigan and throughout the nation.</p>
<p>40 CFR 60 – New Source Performance Standards (NSPS)</p>	<p>The USEPA 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.</p>
<p>40 CFR 63— National Emissions Standards for Hazardous Air Pollutants (NESHAP)</p>	<p>The USEPA 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.</p>
<p>Section 112 of the Clean Air Act</p> <p>Maximum Achievable Control Technology (MACT)</p> <p>Section 112g</p>	<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 USEPA 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 AQD 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.