

STATE OF MICHIGAN

Rick Snyder, Governor



DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY DIVISION

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PUBLIC PARTICIPATION DOCUMENTS

For

General Motors Technical Center
Warren, Michigan

PERMIT APPLICATION NUMBER

160-11

January 20, 2012

FACT SHEET

January 20, 2012

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. 160-11 from General Motors Technical Center - Warren (GM Tech). The permit application is for the proposed installation and operation of thirteen diesel fueled emergency generators. The proposed project is subject to permitting requirements of the Department's Rules for Air Pollution Control and state and federal Prevention of Significant Deterioration (PSD) regulations. 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

General Motors Corporation owns and operates GM Technical Center which is located in the City of Warren, in Macomb County. GM Tech occupies several buildings bounded by Mound Road and Van Dyke Avenue, and 12-Mile Road and Chicago Road. The complex also occupies buildings on the south side of 12-Mile Road and Lorna Street. GM Tech conducts research on all aspects of automobile development and production, including design, engineering and manufacturing. GM Tech is currently covered under Section 1 of Michigan Renewable Operating Permit (ROP) MI-ROP-B4049-2009. GM Tech includes engine dynamometers, paint spray booths, wood working operations, metal machining operations, fuel storage tanks, cold cleaners, lab equipment, and space heaters.

Proposed Facility and Present Air Quality

General Motors proposes to install a state-of-the-art, computer server facility, in order to consolidate and upgrade its corporate information-technology (IT) infrastructure. The IT facility will be located at GM Tech. The proposed thirteen emergency generators will provide the required emergency electricity supply for the IT facility.

Nine of the proposed engines are part of a Diesel Rotary Uninterruptible Power supply system (DRUPs.) Each DRUPs unit is 3010 kW. The purpose of the DRUPs generators is to ensure an uninterrupted electricity supply, meaning there is zero lag-time between a power supply outage and provision of electricity by the DRUPs. When electricity is supplied by the grid, the DRUPs system spins a wheel to generate momentum. When the electricity supply is interrupted, energy from the wheel sustains the generator until the diesel engine fires up and assumes powering of the generator.

The other four engines are associated with conventional generator sets. Each of these generators is 2280 kW. These engines provide additional electricity generation, but are unable to achieve full power quickly enough to provide a zero lag-time. The lag time for a conventional diesel fueled generator is approximately ten seconds.

Macomb County is an attainment area for all criteria pollutants, except for particulate matter less than 2.5 microns in diameter (PM_{2.5}).

Pollutant Emissions

The potential to emit for the proposed project is over the significant increase emission rate for NOx. The proposed generators will be a major modification to an existing major stationary source, and, therefore, subject to the PSD Regulations in Part 18 of the Michigan Air Pollution Control Rules and 40 CFR 52.21.

The following table provides the estimated emissions for each criteria pollutant:

Table A. PROJECT EMISSION SUMMARY

Pollutant	Estimated Emissions (tpy)
Particulate Matter (PM)	2
Particulate Matter Less Than 10 Microns in Diameter (PM10)	2
PM2.5	2
Sulfur Dioxide (SO ₂)	0.1
Carbon Monoxide (CO)	15
Nitrogen Oxides (NO _x)	124
Volatile Organic Compounds (VOCs)	3
Lead	0.00076
Greenhouse Gases (GHGs) in CO ₂ equivalents (CO ₂ e)	5,066

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.

- Prevention of Significant Deterioration (PSD) Regulations** - Based on the potential emissions, the proposed emergency generators are subject to PSD review for NOx. Review of attainment pollutants under PSD 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. The PSD major source threshold is 250 tpy for each of the criteria pollutants, unless the source is one of 28 source categories listed in the PSD regulations, then the PSD major source threshold is 100 tpy. Once a source is major for a single criteria pollutant, a modification to the source is major for other criteria pollutants and subject to PSD review at the emission rate defined to be a significant emissions increase. If a modification is subject to PSD for a regulated pollutant other than greenhouse gases (GHGs), then the GHG emissions from the modification are also subject to PSD if they are greater than 75,000 tpy of CO₂ equivalents (CO₂e). The following table summarizes the proposed changes of each regulated pollutant.

Table B. Total Facility Emission Increases and PSD Significant Emission Limits

Pollutant	Total Emission Increase (tpy)	PSD Significant Emission Rate (tpy)	Subject to PSD?
PM	2	25	No
PM10	2	15	No
SO ₂	0.1	40	No
CO	15	100	No
NO _x	124	40	Yes
VOC	3	40	No
Lead	0.00076	0.6	No
Fluorides	0	3	No
Sulfuric Acid Mist	0	7	No
H ₂ S	0	10	No
Greenhouse Gases (GHGs) in CO ₂ equivalents	5,066	75,000	No

BACT for NO_x

For NO_x emissions from the thirteen emergency generators, BACT was determined to be:

5.98 grams per kilowatt hour (g/kW-hr) for each DRUP unit

6.93 grams per kilowatt hour (g/kW-hr) for each backup unit

These limits are achieved through good design and operation. Each engine is designed with ignition timing retardation (ITR) to achieve “emissions optimization,” i.e. the engine is tuned for low emissions of NO_x. ITR is a design feature of the engine and is not adjustable on site.

Several possible add-on control technologies were evaluated and each was determined to be technically infeasible.

Also evaluated was using a different class of engine, such as natural gas. This too was determined to be technically infeasible. The company’s basic need in regard to the nine DRUPs units is for a zero lag-time emergency electricity supply. DRUPs are only available with diesel engines. The need for the four conventional generators is to provide additional emergency power, for which a short lag time is acceptable. Although natural gas fueled conventional emergency generators are available, the lag-time to fully power the generator can be as much as twenty seconds, whereas the diesel generators reach full power in less than ten seconds. The lag-time of the natural gas fired engines does not meet GM Tech’s need for emergency power. To reduce the lag-time, battery storage, and auxiliary equipment would be required, in addition to installing the natural gas infrastructure. This additional equipment would not fit within the remaining footprint of the land-locked site.

- **Minor/Major Modification Determination for Nonattainment Pollutants** – The facility is located in Macomb County which is currently nonattainment for PM_{2.5}. If the proposed emissions of a non-attainment pollutant or its precursors from a modification at an existing major offset source are above the significant emission rate, the emissions of that pollutant are subject to the major nonattainment New Source Review Regulations in Part 19 of the Michigan Air Pollution Control Rules and 40 CFR 52.21.

The significant emission rate for PM_{2.5} is 10 tpy. The proposed increase in emissions of PM_{2.5} is less than 10 tpy. Therefore, the thirteen engines are not subject to nonattainment NSR.

- Federal NSPS Regulations** – New Source Performance Standards (NSPS) were established under Title 40 of the Code of Federal Regulations (40 CFR) Part 60. The proposed thirteen emergency generators are subject to the NSPS for Stationary Compression Ignition Internal Combustion Engines, 40 CFR Part 60 Subpart IIII. The NSPS applies to these engines because they are manufactured after April 1, 2006. Subpart IIII sets emission limits for NOx, CO, PM, and hydrocarbons (HC) and requires testing or the submittal of certification documents.
- Federal NESHAP Regulations** - National Emission Standards for Hazardous Air Pollutants (NEHAP) were established under 40 CFR Part 61 or Part 63. The proposed thirteen emergency generators are subject to the NESHAP for Stationary Reciprocating Internal Combustion Engines, 40 CFR Part 63 Subpart ZZZZ. The NESHAP applies to these engines because they are engines greater than 500 HP at a major source, being constructed after December 19, 2002. Subpart ZZZZ requires notification of the start-up date of each generator.
- Rule 224 TBACT Analysis** – The proposed emergency generators are subject to review under Michigan’s Rule 224. They are also subject to a NESHAP under 40 CFR Part 63 Subpart ZZZZ. Compliance with the NESHAP fulfills the requirements of Rule 224.
- 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 GM Tech’s air quality modeling and evaluation of TAC impacts provided by GM in accordance with the federal standards. The review found that all TACs show impacts less than the established health-based screening levels and will comply with the requirements of Rule 225. The following table lists each individual TAC and the predicted ambient impact.

TABLE C. Toxic Air Contaminant Impacts

CAS No.	Toxic Air Contaminant (TAC)	Averaging Time	Screening Level Type	Screening Level (µg/m ³)	Project Impact (µg/m ³)	% of Screening Level
107028	Acrolein	annual	ITSL	0.02	0.00006	0.29
107028	Acrolein	1-hr	ITSL	5	0.0361	0.72
208968	Acenaphthylene**	---	---	---	---	Rule 226(a)
83329	Acenaphthene**	---	---	---	---	Rule 226(a)
75070	Acetaldehyde	annual	IRSL	0.5	0.00019	0.04
75070	Acetaldehyde	24-hr	ITSL	9	0.03186	0.35
120127	Anthracene**	---	---	---	---	Rule 226(a)
56553	Benz(a)anthracene*	---	---	---	---	---
205992	Benzo(b)fluoranthene*	---	---	---	---	---
207089	Benzo(k)fluoranthene*	---	---	---	---	---
71432	Benzene	24-hr	ITSL	30	0.98119	3.27
50328	Benzo(a)pyrene*	annual	IRSL	0.0005	0.00001	1.21
191242	Benzo(g,h,i)perylene**	---	---	---	---	Rule 226(a)
218019	Chrysene*	---	---	---	---	---
53703	Dibenz(a,h)anthracene*	---	---	---	---	---

206440	Fluoranthene**	---	---	---	---	Rule 226(a)
86737	Fluorene**	---	---	---	---	Rule 226(a)
50000	Formaldehyde	annual	IRSL	0.08	0.00058	0.73
193395	Indeno(1,2,3-cd)pyrene*	---	---	---	---	---
91203	Naphthalene	24-hr	ITSL	3	0.16437	5.48
85018	Phenanthrene	annual	ITSL	0.1	0.00026	0.26
115071	Propylene	24-hr	ITSL	1500	3.52773	0.24
129000	Pyrene**	---	---	---	---	Rule 226(a)
108883	Toluene	annual	IRSL	0.08	0.00208	2.6
1330207	Xylenes	24-hr	ITSL	100	0.24403	0.24

Notes:

* These seven TACs are assessed cumulatively against the screening level for Benzo(a)pyrene.

**These TACs are emitted in very small quantities and/or are not high concern TACs. Therefore, compliance with the screening level is met, per Rule 226(a).

- **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 department 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 a VOC BACT limit (702(a)) analysis would dictate the lowest maximum allowable emission rate of VOCs from the thirteen engines, based on the manufacturer's emissions specifications for each type of engine. The manufacturer's specifications indicate lower emission rates than allowed by NSPS IIII. Also the engines are not considered to be existing sources subject to any Part 6 rule.

- **Criteria Pollutants Modeling Analysis** - Computer dispersion modeling was performed to predict the impacts of air emissions from NO_x. Emissions from the proposed facility were evaluated against both the National Ambient Air Quality Standards (NAAQS) and the PSD increments. Note however, per US EPA guidance, modeling of the 1-hr predicted impact for intermittent sources, such as these emergency generators, is not required to demonstrate compliance with the NAAQs. Compliance is assumed. 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.

Table D - National Ambient Air Quality Standards (NAAQS)

Pollutant	Averaging Time	NAAQS (µg/m ³)	Predicted Impact (µg/m ³)	Percent of NAAQS (%)
NO ₂	Annual	100	53	53

Table D - PSD Increment

Pollutant	Averaging Time	PSD Increment ($\mu\text{g}/\text{m}^3$)	Predicted Impact ($\mu\text{g}/\text{m}^3$)	Percent of Increment (%)
NO ₂	Annual	25	12	48

The predicted impacts are less than 100% of the NAAQS and the PSD increment, and therefore satisfy the requirements.

- **Additional Impact Analysis** – An additional impact analysis is required for new major sources pursuant to 40 CFR Part 52.21(o) and Michigan Rule 336.2815. This analysis is necessary to evaluate the impacts from the proposed project for soils, vegetation, visibility and growth. As the proposed backup generators will be a major modification to an existing major stationary source for NOX, the proposed project is required to address the potential impacts to visibility, soils and vegetation (of economic value), wildlife, and the impacts as a result of general commercial, residential, and industrial growth associated with the project.

Soils, Vegetation, and Wildlife – Adverse impacts to the soils, vegetation and wildlife in the area is unlikely given that the proposed installation is located in a developed urban area which is unlikely to contain sensitive plant and animal species, and does not contain vegetation that would be of significant economic or recreational value. Potential impacts are minimized by the fact that the proposed generators are intended only for emergency use and necessary readiness testing.

Visibility – A visibility analysis commonly includes an assessment of the visual quality of the area and a review of proposed sources of emissions to consider the possibility of visual impairment. Based on guidance, assessments for visibility impacts are required only for Class I areas. The nearest Class I area is the Seney National Wildlife Refuge, which is located approximately 300 miles north of GM Tech. The source is sufficiently far away that no impairment to visibility in the Class I area would occur.

Growth – The growth analysis is a projection of the commercial, residential, industrial, and other growth that will occur in the area due to the construction and operation of the proposed source. No general residential, commercial or industrial growth is expected due to the construction and operation of the thirteen emergency generators. Therefore the project does not appreciably affect air quality on the basis of additional growth.

Key Aspects of Draft Permit Conditions

- **Emission Limits (By Pollutant)** –The draft permit includes NO_x, CO, PM, and HC limits for the thirteen emergency engines as mandated by NSPS IIII. It also include NO_x limits which satisfy the federal and State PSD BACT requirements.
- **Material Limits** – The sulfur content of the diesel fuel burned in each of the thirteen engines shall not exceed 15 parts per million (0.0015 percent) by weight. Record keeping to demonstrate compliance with this limit is included in the permit.
- **Process/Operational Restrictions** – Operation of the thirteen generators is limited to a maximum of 500 hours per year each. Record keeping to demonstrate compliance with these limits is included in the permit.

- **Testing & Monitoring Requirements** –The draft permit includes the following requirements for the thirteen engines:
 - Verify NO_x, CO, HC and PM emission rates from each engine through performance testing to demonstrate compliance with the values allowed by NSPS IIII. Alternately, the NSPS IIII allows emissions verification by maintaining certification documentation that an engine meets the NSPS emissions limits.
- **Federal Regulations** – The proposed engines are subject to the **New Source Performance Standard (NSPS)** for Compression Ignition Internal Combustion Engines, 40 CFR Part 60 Subpart IIII. The permit specifies that compliance with these limits will constitute compliance with the NSPS. The permit includes g/kW-hr emissions limits for NO_x, CO, HC and PM according to the maximum emissions allowed by the NSPS. Emissions verification for each engine must be provided either by testing or by providing certification documents that the engine meets the emissions limits. Other conditions require the installation of a non-resettable hours meter on each engine, and keeping records of each engine's hours of use.

The proposed engines are also subject to the **National Emission Standards for Hazardous Air Pollutants (NESHAP)** for Reciprocating Internal Combustion Engines, 40 CFR Part 63 Subpart ZZZZ. The only NESHAP requirement for the proposed engines is notification of the start-up of each engine. The permit requires this notification of start-up.

Conclusion

Based on the analyses conducted to date, 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 National Ambient Air Quality Standards 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 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. Jennifer Bixby, AQD, at 517-335-6978.

**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.
<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 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>

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 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 either ozone or PM2.5. Further, in Michigan, State Rules 336.1225 to 336.1232 are used to ensure the public health is protected from other compounds.</p>
<p>40 CFR 51 Appendix S Emission Offset Interpretive Ruling</p>	<p>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.</p>
<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 Air Quality Division 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 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.</p>
<p>40 CFR 63— National Emissions Standards for Hazardous Air Pollutants (NESHAP)</p>	<p>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.</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 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.