

SECTION ONE – ENVIRONMENTAL REGULATIONS

CHAPTER 1: Air Quality Regulations

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Purpose and Applicability of Regulations

Many businesses operate processes and equipment or engage in activities emitting air pollutants. Some processes or activities emit contaminants through a stack before entering the atmosphere and some are released in a building or open area before entering the atmosphere. These are considered direct and indirect sources of air contaminants. Typical regulated sources of air pollution include coating and

degreasing operations; combustion sources, such as boilers and incinerators; and material handling operations, such as concrete and asphalt batch plants.

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Air quality regulations address the toxicity and quantity of air pollutants that directly or indirectly enter the atmosphere. Regulations described in this chapter are not specifically aimed at reducing worker exposure to air contaminants in the workplace. Air Quality regulations have been developed to protect human health and the environment. Regulations protecting workers from the inhalation of air contaminants are administered by the Michigan Occupational Safety and Health Administration (MIOSHA). See Chapter 20 for a summary of these MIOSHA requirements.

Agencies and Their Laws and Rules

Indirect and direct releases of air contaminants into the outer air are regulated under federal and state statutes and rules. The purpose of these requirements is to minimize the adverse impact that air contaminants may have on human health and the environment. The U.S. Environmental Protection Agency (U.S. EPA) is responsible for developing new regulations that implement the mandates of the federal Clean Air Act Amendments (CAAA) of 1990. Federal air quality regulations are published under Title 40, Parts 50 through 99 of the Code of Federal Regulations (40 CFR Parts 50-99).

Part 55 (Air Pollution Control) of the Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended (Act 451) is the state law that regulates sources of air contaminants. The first administrative rules promulgated under Part 55 of Act 451, the Michigan Air Pollution Control Rules, became effective on August 15, 1967. The Air Quality Division (AQD) of the Michigan Department of Environmental Quality (DEQ) is responsible for developing and implementing state air quality requirements and enforcing compliance with both state and federal air quality requirements.

To address the concerns of small businesses impacted by state and federal air quality regulations, the DEQ provides assistance to small businesses by developing publications simplifying air quality regulations, offering workshops on a variety of air quality regulatory programs, and responding to phone calls

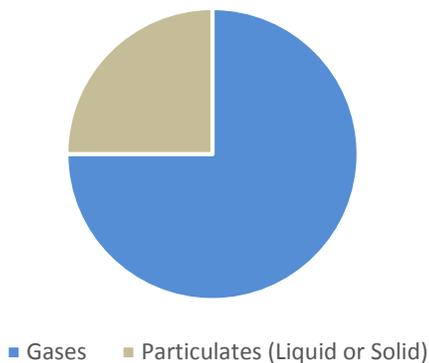
Important Air Quality Terms

There are a few terms that appear often when discussing state and federal air quality regulations. To enhance your understanding of the regulations, definitions of key terms are provided below.

Air Contaminant

In high school chemistry you learned that all matter exists in either a solid, liquid, or gaseous state under certain conditions. The same applies to air contaminants. Solid and liquid air contaminants are called particulate. The majority of air contaminants exist in a gaseous state.

Figure 1.1 Universe of Air Contaminants



Every air contaminant belongs somewhere on the pie chart in Figure 1.1. This pie chart represents the universe of air contaminants. State and federal air quality regulations, such as the New Source Performance Standards (NSPS) or the Renewable Operating Permit (ROP) program, target specific defined groups, or what we refer to as families of air contaminants. There are many families, some big and some small.

The following table summarizes the families of air contaminants. Many air contaminants belong to more than one family. In fact, most of the hazardous air pollutants (HAPs) are

also considered Volatile Organic Compounds (VOCs). For example, xylene is a VOC, a HAP, and a regulated air pollutant. For additional information about air contaminants, including listings of air contaminants, see the Clean Air Assistance Program's fact sheet entitled, "What is an Air Contaminant/Pollutant?" Note: The U.S. EPA uses the term "air pollutant," whereas the state uses the term "air contaminant." Both terms mean the same and can be used interchangeably.

Families of Air Contaminants

Criteria - SO₂, NO₂, CO, Lead, Ozone, Particulate Matter (PM). The U.S. EPA has set National Ambient Air Quality Standards for the criteria air pollutants to protect public health and the environment.

Class I and II - Chlorofluorocarbons (CFCs) and Hydrochlorofluorocarbons (HCFCs)

Ozone Precursors - VOCs and NO_x. Most sources do not emit ozone directly. However, they may emit VOCs and NO_x which, in the presence of sunlight, contribute to ozone formation.

Hazardous Air Pollutants (HAPs) – The U.S. EPA has identified 187 compounds and is regulating sources that are the primary emitters of these compounds through the promulgation of National Emission Standards for Hazardous Air Pollutants (NESHAPs). See Appendix 1-A for a listing of HAPs.

Toxic Air Contaminants - According to R 336.120(f), any substance which is or may become harmful to public health or the environment can be regulated as a toxic air contaminant, except for 41 substances which have been excluded. See Appendix 1-B for a listing of the excluded compounds.

New Source Performance Standards (NSPS) - The NSPS regulates the emission of the following air pollutants from various sources: criteria air pollutants plus dioxin/furan, fluorides, hydrogen chloride, hydrogen sulfide, sulfuric acid, total reduced sulfur, reduced sulfur compounds and more.

National Emission Standards for Hazardous Air Pollutants (NESHAP) - The following air pollutants were regulated by the NESHAPs that were promulgated prior to the Clean Air Act Amendments of 1990: arsenic, asbestos, beryllium, benzene, mercury, radionuclides, and vinyl chloride.

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Section 112(r) Air Pollutants - Section 112(r) of the 1990 Clean Air Act Amendments requires risk management planning and accidental release prevention. A total of 77 toxic chemicals and 63 flammable chemicals are regulated under Section 112(r).

Regulated Air Pollutants - All air pollutants regulated under the federal Clean Air Act: criteria air pollutants, ozone precursors, HAPs, NSPS, NESHAP, and Class I and II air pollutants.

Devices

There are three types of devices: process, control, and stack. A process device is equipment that generates air contaminants, such as a boiler. A control device is equipment that captures and/or destroys air contaminants, such as a filter. A stack device is a conduit for dispersing air contaminants.

Emission Unit

Many manufacturing operations are made up of various individual process, control, and stack devices. Take a coating line for example. Process devices could include a primer booth, top coat booth, flash off, and curing oven. When it comes time to apply for a Permit to Install, does the applicant submit four permits, one for each device, or one permit for all four devices? To answer this, the AQD has issued guidance on how to arrange devices into the proper emission unit groupings. The purpose of the emission unit concept is simply to provide some order and consistency on how various air quality regulations (i.e., Permit to Install, ROP, and Michigan Air Emissions Reporting System [MAERS]) are administered.

According to the guidance, AQD Operational Memorandum #6 (which can be found at the Air Quality Division's Web site www.michigan.gov/air, click on "State Air Laws and Rules" on the News & Info tab, then "AQD Policy and Procedures"), state and federal rules are used to define the emission unit groupings. Many air rules are specific to a single device or collection of devices. Depending on the rules, the emission unit can be as simple as a parts cleaning tank which contains one process device (i.e., the tank of solvent), no control devices, and no stack devices (see R 336.1611). On the other hand, an emission unit can be as complex and large as an asphalt plant consisting of many process devices (i.e., dryers and systems for screening, handling, storing, and weighing hot aggregate, dust collectors, and stacks).

The emission unit concept ensures that the grouping of devices remains consistent throughout all regulatory programs. Under the Permit to Install, special conditions are grouped by emission unit. Under the ROP program, all applicable requirements that the source is subject to are grouped by emission unit. Under MAERS, the annual emissions of air contaminants are reported by emission unit. In summary, the emission unit is the common thread between the air regulatory programs.

Stationary Source

A stationary source or facility consists of all the buildings and structures that house the emission units. Stationary sources can range from something as simple as an auto body shop containing one emission unit (i.e., a spray paint booth) to an auto assembly plant containing multiple buildings housing hundreds of emission units.

Potential to Emit

Potential to emit (PTE) is defined in R 336.1116(n). This is a calculation done for each air contaminant that an emission unit emits based on operations at maximum rate capacity, 24 hours per day, 365 days a year, and without any air pollution control device. A stationary source's PTE is the summation of the PTE of all emission units. PTE is typically reported in tons of a specific air contaminant per year, e.g., 200 tons of sulfur dioxide per year.

The PTE of emission units can be reduced by installing control devices or placing restrictions on operating hours and/or the amount of raw materials used only if the operation of the control device and restrictions are contained in a Permit to Install or ROP.

PTE is such an important concept because applicability of the state and federal requirements is dependent upon a source's or emission unit's potential to emit, not actual emissions. Actual emissions can deviate day-to-day and year-to-year and are unpredictable, whereas the PTE remains consistent and predictable because it is based upon maximum capacity, continuous operation, or is reflected in an emission limit found in the Permit to Install.

Example 1:

Company ABC operates three emission units: a boiler and two coating lines. The company does not have a permit or any other ways to limit the PTE. The company calculated the PTE fore each of their processes assuming continuous operation and maximum capacity. The table below identifies the PTE of each air contaminant from each emission unit and from the source.

Table 1.1 PTE Calculation for Company ABC (tons per year)

Emission Unit	VOC	CO	NOx	SO2	PM
Coating Line #1	28				5
Coating Line #2	15				5
Boiler		6	5	1	3
PTE of Source	43	6	5	1	13

Major Source

A major source is a stationary source whose PTE exceeds established annual emission thresholds. These levels have been set for individual air contaminants. There are four different types of major sources: major prevention of significant deterioration source (PSD), major offset source, major ROP source, and major HAP source. Each one of these major sources has different annual emissions threshold levels. For example, under the ROP program, a major source is one that has a PTE greater than 100 tons or more of any regulated air contaminant, 10 tons of a single HAP, or 25 tons of a combination of HAPs. Under PSD, a major source may be one that has a PTE great than 100 or 250 tons of any regulated air contaminant, depending on what type of source it is.

Sources that meet one or more major source definition can become subject to some very complex and costly control requirements.

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Minor Source

Sources whose PTE is less than the major source annual emission thresholds are considered minor sources. A true minor source is one that, even operating at its maximum capacity and continuously, cannot exceed the annual emission threshold levels. A synthetic minor source is a source that has a permit (i.e., Permit to Install or ROP) with conditions that legally restrict its PTE to below the threshold levels. Many sources avoid PSD, offset, and ROP requirements by becoming a synthetic minor source.

Permit to Install

Emission units or sources of air contaminants that exceed certain threshold with their potential to emit are required to apply for and receive a Permit to Install prior to installing and operation of the process(es). Receiving a Permit to Install involves filling out a Permit to Install application and providing the AQD with information about the air contaminants that will be generated by the process(es). An AQD permit engineer reviews the provided information and writes permit conditions. These conditions are shared with the company, and many times the public, for comments prior to being finalized and approved.

1.1 Summary of Michigan's Air Quality Rules

Chapter 1.1 provides a summary of the state air quality regulations that affect Michigan businesses. The DEQ's AQD has numerous regulations relating to air permitting of air contaminants. The purpose of these rules is to keep Michigan in attainment of the National Ambient Air Quality Standards (NAAQS). The U.S. EPA has set standards for six air contaminants: ozone, particulate matter, sulfur dioxide, nitrogen dioxide, lead, and carbon monoxide. Adverse effects to human health and the environment can occur when the concentration of these pollutants exceeds (or is in nonattainment of) the standard.

The rules promulgated under Part 55 of Act 451, the [Michigan Air Pollution Control Rules](#), are grouped into parts:

- Part 1 - Definitions.
- Part 2 – Air Use Approval (Air Permitting, Offsets, and Air Toxics).
- Part 3 – Emissions Limitations and Prohibitions – Particulate Matter.
- Part 4 – Emissions Limitations and Prohibitions – Sulfur-Bearing Compounds.
- Part 6 – Emissions Limitations and Prohibitions – Existing Sources of VOC Emissions
- Part 7 – Emissions Limitations and Prohibitions – New Sources of VOC Emissions
- Part 8 – Emissions Limitations and Prohibitions – Oxides of Nitrogen.
- Part 9 - Miscellaneous Provisions.
- Part 10 – Intermittent Testing and Sampling
- Part 11 – Continuous Emissions Monitoring
- Part 14 – Clean Corporate Citizen Program
- Part 15 - Emission Limitations and Prohibitions-Mercury
- Part 16 - Organization, Operation, and Procedures
- Part 17 - Hearings
- Part 18 - Prevention of Significant Deterioration of Air Quality
- Part 19 - New Source Review For Major Sources Impacting Nonattainment Areas



The Michigan Air Pollution Control Laws and Rules can be viewed at www.michigan.gov/deqair under the “News & Info” tab.

The U.S. EPA also has a variety of complex air quality regulations such as New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAPs), and Prevention of Significant Deterioration (PSD) air programs, to regulate sources of air contaminants. These regulations are discussed in Chapter 1.14 through 1.20.



How do you know which regulations apply to your sources of air pollution?

Prior to installing a new source of air contaminants, you must complete and submit a Permit to Install application to the AQD. During the permitting process, all of the applicable federal and state regulations are identified and incorporated into the approved Permit to Install. Being well-informed of the laws is the best way to know which regulations apply to sources of air pollution or are exempt from permit requirements.

1.2 Part 2 Rules: Air Permits, and Air Toxics Regulations

Michigan has two state air permitting programs; Permit to Install and Renewable Operating Permit. The authority to permit air pollution sources under these programs are found in Part 2 of the Michigan Air Pollution Control Rules. In addition, the Part 2 rules contain a set of rules that regulate the emission of toxic air contaminants. Below is a summary of these widely applicable rules.

Air permitting is the means regulatory agencies use to combine applicable state, federal, and local requirements associated with a source of air pollution into one legally and enforceable document. Facilities that emit air contaminants but are exempt from permitting requirements do not go unregulated. These sources may be subject to air quality regulations; however, they are not as strictly regulated as the permitted sources.

1.2.1 Permit to Install Program

Many businesses do obtain building permits, electrical permits, or mechanical permits for the installation of new structures and equipment from their local municipality. However, many of these same businesses may not be aware that an air permit from the AQD may be required for equipment and activities that emit air contaminants. Air permitting in Michigan is pre-construction, meaning that prior to constructing a new facility or putting in equipment in an existing facility, a permit may be required.

According to [R 336.1201](#) of the Michigan Air Pollution Control Rules, before a facility can legally install, relocate, modify, or reconstruct equipment that emits air contaminants, it must apply for and receive an approved Permit to Install. Each approved Permit to Install contains a list of general and special conditions that the source must comply with. These conditions typically:

- ✓ Limit the emission of air contaminants.
- ✓ Restrict hours of operation.
- ✓ Limit the amount and type of raw materials used.
- ✓ Require the operation of air pollution control devices.
- ✓ Contain monitoring and recordkeeping requirements

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Not all sources of air contaminants need to be permitted under R 336.1201. Part 2 contains numerous rules exempting insignificant sources of air pollution from the Permit to Install requirement. For example, welding operations and natural gas-fired furnaces with a heat rated capacity of no more than 50 million Btu/hr are exempt from the permitting requirements.



Download the [Permit to Install exemption handbook](http://www.deq.state.mi.us/pubcenter) at www.deq.state.mi.us/pubcenter

The Permit to Install:

- is a state license to emit air contaminants into the ambient air.
- Dictates that a facility's compliance with conditions of the permit protects public health and the environment.
- Uncovers all of the specific state and federal rules that apply to the equipment covered under the permit. Many of these applicable rules become conditions of the permit.
- Conditions limit the potential to emit of the applicant's facility. If the proposed installation or modification of an emission unit or source meets the definition of a major PSD or offset source, then the source may be subject to additional stringent regulations such as modeling emissions, installing best available control technology (BACT), and going through a public hearing. The only way to avoid these added requirements is to accept restrictions limiting the PTE to below the major source emission threshold levels using permit conditions. Businesses who cannot avoid these additional requirements may need the services of a consultant to complete their permit applications.
- Has no fees associated with applying for and obtaining; it's free!
- Does not expire and does not have to be renewed. It is good for as long as the equipment is in operation. However, it may require notification of completion of the installation, construction, reconstruction, relocation, or modification (see R 336.1201[7][a]) and notification of the status of compliance (see R 336.1201[7][b]).

If you do need a permit, obtain the "[Permit to Install Workbook – A Practical Guide to Completing an Air Permit Application](#)." Permit to Install application forms and instructions are available on line (see Appendix C).

1.2.2 The Renewable Operating Permit (ROP) Program

It's important not to confuse the Permit to Install with Michigan's other air permit program: the ROP. The ROP program falls under Title V of the Clean Air Act Amendments of 1990 and is administered by the AQD under R 336.1210-1218 of the Michigan Air Pollution Control Rules. The ROP program clarifies which requirements apply to a facility that emits air contaminants. Currently, these obligations are scattered among numerous state and federal regulations. The ROP incorporates all requirements into a single document that gives the facility, state and local regulatory agencies, the U.S. EPA, and the public a clearer picture of air emission requirements at a facility.

According to R 336.1211, facilities that meet the definition of a "major source" must obtain an ROP. The U.S. EPA has also required all acid rain and waste incineration facilities to obtain an ROP even if they are below the major source cutoffs.

The ROP program does not supersede or replace the Permit to Install requirements. Sources having to apply for an ROP are still required to submit a Permit to Install application when installing or modifying emission units. All Permit to Install conditions are eventually folded into a facility's ROP.



For guidance on determining whether or not your facility is a “major source” and subject to the ROP program, contact the Environmental Assistance Center at 800-662-9278 or refer to the DEQ’s “*Potential to Emit Workbook*,” available at www.deq.state.mi.us/pubcenter.

1.2.3 Air Toxics Regulations

In response to increased concern over adverse health effects related to air toxics, federal regulations and state requirements have been put into effect to reduce air toxics emissions. In Michigan, air toxics are regulated under two sets of rules: (1) state administrative rules regulating toxic air contaminants or TACs; and (2) the federal Clean Air Act regulating the release of hazardous air pollutants (HAPs). See Chapter 1.16 for the discussion on HAPs.

According to Michigan’s rules, all known substances which are or may become harmful to public health or the environment are regulated as “toxic air contaminants (TAC).” The state of Michigan addresses toxic air contaminants in R 336.1224-1232 (Rules 224-232) of the Michigan Air Pollution Control Rules promulgated under Part 55 of Act 451. The primary requirements are found in Rules 224 and 225, stating that a source that emits a TAC:

“Shall not cause or allow the emission of the toxic air contaminant from the proposed new or modified emission unit or units in excess of each of the following:

(Rule 224 [1]): Best available control technology for toxics (T-BACT); requirements for new and modified sources of air toxics; exemptions.

(Rule 225 [1]): Health-based screening level requirements for new or modified sources of air toxics.”

These rules apply to all new or modified sources of air pollution that are required under Michigan regulations to obtain a Permit to Install (see Chapter 1.2.1). Michigan’s toxic air contaminant rules require a two-fold analysis. First, the owners or operators of sources of TACs are required to evaluate and use the best economically feasible, technologically advanced air pollution controls. This means that, as new technology progresses, and better air pollution controls are developed, each new or modified source is required to consider the newest and best technology. Second, the facility is required to limit its toxic air emissions to amounts at or below those deemed safe for protecting public health for each toxic air contaminant. Again, as technology advances, these limits must be continuously reviewed and changed if necessary, for each toxic air contaminant. Limiting these emissions may be done through the permitting process.

Michigan T-BACT

The special conditions of a Permit to Install set emission limits and work practice standards that are enforceable. The toxic air contaminant emission limits are based on a control technology analysis (T-BACT). Emission limits are expressed in pounds/hour based on maximum operational capacity and in terms of process variables such as material processed, fuel

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consumed, or pollutant concentrations (e.g., pounds of TAC per million BTUs [lbs/10⁶ Btu], pounds of TAC per gallon of coating solids applied, or micrograms of TAC per dry standard cubic meter of air [ug/dscm]).

Best available control technology for toxics (T-BACT) is the most efficient alternative reasonably achievable as stated in R 336.1102(a):

“T-BACT is the maximum degree of emission reduction which the department determines is reasonably achievable for each process emitting toxic air contaminants, taking into account energy, environmental, and economic impacts and other costs.”

Screening Levels

R 336.1225 contains an AQD methodology used to demonstrate an emission unit's TAC emissions. Following this methodology ensures that emissions will not result in a harmful effect on the public. One does this by comparing the predicted ambient (outside air) level of the air contaminant at the facility's property line with the appropriate health-based screening level (defined below). If the predicted ambient level is below the screening level and the emission is adequately controlled under best available control technology for toxics (T-BACT), then the emission is acceptable. If it exceeds the screening level, the facility must make changes to reduce the emission or improve the dispersion of the air contaminant, or both. This is done to reduce the predicted ambient level to below the screening level.

R 336.1227 lays out how to demonstrate compliance with a health-based screening level. R 336.1227(1)(a) contains a simple method to determine the allowable emission rate based only on the screening level. This method does not use site-specific data and assumes there will be poor dispersion of the TAC, due to a short stack and short distance from the stack to the facility property line. The screening method in R 336.1227(1)(b) uses a table that requires a few facility-specific characteristics to determine the allowable emission rate. This method generally provides a higher allowable emission rate than that in R 336.1227(1)(a) by using site-specific characteristics. Lastly, R 336.1227(1)(c) uses dispersion models to determine compliance with health-based screening levels. This method generally provides for the highest allowable emission rate due to the use of facility and site-specific information and elimination of conservative assumptions.

A screening level indicates at what level an air contaminant can be emitted and still be protective of public health. R 336.1225 does not allow companies to emit air contaminants in quantities that will exceed the screening levels at the property line, except for special circumstances allowed under R 336.1225(3) and R 336.1226. There are three screening levels, the initial threshold screening levels (ITSL) are screening levels designed to protect against noncarcinogenic effects; and initial risk screening levels (IRSL) and secondary risk screening levels (SRSL) protect against carcinogenic effects. Not every air contaminant has all three screening levels. Screening levels are developed from toxicological data and are expressed in concentrations of micrograms per cubic meter (ug/m³) and in various averaging times; i.e., 1 hour, 8 hours, 24 hours, and annually.

The AQD maintains a list of all screening levels. The list of screening levels is updated periodically as more compounds are evaluated, and available at www.michigan.gov/air (select “Permits” then “Air Toxics Screening Levels”).

1.3 Part 3 Rules: Particulate Matter

Part 3 of the Michigan Air Pollution Control Rules establishes particulate emission limitations for various activities. Open burning and the density of visible emissions from a vent or stack are regulated as well. Certain facilities are required to develop plans to control fugitive dust emissions from roadways, storage piles, and other dust-generating activities.

1.3.1 Particulate Emission Limits

R 336.1331 contains maximum allowable emission rates of particulate matter from a variety of emission units, such as fuel-burning equipment, incinerators, steel manufacturing, foundries, kilns, asphalt paving plants, cement manufacturing, iron ore pelletizing, fertilizer plants, and exhaust systems serving material handling equipment not previously identified. The majority of emission rates are expressed in pounds of particulate emitted per 1,000 pounds of exhaust gas.

1.3.2 Opacity

Opacity is the degree to which air emissions reduce the transmission of light. Opacity is measured in percentage. For example, if the opacity of air contaminants being discharged from a stack is 20 percent, then 20 percent of the light traveling through the plume is blocked by the air emissions and 80 percent of the light passes through the plume. The higher the opacity, the denser the plume of air emissions. R 336.1301 limits the opacity of visible emissions discharged from an emission unit. This rule prevents businesses from discharging dense smoke from their activities.

1.3.3 Open Burning

Open burning is the burning of unwanted materials where smoke and other emissions are released directly into the air without passing through a chimney or stack. Open burning is regulated by air quality and solid waste regulations, and sometimes under local ordinance.

Open burning of trash from a business is prohibited, and open burning from other sources is restricted. [Public Act 102 of 2012](#) was signed into law on April 19, 2012, prohibiting the open burning of household trash that contains plastic, rubber, foam, chemically treated wood, textiles, electronics, chemicals or hazardous materials. The burning of these household trash items poses a danger to human health and the environment. The law amends the open burning provisions contained in [Section 11522](#) of the Natural Resources and Environmental Protection Act (Public Act 451 of 1994). The changes took effect on October 16, 2012, and contain penalty provisions, which may be enforced by local units of government, should a local ordinance not exist.



Open burning of brush, logs, stumps, and trees is prohibited within 1,400 feet of an incorporated city or village limit. The open burning of grass clippings and leaves is not allowed in municipalities having a population of 7,500 or more unless the local governing body has specifically enacted an ordinance authorizing it. A burn permit may be required prior to conducting open burning. For information on obtaining a burn permit go to www.michigan.gov/burnpermit. Structures may not be burned for the purpose of demolition. Air quality regulations allow structures to be intentionally burned for the purpose of [fire suppression training](#) only.

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Open burning may also be regulated by the local unit of government. Contact local authorities about their ordinances. Additional information about open burning can be found at the DEQ's Open Burning website at www.michigan.gov/openburning.

1.4 Part 4 Rules: Sulfur Bearing Compounds

Part 4 of the Michigan Air Pollution Control Rules establish sulfur dioxide emission limitations on boilers and other fuel-burning equipment. The sulfur content of fuels, such as coal and fuel oil, must fall within prescribed percentages.

1.5 Part 6 Rules: Existing Sources of VOC Emissions

In 1978, the U.S. EPA published a document containing available methods and technologies designed to reduce emissions from a variety of sources that emit VOCs. Many of the control strategies in this document were incorporated into the Michigan Air Pollution Control Rules, specifically the Part 6 rules.

The U.S. EPA document describes the technologies as reasonably available control technology (RACT). RACT was developed to help state and local agencies determine the level of VOC control needed to represent the lowest achievable emission rate using reasonably available control technology. Significant research was conducted to establish RACT and identify a level of control that industry could comply with, while benefiting the environment through improved air quality. Part 6 rules are often referred to as the RACT rules, and they are used to regulate existing sources of VOCs in accordance with state obligations under the federal Clean Air Act. Table 1.2 contains a listing of all the VOC-emitting emission units regulated under the Part 6 rules.

TABLE 1.2 SUMMARY OF PART 6 RULES

Rule Number*	Emission Unit	Existing Means Equipment Installed before:
604-605	Storage of organic compounds	July 1, 1979
606-609	Loading of gasoline into gas stations and bulk plants	July 1, 1979
610	Automotive and light-duty trucks; cans; coils; large appliances; metal furniture; magnet wire; and nonmetallic surfaces of fabrics, vinyl, or paper coating lines	July 1, 1979
611-614	Solvent vapor degreasers and cold cleaners	July 1, 1979
615-617	Petroleum refinery	July 1, 1979
618	Cutback paving asphalt	July 1, 1979
619	Perchloroethylene dry cleaning equipment	July 1, 1980
620	Flat wood paneling lines	July 1, 1980
621	Metallic surface coating lines	July 1, 1980
622	Petroleum refineries	July 1, 1980
623	Storage of petroleum liquids	July 1, 1980

Rule Number*	Emission Unit	Existing Means Equipment Installed before:
624	Graphic art lines	July 1, 1980
625	Pharmaceutical products	July 1, 1980
627	Delivery vessels	Not applicable
628	Synthetic organic chemicals	January 5, 1981
629	Natural gas processing	January 20, 1984
630	Paint manufacturing	July 1, 1987
631	Polystyrene and organic resins	July 1, 1987
632	Plastic coating lines	July 1, 1979
651	Degreasers	Not applicable

1.6 Part 7 Rules: New Sources of VOC Emissions

Under Part 7 of the Michigan Air Pollution Control Rules, a new source is defined as any emission unit placed into service on or after July 1, 1979. According to R 336.1702, when installing a new source of VOCs or modifying an existing source, a facility must evaluate the following four emission rates and use whichever one results in the lowest maximum allowable emission rate of VOCs.

1. An emission rate based upon Best Available Control Technology (BACT).
2. The maximum allowable emission rate specified by a New Source Performance Standard (NSPS) promulgated by the U.S. EPA.
3. The maximum allowable emission rate specified as a condition of a Permit to Install.
4. The maximum allowable emission rate specified in the Part 6 rules of the Michigan Air Pollution Control Rules.

BACT Analysis

BACT is defined as the most stringent emission limit or control technique that has either been achieved in practice for a category of emission units, is found in other state air quality rules, or is considered by the regulatory agency to be technically feasible and cost effective. A BACT analysis performed as part of the permit review process, triggers continual use of technology resulting in low emissions of air contaminants. Since technology is ever-changing, BACT is an evolutionary process striving for continuous improvement of air quality in the state.

New Source Performance Standards

Under Section 111 of the Clean Air Act, the U.S. EPA is authorized to establish an NSPS for new or modified sources in specific industrial categories. These standards set emission limits for over 75 categories that have the potential to emit a significant amount of air contaminants that could endanger public health.

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The NSPS requirements are found in the federal rules published in the Code of Federal Regulations (CFR). The federal rules relating to environmental protection are contained in Title 40 of the CFR. Air quality regulations are found in Parts 50 to 99 of Title 40. The NSPS requirements are located in Part 60. Each specific NSPS is a subpart of Part 60.

Appendix 1-C lists all of the NSPS subparts including those related to VOC emission units.

Permit Conditions

An emission rate contained in a previously issued Permit to Install is reviewed by the permit engineer of the AQD and applied to a similar new source undergoing the permit review. From a practical standpoint, this emission rate is not viable as it would be difficult to limit emissions by permit condition to a level more stringent than prescribed by BACT.

Part 6 Rules

Finally, the last step to identify the lowest maximum allowable emission rate for a proposed new source of VOC emissions is the emission limitations contained within the Part 6 rules of Michigan Air Pollution Control Rules. It is a reasonable expectation that new sources of VOCs should emit no more than existing sources of VOCs.

1.7 Part 8 Rules: Oxides of Nitrogen (NO_x)

Part 8 of the Michigan Air Pollution Control Rules establish emission limits on sources of oxides of nitrogen. These sources include larger fossil fuel-fired emission units such as electricity generating units, boilers/process heaters, stationary internal combustion engines, cement kilns, and stationary gas turbines. Emission units subject to the Part 8 rules must comply with the emission limits provided, as well as all applicable monitoring, testing, and recordkeeping requirements.

1.8 Part 9 Rules: Miscellaneous Provisions

The rules in Part 9 of the Michigan Air Pollution Control Rules can apply to any business, regardless of the type of air contaminant emitted or emission unit installed. According to R 336.1901, air contaminants cannot be emitted in quantities that could have an injurious effect on human health or safety or cause unreasonable interference with the comfortable enjoyment of life and property.

Businesses, upon request from the AQD, must prepare a malfunction abatement plan to prevent, detect, and correct malfunctions resulting in the emissions of air contaminants exceeding any applicable limitation (R 336.1911). When a business has a malfunction of a process device and/or control device resulting in the exceedance of an emission standard or limitation over a prescribed amount of time, it must be reported to the AQD (R 336.1912).

1.9 Part 10 Rules: Intermittent Testing and Sampling

Part 10 of the Michigan Air Pollution Control Rules give the AQD authority to require sources to quantify their air emissions to verify compliance with the emission standards. The testing must be performed in accordance with established testing methodologies.

1.10 Part 11 Rules: Continuous Emission Monitoring

Large sources of air contaminants must operate continuous emission monitoring equipment to verify compliance with the applicable emission standards. The monitoring equipment is typically installed in the process device itself or in the stack.

1.11 Part 14 Rules: Clean Corporate Citizen Program

Michigan's Clean Corporate Citizen Program allows sources that have demonstrated environmental stewardship and a strong environmental ethic to receive public recognition and air quality permit processing benefits. For more information, call 800-662-9278 or go to www.michigan.gov/deqc3.



1.12 Michigan Air Emissions Reporting System

The federal Clean Air Act requires that each state maintain an inventory of air pollution emissions for certain facilities and update this inventory every year. Michigan's emission inventory is the [Michigan Air Emissions Reporting System](#) (MAERS). The AQD maintains MAERS by requesting certain facilities to annually report their emissions. This information is used to track air pollution trends, determine the effectiveness of current air pollution control programs, serve as a basis for future-year projections of air quality, track source compliance, provide information for permit review, and calculate the emissions portion of the air quality fee.

Not every facility is required to report to MAERS. Facilities that are subject to fees, participate in the emissions trading program, or have opted-out of the ROP program, must report emissions. In addition, facilities with actual annual emissions greater than the following thresholds will be included in MAERS and will be notified to report emissions annually:

- Carbon monoxide (CO) - 100 tons per year
- Nitrogen oxides (NO_x) - 40 tons per year
- Sulfur dioxide (SO₂) - 40 tons per year
- Particulate matter (PM) - 25 tons per year
- Particulate matter (PM-10) - 15 tons per year
- Volatile organic compounds (VOC) - 10 tons per year



For more information about MAERS, view the [MAERS User Guide and Workbook](#) at www.michigan.gov/deqmaers.

MAERS reports are due by March 15 each year. By the end of January, the AQD notifies facilities that must submit the MAERS report.

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1.13 Tax Exemption for Air Pollution Control

As per Article II, Chapter I, Part 59 (Air Pollution Control Facility; Tax Exemption) of Public Act 451 of 1994, hereinafter referred to as “Part 59,” tax exemptions for air pollution control are available through an application separate from the Permit to Install application. Specific procedures must be followed to be granted tax relief and tax exemption certificates are terminated when equipment is removed.

Part 59 provides for the exemption of air pollution control facilities from sales, use, and property taxes (equipment installed prior to the effective date of Part 59 is eligible for tax exemption).

Applications for tax exemption for air pollution control facilities must be submitted to the **Michigan State Tax Commission** (STC) in triplicate on the “[Application for Air Pollution Control Tax Exemption Certificate](#)” forms. **All applications must be submitted by June 15 and be administratively complete** to ensure that final determinations are made by the end of the tax year. These forms can be obtained from:

Michigan State Tax Commission
Department of Treasury
430 W. Allegan Street
Lansing, MI 48922
Telephone: 517-373-3272

or from the Michigan State Tax Commission’s Web site at www.michigan.gov/taxes (select “Property Tax,” “Property Tax Exemptions,” “[Air Pollution Control Exemption](#).” The evaluation of an application, the decision of what equipment meets the requirements of Part 59 will be based on the descriptions in the Act.

Once submitted, an administrative completeness check will be conducted by the STC for each application. Failure to complete the required information will result in a return of the application. A technical completeness check will be conducted by the DEQ. If the application is technically incomplete, and the requested additional information is not submitted within 30 days of notification of the deficiency, the DEQ will consider the application withdrawn and it will be returned to the State Tax Commission. The STC will then place the application on an inactive status and notify the company that no certificate will be issued. Once an application is administratively and technically complete, the STC keeps the official copy, and then forwards a copy to the AQD District Office (see Appendix C), and the third copy to the local tax assessor. Most tax exemption determinations are completed by October or November of the same tax year.

1.14 Federal Air Regulations

The U.S. EPA promulgates federal rules and standards that affect a wide variety of sources of air contaminants, especially those operated by manufacturers. The DEQ’s AQD receives delegation from the U.S. EPA to implement and enforce compliance with these federal regulations. Some of the federal air quality regulations that manufacturers should be aware of include: Prevention of Significant Deterioration (PSD), New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAPs), Risk Management Plans, and the regulation of CFCs.

1.15 Prevention of Significant Deterioration

The primary provisions of the Prevention of Significant Deterioration (PSD) program, as found in Michigan's Part 18 Rules, mirror the federal requirements in 40 CFR 52.21 and require that new major stationary sources and major modifications at existing major sources be carefully reviewed prior to construction. The review is intended to ensure compliance with the national ambient air quality standards, the applicable PSD increment concentrations, and the requirement to apply best available control technologies on the project's emissions of air pollutants above significance. The review for major stationary sources and major modifications to major stationary sources are required by the Clean Air Act to undergo a new source review (NSR) and obtain a permit before construction.

PSD applicability depends on a new source or a modification to an existing source resulting in emission increases above certain applicability thresholds. A "major stationary source" is any source type belonging to [a specific list of source categories](#) which emits or has the potential to emit 100 tons per year or more of any NSR pollutant, or any other source type which emits or has the potential to emit any NSR pollutant in amounts equal to or greater than 250 tons per year. A stationary source generally includes all pollutant-emitting activities which belong to the same industrial grouping, are located on contiguous or adjacent properties, and are under common control.

A major modification is generally a physical change or a change in the method of operation of an existing major stationary source. In determining if a specific project would become subject to the PSD program, the modification must be determined to result in both a significant emissions increase (by itself) and a significant net emissions increase (across the whole stationary source) of any NSR pollutant.

The basic goals of the PSD program are: (1) to ensure that economic growth can continue while simultaneously preserving existing air quality (i.e., prevent degradation of an attainment area into a nonattainment area); and (2) to preserve and protect the air quality in areas of special natural recreational, scenic, or historic value, such as national parks and wilderness areas (i.e., Class I areas). Nonattainment areas are covered by [Michigan's Part 19 Rules](#).

In two rulemaking actions, on December 31, 2002, and October 27, 2003, the U.S. EPA substantially reformed the PSD program. The reformed program modified PSD as it had been implemented pursuant to the 1977 Clean Air Act mandates and 1980 federal court decisions. The December regulations became effective in the state of Michigan on March 3, 2003. The October 2003 regulations were stayed by the federal courts and never became effective in Michigan.

The reforms originally contained six components:

1. Changed the method of determining the baseline level of emissions from which changes are measured to determine if a significant or significant net emissions increase will occur.
2. Instituted applicability determinations by comparing projected future actual emissions against baseline actual emissions. Previously, applicability was determined on the increase in allowable emissions above baseline actual emissions.

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3. Created a Plantwide Applicability Limit permitting regime, in which compliance with a single, plantwide emissions limit becomes the sole determiner of NSR applicability for future changes at the facility.
4. Codified the exemption from NSR applicability granted to Pollution Control Projects. This exemption had been allowed through U.S. EPA guidance since 1994.
5. Created the Clean Unit applicability test which allowed changes to emission units that had installed state of the art controls to proceed without NSR applicability - as long as the changes did not alter the basis for the use of those controls.
6. Created an Equipment Replacement Provision under the routine maintenance, repair and replacement exclusions from NSR applicability.

As a result of two major federal court challenges to these reforms, only the first three remain. The Pollution Control Project exclusion, the Clean Unit test and the Equipment Replacement Provisions were ruled to violate the Clean Air Act and have been nullified.

The new method for determining baseline actual emissions expanded for some sources, from five years to ten years, the period of time over which a two-year average of actual annual emissions could be selected as the baseline from which emission changes are measured. Any consecutive 24-month period during the previous ten years can be selected by an applicant as the emissions baseline.

The actual to projected actual applicability test can be used to determine if a modification at an existing source will result in a significant emissions increase. To accomplish this, future emissions are projected based on anticipated business demand. Any emissions increases resulting from future production that would have, or could have, been accommodated without the modification do not count towards NSR applicability. The creation of the actual to projected actual applicability test does not eliminate the traditional actual to potential applicability test; it is an alternative test.

The Plantwide Applicability Limit (PAL) permit written into the reformed PSD regulations establish another alternative PSD applicability threshold to the actual to potential or actual to projected actual methods. The PSD PAL leaves almost all existing permit requirements in place and adds a new, facility-wide, tons per year emissions limit for a single pollutant. This facility-wide pollutant-specific limit establishes the applicability threshold for PSD – as long as the PAL is not exceeded, NSR applicability is not triggered. The goal of the PAL is to internally motivate facilities to voluntarily reduce emissions in order to accommodate future increases rather than subject those increases to NSR.

For more information about the PSD reforms, obtain a copy of the *“PSD Workbook – A Practical Guide to Prevention of Significant Deterioration.”* The workbook is available for viewing and/or downloading at www.deq.state.mi.us/aps.



For assistance in determining whether or not your proposed installation or modification of an emission unit or source will trigger the PSD requirements, contact the Environmental Assistance Center at 800-662-9278.

1.16 National Emission Standards for Hazardous Air Pollutants (NESHAP)

The 1970 version of the federal Clean Air Act required the U.S. EPA to set emission standards referred to as National Emission Standards for Hazardous Air Pollutants (NESHAP). From 1970 to 1990, NESHAPs were issued for only seven compounds: asbestos, beryllium, mercury, vinyl chloride, arsenic, radionuclides, and benzene.

Under Title III of the Clean Air Amendments of 1990, Congress wanted the U.S. EPA to speed up the pace of regulation. Section 112 of the Clean Air Act Amendments calls for the development of NESHAPs to reduce the emissions of 187 hazardous air pollutants (HAPs). The original list of HAPs contained 189 compounds; however, caprolactam and methyl ethyl ketone (MEK) have been removed from the list. See Appendix 1-A for a listing of HAPs.

Implementation of Section 112 began with the identification of sources that are the major contributors of the 187 HAPs. The U.S. EPA has identified over 174 source categories of sources that emit HAPs and that should be regulated.

1.16.1 Major and Area HAP Sources Defined

A “major HAP source” is a facility that has the potential to emit more than 10 tons per year of any single HAP or 25 tons of all HAPs combined. An “area source” is one that has the potential to emit less than 10 tons of any single HAP or 25 tons of all HAPs combined. The majority of NESHAPs promulgated apply to major HAP sources. However, a number of NESHAPs have been and are currently being promulgated for area sources as well.

1.16.2 Regulating Major and Area HAP Sources - MACT and GACT

Section 112 of the federal Clean Air Act requires the U.S. EPA to promulgate regulations that establish emission standards (commonly referred to as NESHAPs) for each category of major sources and area sources of HAPs identified in the U.S. EPA schedule of regulation promulgation. The standards for major sources of HAPs must require the maximum degree of emission reduction that the U.S. EPA determines to be achievable by each particular source category. This standard is referred to as the maximum achievable control technology (MACT) for short. MACT levels can be different for existing and new sources. The U.S. EPA determines what kind of controls qualify as the “maximum control” for each category of HAP sources. For source categories with at least 30 sources nationwide, MACT must be no less stringent than the average emission rate achieved by the best performing 12 percent of existing sources. MACT ensures that both new and existing major sources of toxic air pollution use the kind of technology which provides maximum control of HAPs on an ongoing basis. The terms NESHAP and MACT are often used interchangeably.

Area sources may require either MACT or Generally Available Control Technology (GACT). GACT are standards less stringent than MACT. Information about standards that have been promulgated for area sources can be found at www.epa.gov/ttn/atw/area/arearules.html.

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1.16.3 Schedule for Compliance with the NESHAPs

New sources (i.e., sources that commence construction or reconstruction after proposal of the NESHAP) must comply with the standard immediately upon start-up with one exception.

Sources constructed or reconstructed after the NESHAP proposal, but before promulgation, must comply with the promulgated standard within three years of promulgation. Existing sources (i.e., sources in operation prior to the proposed standard) have three years from the promulgation date to comply with the NESHAP.

1.16.4 Additional NESHAP Information

For a complete listing of NESHAPs that affect both major and areas sources go to www.epa.gov/ttn/atw/area/arearules.html. To obtain copies of the NESHAP standards as they appear in the Code of Federal Regulations (CFR), go to www.epa.gov/lawsregs. Click on "40 CFR (Code of Federal Regulations) and go to Part 63. NESHAPs are contained in Title 40 of the CFR, Part 63. For additional guidance on how to obtain federal regulations, see Appendix D.

To obtain copies of outreach materials on some of the promulgated NESHAPs, contact the DEQ at 800-662-9278. Some of the publications can be downloaded at www.michigan.gov/air (select "Compliance Tab").

1.16.5 Comparison of Federal and Michigan Air Toxics Rules

Michigan's air toxics rules take precedence over the federal Clean Air Act regulations where the rules provide for stricter control of toxic air pollution. The following table outlines the provisions of both Michigan's toxic air contaminant regulations and the federal Clean Air Act Amendment's hazardous air pollutant regulations:

TABLE 1.3 COMPARISON OF FEDERAL AND STATE AIR TOXIC REGULATIONS

Issue	Federal Clean Air Act Amendments	Michigan Air Toxics Rules
Applies to new or modified sources of air toxics?	Yes	Yes
Applies to existing sources of air toxics?	Yes	No
Which air toxics are regulated?	At present, 187 chemicals known as hazardous air pollutants or HAPs (the list is subject to change)	All substances which are harmful except for 41 specifically exempted compounds (see Appendix 1-B). These regulated contaminants are known as toxic air contaminants or TACs.
Effective date of regulations	Phased in between 1990 and 2000 (and beyond)	In effect now
Types of controls required	Maximum achievable controls	Best available controls and health-based screening levels

1.16.6 NESHAP for Asbestos

Businesses that are contemplating the demolition or renovation of any structure should be aware that this activity may be regulated under the NESHAP for Asbestos. The purpose of this NESHAP is to minimize the release of asbestos fibers during renovation and demolition activities. The NESHAP applies to renovations of institutional, commercial, or industrial structures if the amount of regulated asbestos-containing material is 260 or more linear feet, 160 or more square feet, or 35 or more cubic feet. The NESHAP applies to all demolition activities at institutional, commercial, or industrial structures, regardless of whether or not the structures contain asbestos.



The NESHAP for Asbestos was promulgated on April 6, 1973, and revised in 1990.

Since the NESHAP was one of the early promulgated NESHAPs, the regulation is found in [Part 61 \(Subpart M\)](#), not Part 63, of Title 40 of the Federal Code of Regulations.

The NESHAP for Asbestos basically has four requirements: notification, work practice standards, proper waste disposal, and training. A notification form describing the project must be postmarked or hand delivered at least 10 working days before beginning demolition or renovation activities enabling the regulatory agency to ensure all precautions are being taken to minimize asbestos emissions. The work practice standards require asbestos be adequately wetted and carefully lowered to the ground. For waste disposal, all asbestos-containing waste must be placed in leak-tight containers or leak-tight wrapping. These containers or wrapped materials must be properly labeled and taken to an appropriate waste disposal site as soon as is practical. Finally, the training requirement is met by having at least one trained supervisor present when asbestos is stripped, removed, disturbed, or handled.

While the NESHAP is concerned about the release of asbestos fibers to the outer air, there are other asbestos regulations focusing on worker protection. For information about these requirements see Chapter 21. For more detailed information about the NESHAP for Asbestos, contact the NESHAP Asbestos Coordinator at 517-373-7023. To obtain a copy of the “[Understanding the Asbestos NESHAP](#)” fact sheet, contact the DEQ, Office of Environmental Assistance, at 800-662-9278. This publication can also be downloaded from www.deq.state.mi.us/pubcenter/.

1.17 New Source Performance Standards

New Source Performance Standards (NSPS) are federal requirements applicable to over 75 categories of industrial emission units. The U.S. EPA developed these standards to ensure that old sources of air pollution would be replaced with less polluting technology, thus having a net benefit to air quality.

Not only does the installation of certain new emission units after a specific date trigger applicability of the NSPS, changes to your existing emission units could subject you to the standards. Changes are defined in terms of modifications and reconstruction. Modification is

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defined as “any physical or operational change to an existing emission unit which results in an increase in emissions to the atmosphere of any pollutant to which a standard applies.” If the fixed capital cost of the changes you make to your emission unit is more than 50 percent of the fixed capital costs required to construct a comparable emission unit, then your facility has been “reconstructed” under the NSPS definition. For example, if you replaced the dryer portion of an asphalt plant, you would need to compare the cost of the new dryer to the cost of an entirely new asphalt plant as defined in the NSPS for Hot Mix Asphalt Facilities to determine if your changes fall under the definition of reconstruction.

All of the NSPS are located in [Title 40, Part 60](#), of the Code of Federal Regulations. Each regulation is identified in subparts of Part 60. Appendix 1-C contains a brief description of the emission units covered under an NSPS, along with an effective date and subpart. The NSPS applies to emission units constructed, modified, or reconstructed after the effective date of the standard.

It is important that you understand the definitions of an affected facility under NSPS before you install, modify, or reconstruct sources of air pollution so you will be able to comply with all of the pertinent emission limits, record keeping, reporting, and other operational requirements that may be included in the NSPS.

1.17.1 Additional Sources of NSPS Information

To obtain copies of the NSPS regulations as they appear in the Code of Federal Regulations (CFR), go to www.epa.gov/laws-regulations/regulations#find. (Appendix D contains additional information on how to find federal regulations on the Internet). You can also get help by calling the Environmental Assistance Center at 800-662-9278.

1.18 Acid Rain Regulations

Electric generating units (EGU) selling electricity to the grid and burning fossil fuel may be required to obtain and operate in compliance with a Phase II acid rain permit, pursuant to Title IV of the federal Clean Air Act. EGUs that have a nameplate capacity of less than 25 MW and burn a fuel with an annual average sulfur content of less than 0.05 percent are exempt from Title IV.

The AQD is the authority responsible for issuing Phase II acid rain permits in Michigan. EGUs that become subject to Title IV are required to submit an application to the AQD 24 months before the unit commences operation. Units which are exempt from the program must submit the exemption form (original and one copy) to the AQD. All acid rain forms should be sent to Brian Carley, DEQ-AQD, 301 E. Louis Glick Hwy, Jackson, MI 49201. One copy must also be sent to the U.S. EPA. Application and exemption forms and their instructions are available from the U.S. EPA Acid Forms Web site www.epa.gov/airmarkets.

Any operating stationary combustion source that emits sulfur dioxide (SO₂) but is not otherwise required to meet the mandatory SO₂ emissions limitations of Title IV is eligible to opt into the Acid Rain Program. Combustion sources are defined as fossil fuel-fired boilers, turbines, or internal combustion engines. The Opt-in Program offers a combustion source a financial

incentive to voluntarily reduce its SO₂ emissions. By reducing emissions below its allowance allocation, an opt-in source will have unused allowances which it can sell in the SO₂ allowance market. Opting in will be profitable if the revenue from the sale of allowances exceeds the combined cost of the emissions reduction and the cost of participating in the Opt-in Program. Further information on the Opt-in Program is available on the U.S. EPA Air Markets Web site www.epa.gov/airmarkets.

All sources subject to the Title IV Acid Rain Program are also required to obtain a Renewable Operating Permit (see Chapter 1.2.3).



For further information about the [Acid Rain Program](#), contact Brian Carley at 517-780-7843 or carleyb@michigan.gov. Information is also available at www.michigan.gov/air (select “Permits”).

1.19 Managing Chemical Risk: Accidental Release/Risk Management Plan

Companies of all sizes using certain listed chemicals must submit plans detailing how they will prevent accidental chemical releases from occurring. This compliance requirement is known as the [Accidental Release/Risk Management Program of the 1990 Clean Air Act Amendment's Section 112\(r\)](#). The goal of this regulation is to communicate potential risks to the public and ensure that facilities have implemented a baseline internal management structure that includes safety and prevention and emergency response programs to reduce the possibility of an accidental release. The primary tool used to accomplish this goal is the Risk Management Plan (RMP). A facility must develop a RMP if they have regulated substances (comprised of toxic chemicals and flammables) identified under Section 112(r) at or above a specific threshold quantity set for each substance. Size of the company does not determine applicability; a business is required to complete a RMP if the type and quantity of chemicals used are listed as regulated substances under the rule.

There are three levels of compliance with Section 112(r) called “Programs.” Facilities that have a process that uses, stores, manufactures, processes, or handles or transports on-site a Section 112(r) regulated substance over the threshold quantity, are required to conduct some level of accidental release “Program” planning. There are three Programs. Program 1 is the most lenient while Program 3 is the most stringent. The Programs are comprised of four major components:

1. A Hazard Assessment including the modeling of a worst case and alternative accidental chemical release.
2. Establishment of a Management Program (i.e., who's in charge of the RMP).
3. A Prevention Program to minimize the potential occurrence of an accidental release.
4. An Emergency Response Program to protect public health and the environment.

Program 1, 2, or 3 applicability dictates which of these components a facility must comply with. Facilities subject to Section 112(r) must meet their Program compliance requirements by June 21, 1999, or at the time that a substance is first present at their facility.



For more information on risk management planning, or questions regarding the rule, additional resources and guidance documents for compliance can be downloaded from the U.S. EPA emergency planning Web site at www.epa.gov/emergencies.

1.20 Ozone Depleting Substances

Chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) are inert, toxic chemicals used as refrigerants for air conditioning, home and commercial refrigeration, and in process cooling equipment that supports manufacturing. Scientists worldwide have concluded that CFCs and HCFCs deplete the ozone layer. As a result, the United States joined 160 nations in signing the Montreal Protocol, an international treaty designed to protect the ozone layer. In the United States, the Protocol is implemented by Title VI of the Clean Air Act (CAA) and Title 40, Part 82, of the Code of Federal Regulations. The regulations provided for the phase-out of CFC production by 1996, HCFC-22 production by 2020, and all other HCFCs by 2030. The regulations also put strict limitations on CFC/HCFC sales, their use in stationary and mobile sources, and their disposal.



The CAA prohibits individuals from knowingly venting CFCs, HCFCs, or any alternative refrigerant into the atmosphere while maintaining, servicing, repairing, or disposing of air conditioning or refrigeration equipment. Furthermore, only U.S. EPA-certified technicians can service or dispose of refrigeration or air conditioning equipment (both stationary and mobile sources). The U.S. EPA regional office must be notified that all equipment used in the recycling or recovery of refrigerants meets U.S. EPA standards. A list of approved certification programs and Air Conditioning and Refrigeration Institute (ARI)-rated recovery/recycle equipment is available from the Stratospheric Ozone Hotline at (800) 296-1996. Owners of air conditioning and refrigeration equipment with more than 50 pounds of charge must keep records of the quantity of refrigerant added to their equipment during servicing and maintenance procedures. Any “substantial” leaks in equipment must be repaired within 30 days.

As the effects of ozone-depleting substance phase-outs begin to take hold, the development and usage of viable alternatives becomes increasingly important. In 1994, the U.S. EPA established the significant new alternatives policy (SNAP) program to evaluate new alternatives for ozone-depleting substances. Alternatives that are rated “acceptable” by the SNAP Program can be implemented into processes as legal substitutes. The use of any substance not approved by the SNAP Program is illegal.



Persons with questions concerning CFC/HCFC regulations, the [SNAP Program](#), and stratospheric ozone protection can contact the “Ozone Protection Hotline” at 800-296-1996. If you have Internet access, visit the U.S. EPA, Stratospheric Protection Division Web site at www.epa.gov/ozone.

1.21 Greenhouse Gas (GHG) Regulations

On June 3, 2010, the U.S. EPA issued a final rule that sets applicability thresholds for greenhouse gas (GHG) emissions defining when permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing sources. This rule is known as the “Tailoring Rule.”

The [Tailoring Rule](#) primarily targets sources of combustion, but it may affect other sources that are modifying or applying for new Permits to Install (PTIs) and Renewable Operating Permits (ROPs). Sources with emissions of any of the following pollutants may be affected by the Tailoring Rule:

- carbon dioxide (CO₂),
- hydrofluorocarbons (HFCs),
- methane (CH₄),
- nitrous oxide (N₂O),
- perfluorocarbons (PFCs), and
- sulfur hexafluoride (SF₆).

Under the Tailoring Rule, PSD permitting requirements cover new construction projects that emit GHG emissions of at least 100,000 tons per year (tpy) even if they do not exceed the permitting thresholds for any other pollutant. Modifications at existing facilities that increase GHG emissions by at least 75,000 tpy will be subject to permitting requirements, even if they do not significantly increase emissions of any other pollutant.

Facilities that emit at least 100,000 tpy Carbon Dioxide equivalent (CO₂e) and 100 tons of GHGs on a mass basis will be subject to permitting under Title V of the Clean Air Act. In Michigan, these permits are known as Renewable Operating Permits (ROPs). Sources with large or multiple fuel burning devices (e.g. boilers, generators, ovens, and process heaters) and sources with large refrigeration units (e.g., warehouses, food processors) should review the GHG Permitting Guidance the AQD has developed to determine whether or not they will be affected by the Tailoring Rule. This guidance and more can be found at www.michigan.gov/air (click on “Permits” tab then click on “Greenhouse Gas Emissions Regulations and Permitting”).

1.21.1 Greenhouse Gas Reporting Rule

On December 29, 2009, the U.S. EPA's Mandatory Reporting of Greenhouse Gases Rule (MRR) became effective. The MRR requires facilities subject to the rule to report their GHG emissions directly to the U.S. EPA starting with their 2010 GHG emissions data by March 31, 2011.

Visit the U.S. EPA's Greenhouse Gas Reporting Program at www.epa.gov/ghgreporting to determine if your facility is subject to the MRR reporting requirements. If you have questions, contact the U.S. EPA MRR hotline at 877-GHG-1188 or GHGMRR@epa.gov.

APPENDIX 1-A: Hazardous Air Pollutants (HAPs)

(Revised December 2016)

CAS Number listed, followed by chemical name.

75070	Acetaldehyde	132649	Dibenzofurans	50000	Formaldehyde
60355	Acetamide	96128	1,2-Dibromo-3-chloropropane	76448	Heptachlor
75058	Acetonitrile	84742	Dibutylphthalate	118741	Hexachlorobenzene
98862	Acetophenone	106467	1,4-Dichlorobenzene(p)	87683	Hexachlorobutadiene
53963	2-Acetylaminofluorene	91941	3,3-ichlorobenzidene	77474	Hexachlorocyclopentadiene
107028	Acrolein	111444	Dichloroethyl ether (Bis(2-chloroethyl)ether)	67721	Hexachloroethane
79061	Acrylamide	542756	1,3-Dichloropropene	822060	Hexamethylene-1,6-diisocyanate
79107	Acrylic acid	62737	Dichlorvos	680319	Hexamethyl phosphoramidate
107131	Acrylonitrile	111422	Diethanolamine	110543	Hexane
107051	Allyl chloride	21697	N,N-Diethyl aniline (N,N-Dimethylaniline)	302012	Hydrazine
92671	4-Aminobiphenyl	64675	Diethyl sulfate	7647010	Hydrochloric acid
62533	Aniline	119904	3,3-Dimethoxybenzidine	7664393	Hydrogen fluoride (hydrofluoric acid)
90040	o-Anisidine	60117	Dimethyl aminoazobenzene	123319	Hydroquinone
1332214	Asbestos	119937	3,3-Dimethyl benzidine	78591	Isophorone
71432	Benzene	79447	Dimethyl carbarmoyl chloride	58899	Lindane (all isomers)
92875	Benzidine	68122	Dimethyl formamide	108316	Maleic anhydride
98077	Benzotrichloride	57147	1,1 Dimethyl hydrazine	67561	Methanol
100447	Benzyl chloride	131113	Dimethyl phthalate	72435	Methozychlor
92524	Biphenyl	77781	Dimethyl sulfate	74839	Methyl bromide (Bromomethane)
117817	Bis (2-ethylhexyl) phthalate (DEHP)	534521	4,6-Dintro-o-cresol, and salts	74873	Methyl chloride (Chloromethane)
542881	Bis (chloromethyl) ether	51285	2,4-Dinitrophenol	71556	Methyl chloroform (1,1,1-Trichloroethane)
75252	Bromoform	121142	2,4-Dinitrotoluene	60344	Methyl hydrazine
106990	1,3-Butadiene	123911	1,4-Dioxane (1,4-Diethyleneoxide)	74884	Methyl iodide (Iodomethane)
156627	Calcium cyanamide	122667	1,2-Diphenylhydrazine	108101	Methyl isobutyl ketone (Hexone)
133062	Captan	106898	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	624839	Methyl isocyanate
63252	Carbaryl	106887	1,2-Epozybutane	80626	Methyl methacrylate
75150	Carbon disulfide	140885	Ethyl acrylate	1634044	Methyl tert butyl ether
56235	Carbon tetrachloride	100414	Ethyl benzene	101144	4,4-Methylene bis (2-chloroaniline)
463581	Carbonyl sulfide	51796	Ethyl carbamate (Urethane)	75092	Methylene chloride (Dichloromethane)
120809	Catechol	75003	Ethyl chloride (Chloroethane)	101688	Methlene diphenyl diisocyanate (MDI)
133904	Chloramben	106934	Ethylene dibromide (Dibromoethane)	101779	4,4'-methylenedianiline
57749	Chlordane	107062	Ethylene dichloride (1,2-Dichloroethane)	91203	Naphtalene
7782505	Chlorine	107211	Ethylene glycol	98953	Nitrobenzene
79118	Chloroacetic acid	151564	Ethylene imine (Aziridine)	92933	4-Nitrobiphenyl
532274	2-Chloroacetophenone	75218	Ethylene oxide	100027	4-Nitrophenol
108907	Chlorobenzene	96457	Ethylene thiourea	79469	2-Nitropropane
510156	Chlorobenzilate	75343	Ethylidene dichloride (1,1-Dichloroethane)	684935	N-Nitroso-N-methylurea
67663	Chloroform			62759	N-Nitrosodimethylamine
107302	Chloromethyl methyl ether			59892	N-Nitrosomorpholine
126998	Chloroprene				
1319773	Cresols/Cresylic acid (isomers and mixtures)				
95487	o-Cresol				
108394	m-Cresol				
106445	p-Cresol				
98828	Cumene				
94757	2,4-D, salts and esters				
3547044	DDE				
334883	Diazomethane				

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56382	Parathion	96093	Styrene oxide		Dichloroethylene)
82688	Pentachloronitrobenzene (Quintobenzene)	1746016	2,3,7,8- Tetrachlorodibenzo p- dioxin	1330207	Xylenes (isomers and mixtures)
87865	Pentachlorophenol	79345	1,1,2,2-Tetrachloroethane	95476	o-Xylenes
108952	Phenol	127184	Tetrachloroethylene (Perchloroethylene)	108383	m-Xylenes
106503	p-Phenylenediamine	7550450	Titanium tetrachloride	106423	p-Xylenes
75445	Phosgene	108883	Toluene	COMPOUNDS	
7803512	Phosphine	95807	2,4-Toluene diamine	Antimony compounds	
7723140	Phosphorus	584849	2,4-Toluene diisocyanate	Arsenic compounds (inorganic including arsine)	
85449	Phthalic anhydride	95534	o-Toluidine	Beryllium compounds	
1336363	Polychlorinated biphenyls (Aroclors)	8001352	Toxaphene (chlorinated camphene)	Cadmium compounds	
1120714	1,3-Propane sultone	120821	1,2,4-Trichlorobenzene	Chromium compounds	
57578	beta-Propiolactone	79005	1,1,2-Trichloroethane	Cobalt compounds	
123386	Propionaldehyde	79016	Trichloroethylene	Coke oven emissions	
114261	Propoxur (Baygon)	95954	2,4,5-Trichlorophenol	Cyanide compounds	
75569	Propylene oxide	88062	2,4,6-Trichlorophenol	Fine mineral fibers	
78875	Propylene dichloride (1,2-Dichloropropane)	121448	Triethylamine	Glycol ethers*	
75558	1,2-Propylenimine (2-Methyl aziridine)	1582098	Trifluralin	Lead compounds	
91225	Quinoline	540841	2,2,4-Trimethylpentane	Manganese compounds	
106514	Quinone	108054	Vinyl acetate	Mercury compounds	
100425	Styrene	593602	Vinyl bromide	Nickel compounds	
		75014	Vinyl chloride	Polycyclic organic matter	
		75354	Vinylidene chloride (1,1	Radionuclides (including radon)	
				Selenium compounds	

*Note: Ethylene glycol mono-butyl ether (EGBE) was removed from the HAP list in December 2004. Methyl ethyl ketone (MEK, 2-Butanone) was removed from the HAP list in December 2005.

APPENDIX 1-B: List of Compounds Excluded from The Definition of a Toxic Air Contaminant

- Acetylene
- Aluminum metal dust
- Aluminum oxide (nonfibrous forms)
- Ammonium sulfate
- Argon
- Calcium carbonate
- Calcium hydroxide
- Calcium oxide
- Calcium silicate
- Calcium sulfate
- Carbon dioxide
- Carbon monoxide
- Cellulose
- Coal dust
- Crystalline silica emissions from processes specified in Rule 120(f)(xi)
- Emery
- Ethane
- Graphite (synthetic)
- Grain dust
- Helium
- Hydrogen
- Iron oxide
- Lead
- Liquefied petroleum gas (LPG)
- Methane
- Neon
- Nitrogen
- Nitrogen oxide
- Nuisance particulates
- Oxygen
- Ozone
- Perlite
- Portland cement
- Propane
- Silicon
- Starch
- Sucrose
- Sulfur dioxide
- Vegetable oil mist
- Water vapor
- Zinc metal dust

APPENDIX 1-C: Standards of Performance For New Stationary Sources

Performance Standards Promulgated as of March 2012

40 CFR 60 Subpart	Source
A	General Provisions
B	Adoption and submittal of state plans for Designated Facilities
Ca (See Ea)	Municipal waste combustor units with capacity >225 megagrams/day (250 tons/day)
Cb (see Eb)	Municipal waste combustor units located within a municipal waste combustor plant with a plant capacity >35 megagrams/day
Cc (see WWW)	Municipal Solid waste landfill
Cd (See H)	Sulfuric acid production unit
Ce	Hospital/medical/infectious waste incinerators
D	Fossil fuel-fired steam generators >250 MM/Btu/hr
Da	Electric utility steam generators >250 MM/Btu/hr
Db	Industrial-commercial-institutional steam generators >100 MM/Btu/hr
Dc	Small industrial-commercial-institutional steam generators >10 MM/Btu/hr but <100 MM/Btu/hr
E	Solid waste incinerator of more than 50 tons/day charging rate
Ea (See Ca)	Municipal waste combustor unit with capacity >225 megagrams/day (250 tons/day)
Eb (See Cb)	Municipal Waste Combustor Unit located within a municipal waste combustor plant with a plant capacity >35 megagrams/day
Ec	Hospital/medical/infectious waste incinerators
F	Portland cement plants
G	Nitric acid production units
Ga	Nitric Acid plants for which construction, reconstruction, or modification commenced after October 14, 2011
H (See Cd)	Sulfuric acid production units
I	Hot mix asphalt facilities
J	Petroleum refinery oil: Fluid catalytic cracking unit catalyst regenerators Fuel gas combustion device
Ja	Petroleum refineries for which construction, reconstruction, or modification commenced after May 14, 2007
K	Storage vessels for petroleum liquids having a capacity >40,000 gallons but not >65,000 gallons Storage vessels for petroleum liquids having a capacity >65,000 gallons
Ka	Storage vessels for petroleum liquids having a capacity >40,000 gallons
Kb	VOC liquid storage vessels having a capacity > or equal to 40 cubic meters
L	Secondary lead smelters: pot furnaces of more than 550 pounds charging capacity, blast (cupola) furnaces, and reverberatory furnaces
M	Secondary brass and bronze production plants: reverberatory and electric furnaces of 2205 pounds or greater production capacity and blast (cupola) furnaces 550 pounds per hour or greater production capacity
N	Oxygen process furnaces
Na	Top-blown basic oxygen process steelmaking facilities (BOPF) and hot metal transfer stations and skimming stations used with bottom-blown BOPFs

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40 CFR 60 Subpart	Source
O	Sewage treatment plants
P	Primary copper smelters: dryer, roaster, smelting furnace, and copper converter
Q	Primary zinc smelters: roaster and sintering machine
R	Primary lead smelters: sintering machine, sintering machine discharge end, blast furnace, dross reverberatory furnace, electric smelting furnace, and converter
S	Primary aluminum reduction plants: potroom groups and anode bake plants
T	Phosphate fertilizer industry: wet-process phosphoric acid plant having a design capacity of more than 15 tons of equivalent P ₂ O ₅ feed per calendar day
U	Phosphate fertilizer industry: superphosphoric acid plant having a design capacity of more than 15 tons of equivalent P ₂ O ₅ feed per calendar day
V	Phosphate fertilizer industry: granular diammonium phosphate plant having a design capacity of more than 15 tons of equivalent P ₂ O ₅ feed per calendar day
W	Phosphate fertilizer industry: triple superphosphate plant having a design capacity of more than 15 tons of equivalent P ₂ O ₅ feed per calendar day
X	Phosphate fertilizer industry: granular triple superphosphate storage facility
Y	Coal preparation plants which process more than 200 tons per day
Z	Ferroalloy production facilities
AA	Steel plants: product carbon, alloy, or specialty steels; electric arc furnaces; and dust-handling systems
AAa	Steel plants: product carbon, alloy, or specialty steels; electric arc furnaces; argon-oxygen decarburization vessels; and dust-handling systems
BB	Kraft pulp mills: digester system, brown stock washer system, multiple-effect evaporator system, recovery furnace, smelt dissolving tank, lime kiln, and condensate stripper system
BBa	Kraft pulp mills, affected sources for which construction, reconstruction, or modification commenced after May 23, 2013
CC	Glass melting furnace
DD	Grain elevators: truck loading/unloading station, barge and ship unloading station, barge and ship loading station, railcar loading station, railcar unloading station, grain dryer, and all grain handling operations
EE	Surface coating of metal furniture
GG	Stationary gas turbines with a heat input peak load equal to or >10.7 gigajoules per hour, based on the lower heating value of the fuel fired
HH	Rotary lime kiln used in the manufacture of lime
KK	Lead-acid battery manufacturing plants that produce or have the design capacity to produce in one day (24 hours) batteries containing an amount of lead equal to or greater than 5.9 Mg (6.5 tons)
LL	Metallic mineral processing plants: crusher and screen in open-pit mines; each crusher, screen bucket elevator, conveyor belt transfer point, thermal dryer, product packaging station, storage bin, enclosed storage area, truck loading station, truck unloading station, railcar loading station, and railcar unloading station at the mill or concentrator
MM	Automobile and light-duty truck surface coating operations: prime coat operation, each guide coat operation, and each topcoat operation
NN	Phosphate rock plants: phosphate rock plants which have a maximum plant production capacity >3.6 megagrams per hour (4 tons/hr); dryers, calciners grinders, and ground rock handling and storage facilities, except those facilities producing or preparing phosphate rock solely for consumption in elemental phosphorus production

40 CFR 60 Subpart	Source
PP	Ammonium sulfate manufacture: ammonium sulfate dryer within an ammonium sulfate manufacturing plant in the caprolactam by-product, synthetic, and coke oven by-product sectors of the ammonium sulfate industry
QQ	Graphic arts industry: publication rotogravure printing process
RR	Pressure sensitive tape and label surface coating operation
SS	Industrial surface coating: large appliances
TT	Metal coil surface coating: prime coat operation, prime and finish coat operation combined when the finish coat is applied wet on wet over the prime coat and both coatings are cured simultaneously
UU	Asphalt processing and asphalt roofing manufacture: saturator and each mineral handling and storage facility at asphalt roofing plants; and each asphalt storage tank and each blowing still at asphalt storage tank or blowing still that processes and/or stores only nonroofing and asphalt roofing plants
VV	Equipment leaks of VOC in the synthetic organic chemicals manufacturing industry
VVa	Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006
WW	Beverage can surface coating industry: exterior base coat operation, overvarish coating operation, and inside spray coating operation
XX	Bulk gasoline terminals: loading racks at a bulk gasoline terminal which deliver liquid product into gasoline tank trucks
AAA	New residential wood heaters
BBB	Rubber tire manufacturing industry: undertread cementing operation, sidewall cementing operation, tread end cementing operation, bead cementing operation, greentire spraying operation, Michelin-A operation, Michelin-B operation, and each Michelin-C automatic operation
DDD	VOC emissions from the polymer manufacturing industry: <ul style="list-style-type: none"> • Polypropylene and polyethylene • Polystyrene and poly(ethylene terephthalate)
FFF	Flexible vinyl and urethane coating and printing: rotogravure printing line used to print or coat flexible vinyl or urethane product
GGG	Equipment leaks at petroleum refineries
GGGa	Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After November 7, 2006
HHH	Synthetic fiber production facilities: solvent spun synthetic fiber process that produces more than 500 megagrams of fiber per year
III	Synthetic organic chemical manufacturing industry air oxidation unit process
JJJ	Petroleum drycleaners: total manufacturers' rated dryer capacity equal to or greater than 38 kilograms (84 pounds): petroleum solvent dry cleaning dryers, washers, filters, stills, and settling tanks
KKK	Onshore natural gas processing
LLL	Onshore natural gas processing
NNN	Synthetic organic chemical manufacturing industry distillation operations
OOO	Nonmetallic mineral processing plants: crusher grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also crushers and grinding mills at hot mix asphalt facilities
PPP	Wool fiberglass insulation manufacturing plants: rotary spin wool fiberglass insulation manufacturing line

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40 CFR 60 Subpart	Source
QQQ	Petroleum refinery wastewater systems
RRR	Synthetic organic chemical manufacturing industry (SOCMI) reactor process
SSS	Magnetic tape coating facilities
TTT	Industrial surface coating: business machines
UUU	Calciners and dryers in mineral industries
VVV	Polymeric coating of support substrates facilities
WWW (see Cc)	Municipal solid waste landfills
AAAA	Small municipal waste combustor units
BBBB	Small municipal waste combustor units
CCCC	Commercial and industrial solid waste incinerator units
DDDD	Commercial and industrial solid waste incinerator units
EEEE	Other Solid Waste Incineration Units for which construction is commenced after December 9, 2004, or for which modification or reconstruction is commenced on or after June 16, 2006
FFFF	Other Solid Waste Incineration Units
HHHH	Coal-Fired Electric Steam Generating Units
IIII	Stationary Compression Ignition Internal Combustion Engines
JJJJ	Stationary Spark Ignition Internal Combustion Engines
KKKK	Stationary Combustion Turbines
LLLL	Standards of Performance for New Sewage Sludge Incineration Units
MMMM	Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units
OOOO	Crude Oil and Natural Gas Production, Transmission And Distribution
QQQQ	New Residential Hydronic Heaters and Forced-Air Furnaces
TTTT	Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units

WHERE TO GO FOR HELP

- SUBJECT:** State and federal air quality regulations
- CONTACT:** DEQ, Clean Air Assistance Program
800-662-9278 | www.michigan.gov/air (Select “Clean Air Assistance Program” under Compliance Tab)
- PUBLICATIONS:** Air Emissions Reporting:
1. [Michigan Air Emissions Reporting System \(MAERS\) Workbook](#)
- Air Permits:
1. [Permit to Install Workbook – A Practical Guide to Completing an Air Permit Application](#)
 2. [PASS-ROP Workbook – A Practical Guide to Completing an Electronic Renewable Operating Permit Application](#)
 3. [Life After ROP – Renewable Operating Permit Reporting and Revisions](#)
 4. [PSD Workbook – A Practical Guide to Prevention of Significant Deterioration](#)
- General Publications:
1. [Air Pollution Control 101](#)
 2. [What is an Air Contaminant/Pollutant?](#)
 3. [Working with an Environmental Consultant](#)
 4. [Michigan Clean Air Consultant Directory](#)
 5. [Open Burning Guidance](#)
- National Emission Standards for Hazardous Air Pollutants (NESHAPs):
1. [Understanding the Asbestos NESHAPs](#)
 2. [The National Emission Standard for Hazardous Air Pollutants \(NESHAPs\) Guide for Chromium Electroplating and Anodizing](#)
 3. [How the Clean Air Act Affects Halogenated Solvent Cleaning Operations](#)
 4. [Air Quality Compliance for Wood Manufacturing Operations](#)
 5. [Wood Furniture Manufacturing Operations NESHAPs](#)

SUBJECT: State and federal air quality regulations and programs

CONTACT: DEQ, Air Quality Division
800-662-9278 | www.michigan.gov/air

SUBJECT: Federal air quality regulations

CONTACT: U.S. Environmental Protection Agency, Office of Air and Radiation
www3.epa.gov/air
www3.epa.gov/airquality/
www3.epa.gov/ttn