

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT



Module One: Air Permitting

Presented by
Indiana Department of Environmental Management
Office of Program Support Assistance and Outreach Branch
Compliance and Technical Assistance Program

Contents

Contents	1
Air: Introduction.....	3
History & Regulatory Background	3
Federal - Clean Air Act	3
National Ambient Air Quality Standards.....	4
New Source Performance Standards (NSPS).....	5
National Emissions Standards for Hazardous Air Pollutants (NESHAP)	6
State of Indiana - Title 326 Air Pollution Control Division	7
Legal Definitions Related to Air Regulation	8
Standard Industrial Classification System (SIC) and North American Industry Classification System (NAICS).....	14
Potential to Emit.....	15
Sourcewide PTE.....	16
Maximum Capacity	17
Calculating Potential to Emit.....	17
Source Determinations	19
Permits	20
Permit Application Process Overview	21
Permit Structure	23
Permitting Approvals.....	25
Exemptions	25
Registrations	27
Registration Revisions	28
Minor Source Operating Permits.....	28
MSOP Modifications	30
MSOP Emergency Repair or Replacement.....	30
MSOP Administrative Amendments	31
MSOP Minor Permit Revisions.....	33
MSOP Significant Permit Revisions	34
Part 70/Title V Operating Permits	35
Title V Permit Application	36
Alternative Operating Scenarios.....	38
Part 70/Title V Modifications	38
Part 70/Title V Emergency Repair or Replacement.....	38
Title V Administrative Amendments.....	39
Title V Source Modifications.....	39
Title V Minor Source Modifications	40
Title V Significant Source Modifications	40
Minor Permit Modifications.....	41
Significant Permit Modifications	42
Title V Permit Alternatives.....	43
Federally Enforceable State Operating Permits.....	43
Modifications of Federally Enforceable State Operating Permits.....	45
Source Specific Operating Agreements.....	45
Permit-by-Rule	50
Renewals, Timeframes and Fees.....	51
Further Permitting Considerations.....	54
Interim Operating Permit Revision Approvals	54
Major New Source Review	55
Prevention of Significant Deterioration	56
Nonattainment New Source Review.....	58
Additional Air Regulations	59
Fugitive Dust	59
Open Burning	61

E101 - Module One: Air Permitting

Asbestos	62
Compliance Inspections	62
Enforcement	63
Enforcement Information Available From IDEM	63
Why Does IDEM Take Enforcement Actions?	63
Understanding the Enforcement Process	64
What Comes Next?	65
References	66
Additional Resources	66
Appendix A - NSPS	
Appendix B - Part 61 NESHAPS	
Appendix C - Part 63 NESHAPS	
Appendix D - 1990 List of HAPS	

Air: Introduction

Perhaps no part of the environment affects human life or nature more than the quality of air. Likewise, there is likely no aspect of the environment that can be more profoundly or easily impacted by human activity than air quality. As a result, there are numerous regulations governing air quality and air polluting activities. Due to the complex nature of the atmosphere, the regulations governing air pollution are equally complex. This section will attempt to bring some clarity to air pollution regulations.

History & Regulatory Background

The 1955 Air Pollution Control Act was the first U.S federal legislation that pertained to air pollution. This act not only began the regulation of air pollution, but it also provided funds for federal government research of air pollution. Since that time, the federal government has developed multiple regulations and standards designed to control air pollution on a national level.

Federal - Clean Air Act

In 1963, the United States Congress recognized the potential impacts of air pollution on the environment. As a result, Congress passed the first Clean Air Act (CAA) regulating air pollution causing activities. Since that time, the CAA was amended in 1970, 1977, and most recently in 1990. The CAA serves as the principal source of regulatory authority for controlling air pollution in the United States, and is one of the most comprehensive air quality laws in the world. The fundamental purpose of the CAA is to establish a basic air quality management system for the United States.

Since the 1970 amendments, the CAA has required the United States Environmental Protection Agency (U.S. EPA) to create national ambient air quality standards (NAAQS) for selected criteria pollutants. The NAAQS are used to measure the quality of air throughout the nation and as the goal for all pollution control requirements. The specific responsibility for achieving the NAAQS has been placed with each state.

The CAA also requires the U.S. EPA to establish performance standards, called New Source Performance Standards (NSPS), for many significant business/industrial categories that pollute. In addition, the U.S. EPA is required to establish special regulations for particularly harmful groups of chemicals called hazardous air pollutants (HAPs). These special regulations are called National Emissions Standards for Hazardous Air Pollutants (NESHAPs).

In 2010, the U.S. EPA expanded the applicability of the CAA, making greenhouse gases (GHGs) a regulated pollutant for major sources. GHGs are an aggregate of carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For permitting purposes, these are referred to as CO₂ equivalent emissions (CO₂e). Because of a recent Supreme Court ruling, GHG emissions are only considered for permitting purposes when a source is already subject to Prevention of Significant Deterioration permitting due to an air pollutant other than GHGs.

The CAA requires both the U.S. EPA and state governments to effectively implement comprehensive air pollution controls. To that end, the CAA establishes pollution control and enforcement responsibilities between the various federal, state, and local agencies. Federal rules are primarily enforced through the U.S. EPA. However, the CAA clearly allows and encourages states to establish rules that will effectively implement the CAA within their jurisdiction. States are also allowed to implement more restrictive rules than the CAA, but they cannot void any part of the federal regulation. Likewise, states can empower local air pollution control agencies to implement state and federal laws and any local laws approved by the local

governing authority. Local agencies can only make additional rules that are more restrictive than the CAA and state regulations.

National Ambient Air Quality Standards

To meet the requirements of the Clean Air Act (CAA), the United States Environmental Protection Agency (U.S. EPA) established National Ambient Air Quality Standards (NAAQS) for six common [criteria air pollutants](#)—carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO₂), lead (Pb), particulate matter as PM₁₀ and PM_{2.5}, and ground-level ozone (O₃).

- (1) Carbon monoxide (CO) is a colorless, odorless gas emitted from combustion processes.
- (2) Nitrogen dioxide (NO₂) is one of a group of highly reactive gasses known as "oxides of nitrogen," or "nitrogen oxides (NO_x)." Other nitrogen oxides include nitrous acid and nitric acid. U.S. EPA's National Ambient Air Quality Standard uses NO₂ as the indicator for the larger group of nitrogen oxides.
- (3) Sulfur dioxide (SO₂) is one of a group of highly reactive gasses known as "oxides of sulfur."
- (4) Sources of lead (Pb) emissions vary from one area to another. The highest air concentrations of lead are usually found near lead smelters. Other major sources of lead in the air are ore and metals processing, piston-engine aircraft operating on leaded aviation fuel, waste incinerators, utilities, and lead-acid battery manufacturers.
- (5) "Particulate matter," also known as particle pollution or PM₁₀ and PM_{2.5}, is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health problems. PM₁₀ are small particles 10 micrometers in diameter and smaller. PM_{2.5} are fine particles that are 2.5 micrometers in diameter and smaller.
- (6) Ground level ozone (otherwise known as the "bad" ozone) is not typically emitted directly into the air, but is created by chemical reactions between oxides of nitrogen (NO_x) and volatile organic compounds (VOC) in the presence of sunlight.

A regulated pollutant is defined in 326 IAC 1-2-66 as any pollutant for which emissions limitations or other requirements have been established. The following standards have defined regulated pollutants:

- National Ambient Air Quality Standards (NAAQS)
- National Emissions Standards for Hazardous Air Pollutants (NESHAPs)
- New Source Performance Standards (NSPS)
- Prevention of Significant Deterioration (PSD)
- Emission Offset
- Any other state requirements

The NAAQS have been established utilizing research of comprehensive ambient air quality data, health effects data, and material effects studies. The NAAQS regulate criteria pollutants by setting acceptable pollutant concentration levels over predetermined periods of time. The NAAQS (limits) are specified in the Code of Federal Regulations (CFR) at [40 CFR 50](#), which also specifies the methods one uses to measure whether those standards are being attained. The NAAQS and [40 CFR 50](#) do not specify actions to achieve those standards. The actions to achieve those standards are specified in the Subpart, [40 CFR 51](#), which sets forth requirements for preparation, adoption, and submittal of State Implementation Plans (SIPs), which are discussed later in this section.

Almost every criteria pollutant has a primary standard and a secondary standard. The primary standard is the protective limit of all, including children, the elderly, and those with compromised

respiratory systems. The secondary standard is designated to prevent unacceptable effects on the public welfare, damage to crops and vegetation, as well as effects to property and ecosystems. Each NAAQS has a corresponding averaging time. The averaging time is the time over which air pollutant concentrations are averaged for the purpose of determining attainment status with the NAAQS. Periodically, the standards are reviewed and may be revised (see U.S. EPA [NAAQS Table](#)).

Each geographical region is given a designation by the U.S. EPA to describe the air quality of the region in relation to the NAAQS for the six criteria pollutants. An area that meets or does better than the primary standard for a particular pollutant is called an attainment area. An area not meeting the standards is called a nonattainment area (NAA). Geographical areas that are meeting the standards but contribute to their neighbor's nonattainment can be included into the area designated nonattainment. Frequently, geographical areas are designated attainment for some pollutants and nonattainment for others. An unclassifiable area is any area that cannot be clearly classified based on the information available at the time of the designation. Typically, additional data must be obtained to designate the area clearly.

The creation of most state and local air pollution regulatory programs is a direct result of the responsibility of state governments to achieve compliance with the NAAQS. Each state must develop a SIP for each criteria pollutant that establishes rules and guidelines to be followed by the state and local areas. These SIPs help states to prevent significant deterioration of air quality and maintain compliance with the NAAQS. The SIPs must also include requirements and time schedules for nonattainment areas to get pollution levels into compliance with the NAAQS.

The SIPs must divide the state into the aforementioned geographical regions known as Air Quality Control Regions (AQCRs). An AQCR is typically a metropolitan area and the surrounding areas that may be impacted by, or may have an impact on, the air quality of the AQCR. The state typically develops requirements for controlling air pollution based on the local needs of the AQCR. Such requirements typically include controls on both new and existing sources of air pollution. An example of a common measure taken by states within their SIPs for ozone NAAs is the requirement that all motor vehicles be regularly inspected and tested for air emissions control.

State and local officials develop the SIPs, which must then be approved by the U.S. EPA. If all or part of a SIP is not approved by the U.S. EPA, then the U.S. EPA must assume the responsibility for developing an appropriate federal implementation plan (FIP). Once a SIP is developed and approved, the SIP becomes legally enforceable on the local, state, and federal levels.

Several federal regulatory programs are in place to support the SIPs. For example, the U.S. EPA has established Control Technique Guidelines (CTGs) for controlling air pollutants for industrial sources. The CTGs provide states with examples of existing control technologies referred to as Reasonably Available Control Technology (RACT). RACT represents control techniques commonly in use in a specific industry. Many state air regulations are based on CTG and RACT standards.

New Source Performance Standards (NSPS)

[New Source Performance Standards \(NSPS\)](#) are technology based standards, developed by the U.S. EPA under Section 111 of the CAA, applying to specific categories of stationary sources (i.e., not mobile sources, nonroad engines, or nonroad vehicles). There are often separate requirements within each specific category, depending on whether the affected facility is considered existing, new, modified, or reconstructed under the NSPS. The categories are wide-ranging and cover many types of industrial and commercial operations and equipment, including but not limited to landfills, steam-generating units (boilers), incinerators, various types of chemical manufacturing plants, asphalt plants, large storage tanks, various types of metal

production operations, grain elevators, certain types of printing operations, and surface coating (painting) of various types of products. To determine whether an NSPS applies to a specific operation, the specific details of the operation must be compared against the definitions and rule applicability contained in the NSPS.

NSPS are federal emissions standards, meaning they apply nationwide, and are delegated to the states. However, the U.S. EPA retains authority to implement and enforce the NSPS. Each standard is based on the Best Demonstrated Technology (BDT) for the industrial category at that time. In other words, the BDT is the best system of continuous emissions reduction that has been demonstrated to work in a given industry, considering economic costs and other factors (such as energy use).

The requirements of the NSPS vary depending on the source. The requirements could be a numerical emissions limit on VOC content of a coating, a design standard that may limit the total liquid volume capacity of an electrodeposition tank, an equipment standard that specifies the type of surface coating application method (such as a flow coat applicator), or a work practice standard like requiring solvent to be stored in closed containers when not being used. The U.S. EPA has primary responsibility for enforcement of the NSPS but the responsibility is typically delegated to the state. To implement the NSPS, each state must first adopt the NSPS or impose limitations that are comparable. (Individual state rules can be more stringent than the federal NSPS but can never be less stringent). The federal NSPS requirements are found in 40 CFR Part 60 and Indiana incorporates the NSPS requirements by reference in the state rules in 326 IAC 12. In addition to the emissions limits or work practice standards, NSPS often have notification, monitoring, testing, record keeping, and reporting requirements. Such requirements typically mandate the source to maintain certain records and submit information about its operation and compliance status to the U.S. EPA and the state in which it is located. (See Appendix A for a current list of regulations under Part 60.)

National Emissions Standards for Hazardous Air Pollutants (NESHAP)

[National Emissions Standards for Hazardous Air Pollutants \(NESHAPs\)](#) are technology based standards for hazardous air pollutants, developed by the U.S. EPA, applying to specific categories of stationary sources (i.e., not mobile sources, nonroad engines, or nonroad vehicles). Hazardous Air Pollutants (HAPs) are those pollutants known or suspected to cause cancer or other serious health effects, such as birth defects, reproductive effects, or adverse environmental effects.

As a result of pre-Clean Air Act (CAA) Amendments of 1990, the U.S. EPA identified and listed eight HAPs regulated in 40 CFR Part 61 and Indiana incorporated the NESHAP requirements by reference in the state rules in 326 IAC 14. They include asbestos, benzene, beryllium, coke oven emissions, inorganic arsenic, mercury, radon/radionuclides, and vinyl chloride. (See Appendix B for a current list of regulations under Part 61)

The 1990 amendments to the CAA reaffirmed the importance of controlling emissions of HAPs. The amendments also changed the approach to developing NESHAPs, so the new standards are now based on available control technology. Originally, Congress required 189 compounds be controlled by the U.S. EPA as HAPs under Section 112 of the CAA. Since 1990, U.S. EPA has modified the list through rulemaking to include 187 hazardous air pollutants. Notable changes include the delisting of Caprolactum, hydrogen sulfide, and methyl ethyl ketone (2-Butanone), and a change in the definition of glycol ethers, such that ethylene glycol monobutylether (2-butoxyethanol) is no longer regulated as a HAP. The majority of the HAPs are volatile organic compounds (VOCs) such as benzene, toluene, xylene, trichloroethylene, perchloroethylene, and methylene chloride. However, some materials listed as HAPs are not VOCs, including lead, cadmium, chromium, nickel and cyanide compounds, and others. The complete [list of HAPs](#) should be referenced whenever a source makes product changes at a source to determine the potential impact on emissions.

The NESHAP provisions of the CAA define two types of emissions standards that must be promulgated—Maximum Achievable Control Technologies (MACTs) (for major sources – see definitions) and Generally Available Control Technologies (GACTs) (for minor, or area sources – see definitions). A MACT is a standard achieving the maximum degree of reduction in emissions of the hazardous air pollutants while also considering the cost of the emissions reduction and any non-air quality health and environmental impacts. For new sources, the MACT is equal to the best controlled source in an industrial category. For existing sources, the MACT is the average emissions limit achieved by the best performing 12 percent of the existing sources for which the U.S. EPA has information. GACTs are generally less stringent standards based on the use of more widely practiced technologies and work practices. As of February 2004, the U.S. EPA had promulgated all the MACT standards required by the 1990 CAA amendments.

The NESHAP standards apply to very diverse industrial and commercial operations and equipment, including but not limited to: aerospace, auto body refinishing, brick and ceramics manufacturing, chromium electroplating, dry cleaning, various metal production operations, various chemical manufacturing operations, metal fabrication and finishing, printing and publishing operations, stationary internal combustion engines, surface coating (painting) of various metal or plastic parts or goods, wood furniture, and wood building products (See Appendix C for a current list of regulations under Part 63). To determine whether an NESHAP applies to a specific operation, the specific details of the operation must be compared against the definitions and rule applicability contained in the NESHAP.

NESHAP requirements may take the form of numerical emissions limits, work practice standards, equipment standards, or design standards. There are often separate requirements within each specific standard, depending on whether the affected facility is considered existing, new, modified, or reconstructed. In addition to the emissions limits or work practice standards, NESHAP standards often include notification, monitoring, testing, record keeping, and reporting requirements. Such requirements typically mandate the source maintain certain records and submit information about its operation and compliance status to the U.S. EPA and the state in which it is located. The federal NESHAP requirements for source categories are found in 40 CFR Part 63, and Indiana incorporates the NESHAP requirements by reference in the state rules in 326 IAC 20.

State of Indiana - Title 326 Air Pollution Control Division

The Environmental Rules Board is the rulemaking board established by state statute that has been awarded authority to adopt rules to regulate various air pollution, solid and hazardous waste, and water pollution matters. Air pollution matters are regulated at the state level by Title 326, Air Pollution Control Division. The following list identifies which articles cover the various air pollution regulation provisions:

Title 326 Air Pollution Control Division

- Article 1 [General Provisions](#)
- Article 2 [Permit Review Rules](#)
- Article 3 [Monitoring Requirements](#)
- Article 4 [Burning Regulations](#)
- Article 5 [Opacity Regulations](#)
- Article 6 [Particulate Rules](#)
- Article 6.5 [Particulate Matter Limitations Except Lake County](#)
- Article 6.8 [Particulate Matter Limitations For Lake County](#)
- Article 7 [Sulfur Dioxide Rules \[PDF\]](#)
- Article 8 [Volatile Organic Compound Rules \[PDF\]](#)
- Article 9 [Carbon Monoxide Emission Rules \[PDF\]](#)
- Article 10 [Nitrogen Oxides Rules \[PDF\]](#)
- Article 11 [Emission Limitations for Specific Types of Operations \[PDF\]](#)
- Article 12 [New Source Performance Standards \[PDF\]](#)

- Article 13 [Motor Vehicle Emission and Fuel Standards \[PDF\]](#)
- Article 14 [Emission Standards for Hazardous Air Pollutants \[PDF\]](#)
- Article 15 [Lead Rules \[PDF\]](#)
- Article 16 [State Environmental Policy \[PDF\]](#)
- Article 17 [Public Records \(Repealed\) \[PDF\]](#)
- Article 17.1 [Public Records; Confidential Information; Confidentiality Agreements \[PDF\]](#)
- Article 18 [Asbestos Management \[PDF\]](#)
- Article 19 [Mobile Source Rules \[PDF\]](#)
- Article 20 [Hazardous Air Pollutants \[PDF\]](#)
- Article 21 [Acid Deposition Control \[PDF\]](#)
- Article 22 [Stratospheric Ozone Protection \[PDF\]](#)
- Article 23 [Lead-based Paint Program \[PDF\]](#)
- Article 24 [Trading Programs: Nitrogen Oxides \(NOx\) and Sulfur Dioxide \(SO2\) \[PDF\]](#)
- Article 25 [Voluntary Performance Based Leadership Programs \[PDF\]](#)
- Article 26 [Regional Haze \[PDF\]](#)

The [Indiana Administrative Code Title 326 Air Pollution Control Division website](#) (General Assembly/Indiana Register) provides the most up-to-date listing of these files.

Legal Definitions Related to Air Regulation

Understanding the precise legal meanings of words or phrases used in state and federal statutes is crucial in order to determine applicability of the rules and what is required of sources to comply with the provisions. Terms are assigned specific meanings within statutes, and the definitions of these words may not be consistent from one law to another or from state rules to federal rules. The following is a short list of frequently used regulatory terms related to air and the rule citations in which they are defined. Always reference the definitions section of each state and federal regulation before trying to determine applicability.

Allowable Emissions (326 IAC 1-2-2)

Allowable emissions means the lowest emission rate calculated using all of the following:

- (1) The maximum capacity of the facility at 8,760 hours per year. (This is without the use of pollution controls unless they are determined to be integral, and parallels the state definition of potential emissions found at 326 IAC 1-2-55),
- (2) The most stringent applicable federally enforceable state rule. (Examples of federally enforceable state rules can be found in 326 IAC 7, 326 IAC 6, and 326 IAC 12).
- (3) Limits on the operation specified by a federally enforceable permit.
- (4) An emission rate specified as a federally enforceable permit condition.
- (5) For noncontinuous batch manufacturing operations, when the process, not considering operating hours, results in daily emissions less than those calculated on an hourly basis, daily emission rates shall be used instead of hourly rates.

Air pollution control equipment (326 IAC 1-2-3)

Air Pollution Control Equipment (Also pollution control equipment, pollution control device, emission control device) means control equipment that is not, aside from air pollution control requirements, vital to production of the normal product of the source or to its normal operation. Equipment is vital if the source could not produce its normal product or operate without it.

Ambient Air (40 CFR 50.1)

Ambient air means that portion of the atmosphere, external to buildings, to which the public has access.

Area Source (40 CFR 63.2)

Area source means any stationary source of hazardous air pollutants that is not a "major source" as defined in 40 CFR 63.2.

Attainment Area (326 IAC 1-2-5)

Attainment area is a geographical area designated by the board as meeting the ambient air quality standards established for a specific pollutant in 326 IAC 1-3.

Authorized Individual (326 IAC 2-1.1-1)

Authorized individual means an individual responsible for the overall operation of one or more manufacturing, production, or operating plants or a duly authorized representative of the person. For any public agency, the term means neither a ranking elected official, the chief executive officer, or a designated representative of the person having responsibility for the overall operations of a principal geographic unit of the agency.

Construction (326 IAC 1-2-21)

Construction means fabrication, erection, or installation of one or more emissions units at the location intended for its use. Construction does not include any of the following:

- (1) Installation of building supports and foundations.
- (2) Laying underground piping or arbors.
- (3) Erection of storage structures.
- (4) Dismantling existing equipment and control devices.
- (5) Ordering of equipment and control devices.
- (6) Off-site fabrication.
- (7) Temporary storage other than where permanent installation will occur.

(Note: This definition does not apply to a major PSD source or a major PSD modification as defined in 326 IAC 2-2 or a major source or major modification as defined in 326 IAC 2-3.)

Construction (326 IAC 2-2-1)

Construction means any physical change or change in the method of operation, including fabrication, erection, installation, demolition, or modification of an emissions unit that would result in a change in emissions.

Construction (326 IAC 2-3-1)

Construction means any physical change or change in the method of operation, including fabrication, erection, installation, demolition, or modification of an emissions unit that would result in a change in actual emissions.

Construction (Begin Actual) (326 IAC 2-3-1)

Begin actual construction means, in general, initiation of physical on-site construction activities on an emissions unit that are of a permanent nature. These activities include, but are not limited to, the following:

- (1) Installation of building supports and foundations.
- (2) Laying underground pipework.
- (3) Construction of permanent storage structures.

With respect to a change in method of operations, the term refers to those on-site activities, other than preparatory activities, that mark the initiation of the change.

Emissions Unit (326 IAC 1-2-23.5)

An emissions unit is any part or activity at a source either emitting or having the potential to emit any regulated air pollutant under the Clean Air Act (CAA).

Emissions Unit (326 IAC 2-2 and 2-3)

Emissions unit means any part of a stationary source that emits or would have the potential to emit any regulated New Source Review (NSR) pollutant. For purposes of this rule, there are the following two types of emissions units:

- (1) A new emissions unit is any emissions unit that is, or will be, newly constructed and that has existed for less than two years from the date the emissions unit first operated.
- (2) An existing emissions unit is any emissions unit that does not meet the requirements in subdivision (1). A replacement unit is an existing emissions unit.

Emissions Unit (40 CFR 70)

Emissions unit means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act. This term is not meant to alter or affect the definition of the term “unit” for purposes of title IV of the Act.

Facility (326 IAC 1-2-27)

Facility means any one structure, piece of equipment, installation, or operation that emits or has the potential to emit any air contaminant. Single pieces of equipment or installations with multiple emission points shall be considered a facility for the purpose of this rule (326 IAC 1-2).

Facility (Building, structure, facility, or installation) (326 IAC 2-2-1)

Building, structure, facility, or installation means all of the pollutant-emitting activities that belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control) except the activities of any vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same major group, for example, that have the same first two-digit code, as described in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement

Facility (40 CFR 72.2)(Acid Rain Permitting Program)

Facility means any institutional, commercial, or industrial structure, installation, plant, source, or building.

Federally Enforceable (326 IAC 1-2-28.5)

Federally enforceable means all limitations and conditions that are enforceable by the U.S. EPA administrator, including those requirements developed for the following:

- (1) Standards of performance for new stationary sources contained in 40 CFR 60.
- (2) National emission standards for hazardous air pollutants contained in 40 CFR 61.
- (3) Requirements within any applicable state implementation plan.
- (4) Any permit requirements contained in 40 CFR 52.21 or under regulations approved under the review of new sources and modifications established in 40 CFR 51, Subpart I.

This includes operating permits issued under a U.S. EPA approved program that is incorporated into the state implementation plan and expressly requires adherence to any permit issued under such program.

Fugitive Emissions (40 CFR 70)

Fugitive emissions are those emissions that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

Hazardous Air Pollutant (HAP) (326 IAC 1-2-33.5)

Hazardous air pollutant (HAP) means any air pollutant listed pursuant to Section 112(b) of the Clean Air Act and not delisted from that list or redefined under 40 CFR Part 63, Subpart C.

Major source (40 CFR 70.2)

Major source means any stationary source (or any group of stationary sources that are located on one or more continuous or adjacent properties, and are under common control of the same person (or persons under common control)) belonging to a single major industrial grouping and that are described in paragraph (1), (2), or (3) of this definition. For the purposes of defining “major source,” a stationary source or group of stationary sources shall be considered part of a single industrial grouping if all of the pollutant emitting activities at such source or group of sources on contiguous or adjacent properties belong to the same Major Group (*i.e.*, all have the same two-digit code) as described in the Standard Industrial Classification Manual, 1987. * * *

- (1) A major source under section 112 of the Act, which is defined as: For pollutants other than radionuclides, any stationary source or group of stationary sources located within a

contiguous area and under common control that emits or has the potential to emit, in the aggregate, 10 tons per year (tpy) or more of any hazardous air pollutant, which has been listed pursuant to section 112(b) of the Act, 25 tpy or more of any combination of such hazardous air pollutants, or such lesser quantity as the Administrator may establish by rule. * * *

- (2) A major stationary source of air pollutants, as defined in section 302 of the Act, that directly emits, or has the potential to emit, 100 tpy or more of any air pollutant subject to regulation (including any major source of fugitive emissions of any such pollutant, as determined by rule by the Administrator). The fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source for the purposes of section 302(j) of the Act, unless the source belongs to one of the following categories of stationary source:
- (i) Coal cleaning plants (with thermal dryers);
 - (ii) Kraft pulp mills;
 - (iii) Portland cement plants;
 - (iv) Primary zinc smelters;
 - (v) Iron and steel mills;
 - (vi) Primary aluminum ore reduction plants;
 - (vii) Primary copper smelters;
 - (viii) Municipal incinerators capable of charging more than 250 tons of refuse per day;
 - (ix) Hydrofluoric, sulfuric, or nitric acid plants;
 - (x) Petroleum refineries;
 - (xi) Lime plants;
 - (xii) Phosphate rock processing plants;
 - (xiii) Coke oven batteries;
 - (xiv) Sulfur recovery plants;
 - (xv) Carbon black plants (furnace process);
 - (xvi) Primary lead smelters;
 - (xvii) Fuel conversion plants;
 - (xviii) Sintering plants;
 - (xix) Secondary metal production plants;
 - (xx) Chemical process plants—The term chemical processing plant shall not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140;
 - (xxi) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
 - (xxii) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
 - (xxiii) Taconite ore processing plants;
 - (xxiv) Glass fiber processing plants;
 - (xxv) Charcoal production plants;
 - (xxvi) Fossil-fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input; or
 - (xxvii) Any other stationary source category, which as of August 7, 1980, is being regulated under section 111 or 112 of the Act.
- (3) A major stationary source as defined in part D of Title 1 of the Act, including:
- (i) For ozone nonattainment areas, sources with the potential to emit 100 tpy or more of volatile organic compounds or oxides of nitrogen in areas classified or treated as classified as “Marginal” or “Moderate,” 50 tpy or more in areas classified or treated as classified as “Serious,” 25 tpy or more in areas classified or treated as classified as “Severe,” and 10 tpy or more in areas classified or treated as classified as “Extreme”; except that the references in this paragraph to 100, 50, 25 and 10 tpy of nitrogen oxides shall not apply with respect to any

- source for which the Administrator has made a finding, under section 182(f)(1) or (2) of the Act, that requirements under section 182(f) of the Act do not apply;
- (ii) For ozone transport regions established pursuant to section 184 of the Act, sources with the potential to emit 50 tpy or more of volatile organic compounds;
 - (iii) For carbon monoxide nonattainment areas:
 - (A) That are classified or treated as classified as “Serious,” and
 - (B) In which stationary sources contribute significantly to carbon monoxide levels as determined under rules issued by the Administrator, sources with the potential to emit 50 tpy or more of carbon monoxide; and
 - (iv) For particulate matter (PM10) nonattainment areas classified or treated as classified as “Serious,” sources with the potential to emit 70 tpy or more of PM10.

Malfunction (40 CFR 60.2)

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Minor Source (326 IAC 2-1.1-1)

Minor source means any source or facility to which 326 IAC 2-5.1 applies, but to which neither 326 IAC 2-2 nor 326 IAC 2-3 applies.

Owner or Operator (326 IAC 1-2-51)

An owner or operator is any person who owns, leases, controls, operates, or supervises a facility, an air pollutant emissions source, or air pollution control equipment.

Portable Source (326 IAC 2-1.1-1)

Portable source means any operation, process, or emissions unit, other than mobile sources, that emits or has the potential to emit any regulated air pollutant and is specifically designed to be and capable of being moved from one location or site to another location or site and is moved to other locations or sites at least one time during the term of the permit. Indicia of transportability include, but are not limited to wheels, skids, trailer, or platform.

Potential to Emit (326 IAC 2-1.1-1)

Potential to Emit (PTE) means the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency. The term does not alter or affect the use of potential to emit for any other purpose under the CAA, (or "capacity factor" as used in Title IV of the CAA) or the regulations promulgated thereunder.

Potential to Emit (PTE) (40 CFR 70.2)

Potential to emit means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation is enforceable by the Administrator. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in title IV of the Act or the regulations promulgated thereunder.

Potential Emissions (326 IAC 1-2-55)

Emissions of any one pollutant which would be emitted from a facility if that facility were operated without the use of pollution control equipment unless such control equipment is (aside from air pollution control requirements) necessary for the facility to produce its normal product or

is integral to the normal operation of the facility. Potential emissions shall be based on maximum annual rated capacity unless hours of operation are limited by enforceable permit conditions. Potential emissions from a facility shall take into account the hours of operation per year and shall be calculated according to federal emission guidelines in AP 42-most recent edition-Compilation of Air Pollution Factors, or calculated based on stack test data or other equivalent data acceptable to the commissioner.

Process (40 CFR 63.41)

Process or production unit means any collection of structures and/or equipment, that processes assembles, applies, or otherwise uses material inputs to produce or store an intermediate or final product. A single facility may contain more than one process or production unit.

Process (326 IAC 1-2-58)

Any action, operation, or treatment and the equipment used in connection therewith, and all methods or forms of manufacturing or processing

Reconstruction (326 IAC 1-2-65)

An emissions unit shall be considered to be "reconstructed" when the fixed capital cost of the new components exceed 50 percent of the fixed capital cost of a comparable entirely new emissions unit. The fixed capital cost of components shall reflect any exceptions granted under 40 CFR 60.

Regulated Pollutant (326 IAC 1-2-66)

Regulated pollutant means any pollutant for which a rule establishing emission limitations or requirements has been promulgated by the board.

Responsible Official (40 CFR 70.2)

Responsible official means one of the following:

- (1) For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a (Part 70) permit and either:
 - (i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), or
 - (ii) The delegation of authority to such representatives is approved in advance by the permitting authority (Commissioner).
- (2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively.
- (3) For a municipality, State, Federal, or other public agency: Either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA).
- (4) For affected sources:
 - (i) The designated representative in so far as actions, standards, requirements, or prohibitions under title IV of the Act or the regulations promulgated thereunder are concerned, and
 - (ii) The designated representative for any other purposes under part 70.

Source (326 IAC 1-2-73)

Source means an aggregation of one or more stationary emissions units that are located on one piece of property or on contiguous or adjacent properties are owned or operated by the same person (or by persons under common control) and belong to a single major industrial grouping. For purposes of defining a source, two or more contiguous or adjacent properties shall be

considered part of a single major industrial grouping if all of the pollutant emitting activities at such contiguous or adjacent properties belong to the same major group, that is, all have the same two-digit Standard Industrial Classification (SIC) code as described in the Standard Industrial Classification Manual, 1987. Any stationary source (or group of stationary sources) that supports another source, where both are under common control of the same person (or persons under common control) and are located on contiguous or adjacent properties, shall be considered a support facility and part of the same source regardless of the two-digit SIC code for that support facility. A stationary source (or group of stationary sources) is considered a support facility to a source if at least 50 percent of the output of the support facility is dedicated to the source. A source does not include mobile sources, nonroad engines, or nonroad vehicles.

Source (Stationary) (40 CFR 70.2)

Stationary source means any building, structure, facility, or installation that emits or may emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act.

State Implementation Plan (SIP) (326 IAC 1-2-78)

The State Implementation Plan (SIP) is the state plan of the Department of Environmental Management, which provides for implementation, maintenance, and enforcement of the primary and secondary ambient air quality standards in Indiana.

NOTE: There are some significant distinctions that need to be made about three terms listed above. First, the definitions of the terms "facility" and "source" for federal permitting purposes have different (inverse) meanings than the definitions of these terms as they pertain to state permitting. The term "facility" means "all of the pollution emitting activities that belong to the same industrial grouping" in the federal definition, while "facility" means "any single process or unit that emits air pollutants" for state permitting purposes. Likewise, the term "source" means "any single process or unit that emits air pollutants" for federal permitting purposes, while "source" means "all of the pollution emitting activities that belong to the same industrial grouping" in the state definition.

Within state permitting, there are different definitions of "construction", which directly affect what activities a source is allowed to conduct without first applying for and receiving construction approval. Pre-permit activities that are permissible under the state New Source Review (NSR) program like Installation of building supports and foundations, or laying underground piping or arbors, are considered a violation under the more restrictive Prevention of Significant Deterioration (PSD) or Emission Offset (EO) requirements (326 IAC 2-2 and 2-3).

Standard Industrial Classification System (SIC) and North American Industry Classification System (NAICS)

The [Standard Industrial Classification \(SIC\)](#) is a system that was established in the U.S. in 1937, used by government agencies for classifying industries by a four-digit code. The first three digits of the SIC code indicate the industry group, and the first two digits indicate the major group. The [North American Industry Classification System \(NAICS\)](#) was released in 1997, and is used by business and government to classify business establishments according to type of economic activity. The NAICS has largely replaced the older Standard Industrial Classification (SIC) system; however, certain government departments and agencies still use the SIC codes.

It is extremely important that a source has been assigned the correct SIC (and NAICS) codes. Many state and federal rules define applicability (or non-applicability) based on SIC/NAICS codes. A source may have more than one SIC code depending on what it manufactures. A source can have a primary code, and several secondary codes. SIC codes are not assigned by

IDEM, however, IDEM has information on what SIC code has been reported in the past for many sources and can assist businesses with identifying the correct coding. All businesses should read the description in the SIC/NAICS code manuals to ensure that the codes chosen accurately describe the activities at the source. Manufacturing activities may change and this may affect the designated SIC code for that source. These classifications should be reviewed by source personnel anytime there is a shift in production activities.

The screenshot shows the OSHA website header with the United States Department of Labor logo and navigation links for ABOUT OSHA, WORKERS, EMPLOYERS, REGULATIONS, ENFORCEMENT, and TO. Below the header, the page title is "SIC Division Structure". The content lists four divisions with their respective major groups:

- A. Division A: Agriculture, Forestry, And Fishing**
 - Major Group 01: Agricultural Production Crops
 - Major Group 02: Agriculture production livestock and animal specialties
 - Major Group 07: Agricultural Services
 - Major Group 08: Forestry
 - Major Group 09: Fishing, hunting, and trapping
- B. Division B: Mining**
 - Major Group 10: Metal Mining
 - Major Group 12: Coal Mining
 - Major Group 13: Oil And Gas Extraction
 - Major Group 14: Mining And Quarrying Of Nonmetallic Minerals, Except Fuels
- C. Division C: Construction**
 - Major Group 15: Building Construction General Contractors And Operative Builders
 - Major Group 16: Heavy Construction Other Than Building Construction Contractors
 - Major Group 17: Construction Special Trade Contractors
- D. Division D: Manufacturing**

North American Industry Classification System

The screenshot shows the NAICS website navigation menu with links for Main, History, Development Partners, Federal Register Notices, NAPCS, and FAQs. Below the menu, there is a "NAICS Search:" section with three search boxes for 2012, 2007, and 2002 NAICS. To the right, the "2012 NAICS" section contains a table with the following structure:

The following table provides detailed information on the structure of NAICS. Also included, on this page, are downloadable, Excel and text, concordance files for 2012, 2007 and 2002.

Sector	Description
11	Agriculture, Forestry, Fishing and Hunting
21	Mining, Quarrying, and Oil and Gas Extraction
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information
52	Finance and Insurance

Below the table, there is a "Downloads/Reference Files/Tools" section with links for 2012 NAICS, 2007 NAICS, and 2002 NAICS.

A good example of how rule applicability and nonapplicability is determined by these SIC and NAICS codes is the federal NESHAP for area sources, [40 CFR Part 63, Subpart XXXXXX](#), Area Source Standards for Nine Metal Fabrication and Finishing Source Categories. In the applicability section of this rule (found in Table 1), the U.S. EPA has provided a list of source categories affected by the provisions of the rule. This list of source categories correlates to 12 SIC codes and 15 NAICS codes that are affected by the requirements (see [U.S. EPA provided guidance](#) on SIC/NAICS subject to this rule).

Potential to Emit

Determining a source's Potential to Emit (PTE) is often the most challenging part of the air permitting process. While the methodology used to determine PTE is relatively simple, the PTE determination process often requires judgment and experience.

Based on state and federal regulations and guidance, a source's PTE is the amount of regulated pollutant emissions that a source could potentially emit if it were to operate at

maximum capacity, 24 hours a day, and seven days a week for one year (8,760 hours per year). Even if the source does not operate at maximum capacity or does not operate 24 hours a day, seven days a week, PTE is determined under the assumption the source could operate at that rate. In order to be consistent with all companies, air pollution permits issued to sources in Indiana are based on the source's PTE.

The value generated by the PTE calculation is used to determine the appropriate level of permitting for the source. For example, if a source has a PTE of 11 tons per year of styrene, the source would be required to obtain a Title V permit. Styrene is a Hazardous Air Pollutant (HAP) and sources having a PTE of a single HAP in excess of 10 tons per year are required to obtain a Title V permit (unless the source chooses to comply with a federally enforceable limitation below 10 tons per year for single HAP, which is an option discussed in the Title V Permit Alternatives section). If the source only operates for one eight-hour shift per day, then the actual emissions from this source may be much less than 11 tons per year. However, because the source can operate at a much greater capacity, it is required to obtain a permit allowing it to operate at the maximum capacity or to obtain a permit that contains federally enforceable limitations on PTE.

Some sources utilize emission control devices as part of their operations. For example, a large finishing operation may have a Regenerative Thermal Oxidizer (RTO) on the fume exhausts from the facility that effectively reduces the VOC emissions by approximately 95 percent. Other facilities, such as woodworking equipment may have baghouses attached to control particulate matter. In most situations, PTE is determined based on emissions prior to the control device, unless the control device is determined to be "integral" to the process. With very limited exceptions, if the process is physically able to operate without the control device operating, then the control device is not considered integral and the PTE is determined prior to the control device.

Alternatively, dry cleaners use a regulated VOC (perchloroethylene) in the dry cleaning machines. Perchloroethylene is known to evaporate very rapidly when exposed to air, thus increasing the cost to the operator/owner for the purchase of new perchloroethylene. As a result, newer dry cleaning machines are equipped with a chiller condensing the vaporized perchloroethylene and allowing it to be reused. If there is an overwhelming net economic benefit to condensing and reusing the perchloroethylene and if the dry cleaning machine can only be operated when the chiller is operated, then the condenser might be considered integral to the process and the PTE of the unit would be calculated after the control device (the chiller).

A source must formally request that an integral determination be completed by IDEM by submitting a justification for why the controls should be considered an integral part of the specific operation. Potential factors may include that the controls are necessary for product recovery, product recovery results in a large economic benefit for the source, that the equipment would fail without the use of the controls, and/or that the controls would be operated for proper functioning of equipment even if there were no air regulations to comply with for that unit.

Sourcewide PTE

The total PTE for a pollutant is a calculated aggregate of emissions from all emissions units at a source. For example, if a painting operation is trying to determine the PTE of VOC for a source, staff must first calculate the PTE of VOC for each emissions unit and then add them together to determine the total PTE of VOC for that source. Therefore, the source will need to determine the PTE for the painting operations, the solvent degreasing operations, the heating units, etc., and then add the values together to determine the sourcewide total PTE of VOC.

Maximum Capacity

Maximum capacity is the maximum amount of material that can be utilized in a process within a facility or emissions unit. Limitations on maximum capacity may occur as long as they are federally enforceable limitations in a permit. For instance, there may be limitations on the input of paints with certain VOC content within a paint booth. All reductions in maximum capacity are physical restraints to production. Therefore, maximum capacity limitations must be clearly identifiable to regulatory agency representatives and often require recordkeeping and reporting by the source to prove that the limitations are being employed and that the desired reduction in pollutant emissions is being achieved.

Calculating Potential to Emit

Prior to calculating the Potential to Emit (PTE), all emissions units at a source that could potentially emit air pollution need to be identified. An emissions unit is any piece of equipment or process capable of producing an air pollutant. Once all emissions units have been identified, the potential regulated pollutants from each unit should also be identified. Examples of emissions units and associated regulated pollutants could be: a natural gas combustion heater that emits volatile organic compounds (VOCs), nitrogen oxides (NO_x), sulfur dioxide (SO₂), carbon monoxide (CO), and particulate matter (PM₁₀ and PM_{2.5}); a surface coating operation that emits VOCs, PM₁₀ and PM_{2.5}, and Hazardous Air Pollutants (HAPs) from the paint application process; a solvent degreasing operation that emits VOCs from the solvent used; and a blasting operation that emits PM₁₀ and PM_{2.5} from a shot blaster. Once all emissions units and pollutants have been identified, an appropriate method must be chosen to determine the PTE of each pollutant from each unit. PTE is typically calculated using one of, or a combination of the following six methods:

1. The test data method involves collecting emissions samples from each emissions unit while it is in operation (typically at maximum capacity). A sample is taken from the exhaust of the unit and subjected to laboratory analyses to determine the precise quantity of pollutant(s) being emitted per hour or per amount of material processed. This process is by far the most accurate process to utilize when calculating a unit's PTE. However, it is also the most expensive and time-consuming process. Expenses are accrued to collect and analyze the samples and in some cases, emissions units will need to be modified to provide for an easily sampled emissions stack. Further, it may be necessary to collect samples over a period of time to ensure the representative nature of the final emissions determination. Prior to conducting a test, companies should contact IDEM, OAQ Compliance Branch to verify whether the test methods and protocols will be acceptable to determine emissions rates from the emissions unit. In some cases, it is preferred that an IDEM, OAQ Compliance representative be present to observe the stack test in real time and review the test results. [Appendix A of 40 CFR 60](#) contains a detailed list of more than 60 reference sampling methods. (Example: Method 24—determination of volatile matter content, water content, density, volume solids, and weight of solids of surface coatings.)
2. A material balance approach is appropriate for units losing a measurable amount of material to the atmosphere. This method is often used for estimating losses of VOC. An example of such a source is a degreasing operation. In this case, the source simply compares the weight of materials placed into the unit with the weight of the remaining materials after a specific time period. The difference is assumed to be emitted. For example, if a solvent tank is filled with 30 gallons of material at the beginning of the month and at the end of the month 28 gallons are sent out as waste, it can be assumed that two gallons of material were emitted to the environment. This process does not work well when part of the material to be measured becomes part of the product (unless the amount becoming part of the finished product is known) or when it is difficult to maintain

accurate records. Detailed records must be maintained, including inventory, purchase records, and material safety data sheets (MSDS) or environmental data sheets (EDS).

3. Manufacturer or vendor provided data is often combined with the use of emission factors to calculate PTE for a unit or process. Vendors or manufacturers are the source of design rating capacities for units (like combustion rates in MMBtu/hr), process capacity data (like material usage), and MSDS or EDS for products (like surface coating materials). Additionally, equipment-specific emissions factors can frequently be obtained from the manufacturer or equipment vendor in the form of performance guarantees or actual emissions testing of similar equipment.
4. A source-specific model is only available to a small number of industrial operations. A source-specific model is a set of emissions equations for a specific industrial operation. Accuracy of the model results is dependent on the relevance of the model to the emissions unit and the accuracy of the data input values utilized in the model. A good example is the U.S. EPA TANKS Emissions Estimation Software, Version 4.09D. TANKS is a Windows-based computer software program that estimates volatile organic compound (VOC) and hazardous air pollutant (HAP) emissions from fixed- and floating-roof storage tanks. The U.S. EPA offers several other [emission estimation tools](#) for a variety of processes.
5. The emissions factor method is probably the most widely utilized method to estimate emissions. Emission factors are established as average emission rates that can be expected from individual source processes. In the United States Environmental Protection Agency's (U.S. EPA) Compilation of Air Pollutant Emissions Factors, Volume I: Stationary Point and Area Sources (AP-42 manual), the U.S. EPA has compiled representative average emissions factors for numerous emissions units in use throughout the country. An emissions factor shows the relationship between air emissions and a material processing rate (e.g., pounds of VOC per gallons of input). While many emissions units are represented in the AP-42 manual, not all emissions units are represented. Since the Indiana Department of Environmental Management (IDEM) generally requires the use of AP-42 emissions factors or other U.S. EPA approved emissions factors, it may be necessary to contact IDEM's Compliance and Technical Assistance Program (CTAP) or the Office of Air Quality (OAQ) to determine the appropriate emissions factor to utilize. The source is ultimately responsible for certifying that emission factors or other information used to determine PTE are truthful, accurate, and complete. Nonrule Policy Documents, Air-014-NPD Approval and Validation of Alternate Emission Factors (see pages 1 through 3 only) and Air-034-NPD Guidelines for Approval and Use of Representative Stack Test Data can be helpful to sources who want to use an alternate emission factor, or source-specific test data.
6. The worst-case scenario method is often used when other methods are not available. Examples include: assuming that all volatile VOC/HAP in surface coating are emitted during coating application based on the MSDS listed VOC/HAP content, using manufacturer guaranteed outlet grain loading of a baghouse filter and control efficiency to back calculate a worst-case PTE, or assuming that the length, width, thickness of the wood that is cut by a blade (e.g., sawdust) becomes 100 percent PM/PM10/PM2.5.

A PTE must be determined for each pollutant at each emissions unit. Once this has been accomplished, the PTE for each individual pollutant must be aggregated to determine the PTE for the source. For example, the VOC PTE for the aforementioned source would be the sum of all the VOC PTEs from each unit. All PTE emissions, even from insignificant sources, must be considered for new source review or source modification purposes. In some cases, "fugitive emissions" must also be included in the total PTE. Under PSD, Emission Offset, Part 70, and MSOP definitions, "fugitive emissions" means those emissions that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. Fugitive emissions can

include any of the criteria pollutants or HAPs, and they need to be included for permit levels MSOP and below, and for the source categories listed in 326 IAC 2-7-1(22)(B) (listed categories of stationary sources).

Other factors that may affect the PTE for a source can include collocated or linked sources, the use of on-site contractors, or the need to keep “trade secrets” or “proprietary data” confidential. The following Nonrule Policy Documents can be helpful to sources that need information about these crucial elements of determining PTE for their source if applicable:

- [Air-005-NPD](#) - Guidance on Definition of "Source" for Collocated Activities
- [Air-006-NPD](#) - Title V Permitting Issues: definition of "source" and inclusion of on-site contractors under Title V rules
- [Air-031-NPD](#) - Guidance for the Interpretation of the Term "Emission Data"

Quick reference steps:

Performing the calculations for unrestricted PTE

Calculate unrestricted potential to emit on the basis of the following:

- Operating 24 hours/day, 365 days/year (8,760 hours).
- Operating at the maximum design capacity given by manufacturer or supplier.
- Operating without add-on pollution control equipment.
- Using “worst case”—if there are two scenarios (e.g., source can alternate between using gas boiler and coal-fired boiler), use the worst emitter for each pollutant (i.e., gas-fired for NO_x, coal-fired for other pollutants) full time. Apply the same reasoning with computations involving surface coatings.

Perform separate calculations for *each* regulated pollutant and *each* HAP from *each* emissions unit. Find the total PTE for *each* pollutant emitted by your source. Save all calculations.

Source Determinations

The definition of "source" (as shown in the definition section of this manual), pursuant to 326 IAC 1-2-73, means "an aggregation of one or more stationary emissions units that are located on one piece of property or on contiguous or adjacent properties, are owned or operated by the same person (or by persons under common control), and belong to a single major industrial grouping" * * *. Therefore, if a business has equipment located at multiple properties and the combined PTE from the equipment exceeds the permit threshold, the business should work with the OAQ permit staff to obtain a source determination for those properties.

For permitting purposes, it must be determined whether the equipment on multiple properties should be treated as a single group or be broken down into smaller groups. To be considered one source, the equipment located on multiple properties must be under common ownership or common control or have the same two-digit Standard Industrial Classification (SIC) Code. If one of the pieces of equipment serves as a support facility for the other and the source is located on contiguous or adjacent properties then it is also considered one source.

The [Source Definition Manual \[PDF\]](#) explains situations in which connections between properties would cause them to be considered a single source. If a company's equipment is located on contiguous or adjacent properties, the [Source Determination Form \[PDF\]](#) should be completed and a pre-application meeting scheduled with the OAQ permitting staff to discuss the source determination scenario. The Source Determination Form requires information regarding commonalities between ownership and control of the properties, commonalities between material and staff of the properties, and other connections between the properties.

Permits

Prior to the 1990 Amendments, the Clean Air Act (CAA) did not require separate permits for the construction or operation of regulated air emissions sources. However, the construction permit effectively regulated emissions sources by the imposition of emissions limitations and other conditions and serving as approval to construct the emission units that were identified in an application. Because of the 1990 CAA Amendments, the federal government now requires operating permits for major sources of air emissions as defined under Title V of the statute to ensure compliance after initial construction. The Title V operating permit effectively consolidates all the requirements of the CAA that are applicable to the source in one permit. Indiana extends many of the Title V operating permit principles and concepts to the state program permitting minor sources.

IDEM, Office of Air Quality (OAQ) issues air approvals for the construction and operation of new sources that emit air pollutants. These approvals are issued under the provisions of 326 IAC 2, which govern the type, content, and term of all the air approvals issued by IDEM, OAQ. The approvals issued by IDEM, OAQ may consist of a letter or permit. A source having potential emissions of regulated pollutants in excess of threshold emissions rates established in 326 IAC 2-5.1-3 is required to obtain a new source construction permit and operating permit in accordance with state and federal rules. The federal Title V permit program sets operating emissions thresholds for major sources while Indiana law sets operating emissions thresholds for minor sources (326 IAC 2-5 through 2-12). Once again, the regulated pollutants are the six criteria pollutants for which there are NAAQS: carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO₂), lead (Pb), particulate matter (PM₁₀ and PM_{2.5} only), and ground-level ozone (O₃) (made from VOC and NO_x); and Hazardous Air Pollutants (HAPs) (note: there are at least 186 regulated HAPs). The potential emissions from a source are presented as tons of a given pollutant emitted to the environment per year (tpy) and are determined by calculating a source's Potential to Emit.

Sources planning to construct and operate a modification to a source resulting in potential emissions exceeding the applicability threshold levels for a modification must obtain regulatory agency approval through the appropriate modification program.

A modification to an existing source or emissions unit is:

- A physical change, or change in the method of operation, of any existing emissions unit that increases the potential to emit any regulated pollutant, or resulting in emissions of any regulated pollutant not previously emitted.
- Construction of one or more new emissions units having the potential to emit regulated air pollutants.
- Reconstruction of one or more existing emissions units increasing the potential to emit any regulated air pollutant.

In general, prior approval to construct an emissions unit, modify an existing emissions unit, or modify a source must be obtained through the source modification and/or permit modification process prior to commencing construction activities. Likewise, prior approval to operate any modification must be obtained prior to the commencement of most operational activities (these statements are true only if required by the rules, as it depends on the level of modification). Only sources that do not emit any regulated pollutants or have the potential to emit very small amounts of air pollutants are exempt from the requirement to obtain prior approval for the construction and operation of a new/modified sources or emission units.

As with all permits, the owner and/or operator of the source or emissions unit is the person (individual or organization) responsible for obtaining any necessary permits and maintaining compliance with permit conditions.

The following operating permit programs regulate most sources of air pollution depending on potential emissions of regulated air pollutants:

Federal

- A federally required Part 70 Permit (also called Title V permit after the section of the Clean Air Act that authorized them) under 326 IAC 2-7
- One of several alternatives to a Title V permit based on restrictions on potential or actual emissions to less than Title V threshold levels, including:
 - A Federally Enforced State Operating Permit (FESOP) under 326 IAC 2-8;
 - A Source Specific Operating Agreement (SSOA) under 326 IAC 2-9;
 - Permit-by-Rule under 326 IAC 2-10 or 2-11;

State

- An Exemption under 326 IAC 2-1.1-3;
- A Registration under 326 IAC 2-5.1-2 and 326 IAC 2-5.5;
- A Minor Source Operating Permit (MSOP) under 326 IAC 2-6.1.

In any form, an operating permit establishes emissions limitations, compliance determination requirements, compliance monitoring requirements, reporting and recordkeeping requirements, and any other requirements specified in 326 IAC.

Registrations, MSOPs, FESOPs, and Part 70 permits issued to new sources include conditions for both the construction and operation of the new source. For MSOPs, FESOPs and Part 70 operating permits, the phrase "New Source Construction" is included in the title of the permit to indicate that it is both a construction and operating permit.

SSOAs and Permit-by-Rule (PBR) approvals include the provisions for the operation of the source as specified under 326 IAC 2-9, 2-10, and 2-11. New sources that elect to operate under a SSOA may be required to obtain a construction permit as well as the SSOA depending on the types of SSOAs they select. New sources that elect to operate under a Permit-by-Rule approval under 326 IAC 2-10 need a construction permit prior to operating under PBR, while sources that want to operate under a PBR under 326 IAC 2-11 do not need a construction permit prior to operating under PBR.

Please note, a source may be subject to regulations within 326 IAC 12, New Source Performance Standards (NSPS) (40 CFR 60), or 326 IAC 20, National Emissions Standards for Hazardous Air Pollutants (NESHAP) (40 CFR 61 and 40 CFR 63) regardless of whether an operating permit is required for the source.

Permitting decisions may be appealed to the Indiana Office of Environmental Adjudication for administrative review of IDEM's decision [The Office of Environmental Adjudication \(OEA\)](#) was created in 1995 to review the decisions of the Indiana Department of Environmental Management (IDEM). The petitions fall into one of two categories: the appeal of enforcement actions brought by IDEM, or the appeal of an IDEM decision to issue or deny a permit.

Permit Application Process Overview

A typical exemption, registration, or permit application should include similar information, and should be comprehensive and complete in order to be processed effectively. Air permit application forms (and all other forms) are available at [IDEM's forms page](#). At a minimum, every

application should include an Application Cover Sheet and a GSD-01. The main forms include the following types:

- General Source Data (GSD)
- Process Information (PI)
- Control Equipment (CE)
- Compliance Determination (CD) (for Title V sources)
- Others such as BACT, MACT, NSPS, NESHAP or Compliance Assurance Monitoring (CAM) (FED)

Sources must submit a “complete application” for the permit to be processed. A complete application is one that:

- Fulfills the regulatory requirements (timeliness, proper notifications, etc.)
- Includes all required source specific information (appropriate GSD forms), including:
 - The name of the source;
 - The physical location and mailing address of the new or existing source, including the township and county in which it will be located;
 - The name and contact information of the source contact;
 - The name and contact information of the consultant (if any) that prepared the application;
 - A map of the facility;
 - A process flow diagram; and
 - A description of the source and its operations.
- Adequately describes the units and emissions at the source.
- The sourcewide potential emissions in tons per year of each regulated pollutant.
- Construction schedule (if applicable).
- All data, methodology, assumptions, and calculations used to determine potential emissions.
- A complete list of the equipment or processes that emit air pollutants, including any sources of fugitive emissions;
- For each emission unit, the description of the emission units should include the following:
 - Emission unit identification number;
 - Date of construction;
 - A description of the type of operation or activity, including the type of material processed (if applicable) and application methods;
 - Maximum operating capacity or throughput;
 - Identification of the stack or vent through which the emissions are exhausted;
 - Description of any control devices employed; and
 - An estimate of the PTE for each unit or process identified;
- Has been signed by either the responsible official or the authorized individual depending on the level of permit. (This could be the EHS manager, the owner, or the main operator as designated by the source).
- The type of approval for which they are applying (new permit, transition to a different permit level, administrative amendment, modification);
- A list of any federal or state rules applicable and identification of the compliance method(s) selected (if applicable).

Within 10 days of submittal of the permit application to IDEM, the applicant is required to make the application and all supporting documentation available to the public at the public library closest to the source location if the permitting action is subject to the public notification provisions in 326 IAC 2-1.1-6 (typically this is MSOPs, FESOPs, Part 70 permits, and SSOAs with a construction permit – all of which require a public notice period). In addition, some construction approvals require that the source identify and notify adjacent landowners and occupants (IC 13-15-8) and local government officials (IC 13-15-3-1).

Each permit process has different requirements, and the above process is just a general guideline. When applying for an exemption, registration or other permit action, please consult the specific process guidelines that pertain to your situation, and consult with IDEM if you have any questions.

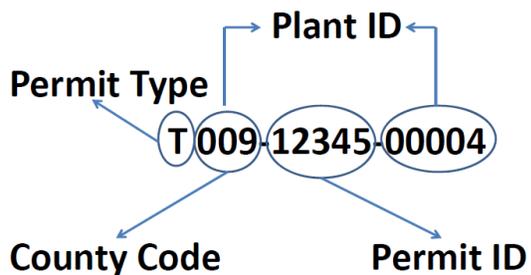
Any application that is submitted without the crucial information outlined above may be considered incomplete and the applicant will receive a Notice of Deficiency (NOD) from IDEM requesting additional information. Receipt of an NOD stops the statutory timeframe in which IDEM is obligated to issue the permit, and may delay construction approval to a source. Once an NOD has been issued, the source has up to 60 days to submit an adequate response containing the requested information or provide clarification that adequately addresses the NOD. If the source does not fulfill the request in the time allotted, IDEM has the authority to deny the application. Notices of deficiency and placing applications on hold are addressed in nonrule policy document, [Air 033 NPD](#).

Permit Structure

Each permit contains terms and conditions that describe the construction and/or operating requirements for a source. All permits issued by the OAQ follow a basic structure for the content:

- Permit Numbering
- Section A – Source Summary
- Section B – General Conditions
- Section C – Source Operation Conditions
- Section D – Emission Unit Operation Conditions
- Section E – Federal Requirements

Permit Numbering



Permit Numbering - Each permit is assigned a letter and a number sequence that identifies the permit level or type, the plant ID number, and the permit ID. The plant ID is made up of a county code (based on source location) and a source-specific ID number (e.g., 009-00004).

Section A – Source Summary contains general source information like the type of source being permitted, the SIC code, the county in which it is located, the location area's attainment status, and the source status as it pertains to Prevention of Significant Deterioration (PSD), Emission Offset (EO), Title V, and section 112 of the Clean Air Act (HAPs). This section of the permit also contains a detailed emission unit and pollution control equipment summary at the source including all significant and insignificant activities.

Section B – General Conditions contains definitions, permit terms, certification requirements, annual notification requirements, preventive maintenance plan (PMP) provisions, emergency provisions, malfunctions, permit modifications or revisions, annual fee payment information, and declaration of credible evidence. As the title of this section suggests, most of the terms in this section are general in nature, and with few exceptions, not source-specific.

Section C – Source Operation Conditions contains provisions that apply to the entire source (not individual facilities), and like Section B, are general in nature. Requirements found in this section include opacity limitations, open burning and incineration terms, fugitive dust restrictions, asbestos regulations, performance testing and retesting guidelines, compliance monitoring requirements, required responses to excursions or exceedances, and general emission statement, record keeping, and reporting requirements.

Section D – Emission Unit Operation Conditions contains detailed, facility-specific conditions. There can be multiple D sections within a permit outlining all of the source-specific limitations that apply to any emission unit, facility, or process at a source. Each D section will include the applicable emission limitations, PMP requirements, required compliance determination terms, and the requirements for control device use, emission unit testing, compliance monitoring, record keeping, and reporting.

Section E – Federal Rules contains references to the applicable, source-specific federal rule requirements like New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAPs). If no federal rules apply to a source, no E section will be included in the permit. Likewise, if multiple federal rules apply to facilities at a source, multiple E sections will be included in the permit. The E section of the permit outlines what emission units or processes are subject to the rule, and references the specific federal rule citations that apply. The rule in its entirety is then attached as an appendix to the permit.

All of the current emission limitations and control requirements are compiled into one legally binding document, the source's permit. Few, if any, terms in sections B and C are negotiable for a source. These sections are standard language approved by IDEM, OAQ, and the U.S. EPA that apply to sources subject to the permit terms of the rules governing the permit level (i.e., 326 IAC 2-7). However, it is the applicant's responsibility to verify what requirements and limits apply to the source, and what compliance measures are achievable for the source. Therefore, the terms established in the D sections of the permit are able to be tailored a bit by the source. With that in mind, it is advisable that the source consider the following before applying for a permit:

- Identify and resolve noncompliance issues
- Identify all possible operating scenarios for the source
- Identify an emissions cap that is high enough to meet any contingency
- Identify methods of continuous compliance demonstration

If the applicant has thought through each of these steps, then it is possible for the source to obtain a permit that incorporates operational flexibility, which can enable a source to make operational changes without requiring permit revisions (which can be time consuming and potentially costly). Furthermore, if a source can establish systems to demonstrate compliance continuously at the outset, there will be fewer instances of required permit changes or compliance violations.

Permitting Approvals

There several types of permitting approvals available to sources. Each permitting approval is based on the source's potential to emit and the type of operations at the source.

State

- Exemptions (326 IAC 2-1.1-3)
- Registrations (326 IAC 2-5)
- Minor Source Operating Permit (MSOP) (326 IAC 2-6.1)

Federal

- Part 70 Permit (Title V) (326 IAC 2-7)
- Federally Enforced State Operating Permit (FESOP) (326 IAC 2-8)
- Source Specific Operating Agreement (SSOA) (326 IAC 2-9)
- Permit-by-Rule (326 IAC 2-10 or 2-11)

Exemptions

New sources or modifications to existing sources qualify as exempt from the registration and air permit provisions if all of the following statements are true:

- (1) The sourcewide total PTE for all regulated pollutants is less than the exemption thresholds (as shown in the table below),
- (2) The source is not subject to a New Source Performance Standard (NSPS) (40 CFR Part 60 and 326 IAC 12) that specifically requires the source to apply for a Part 70 operating permit;
- (3) The source is not subject to National Emission Standard for Hazardous Air Pollutants (NESHAP) in 40 CFR Part 61 (326 IAC 14) that requires the source to apply for a Part 70 operating permit;
- (4) The source is not an area source for HAPs subject to National Emission Standard for Hazardous Air Pollutants (NESHAP) in 40 CFR Part 63 (326 IAC 20) that specifically requires the source to apply for a Part 70 operating permit;
- (5) The source does not perform decorative chrome plating using a trivalent chromium process and wetting agent;
- (6) The source is not subject to 326 IAC 20-8 (Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks); and
- (7) The source has the potential to emit before control less than one ton per year of lead or lead compounds measured as elemental lead and operates one of the following types of facilities:
 - A primary lead smelter,
 - A secondary lead smelter,
 - A primary copper smelter,
 - A lead gasoline additive plant, and
 - A lead-acid storage battery manufacturing plant that produces 2,000 or more batteries per day.

For Exemptions, the sourcewide PTE includes fugitive emissions as well as point source emissions. Therefore, to determine whether a source is exempt under paragraph (a) above, the

emissions from paved and unpaved roads, storage piles, and other fugitive emission sources must be included in the sourcewide PTE calculations.

Threshold Emissions Levels For Exemptions	
Particulate Matter	< 5 tons per year (tpy)
PM10	< 5 tons (tpy)
PM2.5	< 5 tons (tpy)
SO2	< 10 tpy
NOx	< 10 tpy
VOCs	<10 tpy for sources not required to use air pollution control equipment to comply with the applicable provisions of 326 IAC 8
	<5 tpy for sources required to use air pollution control equipment to comply with the applicable provisions of 326 IAC 8
CO	< 25 tpy
Lead	< 0.2 tpy
HAPs	< 10 tpy for each single HAP < 25 tpy for any combination of HAPs
Hydrogen Sulfide (H2S)	< 5 tpy
Total reduced sulfur (TRS)	< 5 tpy
Reduced sulfur compounds	< 5 tpy
Fluorides	< 5 tpy

A stationary source meeting the criteria for an exemption under 326 IAC 2-1.1-3 is not required to submit an application to obtain a registration or permit. However, the stationary source may voluntarily apply for a Letter of Exemption from IDEM. The application for such a letter of exemption is the same complete application that one would submit if one were subject to a higher permitting level requirement, such as a registration or minor source operating permit. The Letter of Exemption verifies there are no construction conditions to be met, so long as the source does not engage in further construction to expand its PTE above exemption levels. An exempt source can construct and operate without IDEM approval, however, the source may be subject to applicable regulations, and IDEM includes those regulations in the Letter of Exemption as a service.

Although a source meeting the criteria listed above is exempt from the requirements to obtain an approval to construct and operate their source, they still must comply with any regulations that may apply to their emission units. For example, a source consisting of a small cold cleaner degreaser that uses less than 145 gallons of non-halogenated solvent per year is not required to obtain a registration or permit, but would be required to comply with the applicable work practice and control standards in 326 IAC 8-3 (Organic Solvent Degreasing Operations).

A common misconception is that sources or emission units that meet the criteria for an exemption are exempt from all state and federal regulations. 326 IAC 2-1.1-3 only exempts sources and emission units from the registration and permitting requirements of Article 2. Therefore, if a source or emission unit meets the applicability criteria for any state or federal emission limitation, work practice standard or other requirement, they are subject to that requirement even if they also meet the definition of an exempt source or emission unit under 326 IAC 2-1.1-3.

Registrations

New sources qualify for a Registration if:

(a) At least one of the following statements is true:

- (1) The potential to emit before controls of at least one of the pollutants listed in the table below is within the range for Registrations. (The total PTE of a source is above exemption thresholds but below Minor Source thresholds).
- (2) The source is subject to 326 IAC 20-8 (Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks); and consists only of decorative chromium electroplating using only a trivalent chromium process that incorporates a wetting agent.

and

(b) All of the following statements are true:

- (1) The source does not have the potential to emit before control equal to or greater than 10 tons per year of a single hazardous air pollutant (HAP) or equal to or greater than 25 tons per year of total combined HAPs (i.e. is not a major source under Section 112 of the Clean Air Act).
- (2) The source is not subject to a New Source Performance Standard (NSPS) (40 CFR Part 60 and 326 IAC 12) that specifically requires the source to apply for a Part 70 operating permit.
- (3) The source is not subject to National Emission Standard for Hazardous Air Pollutants (NESHAP) in 40 CFR Part 61 (326 IAC 14) that requires the source to apply for a Part 70 operating permit.
- (4) The source is not an area source subject to the requirements in a National Emission Standard for Hazardous Air Pollutants (NESHAP) in 40 CFR Part 63 (326 IAC 20) that specifically requires the source to apply for a Part 70 operating permit.
- (5) The source does not perform hard chrome plating.
- (6) The source has the potential to emit less than one ton per year of lead or lead compounds measured as elemental lead and operates one of the following types of facilities:
 - A primary lead smelter.
 - A secondary lead smelter.
 - A primary copper smelter.
 - A lead gasoline additive plant. and
 - A lead-acid storage battery manufacturing plant that produces 2,000 or more batteries per day.

For Registrations, the sourcewide PTE includes fugitive emissions as well as point source emissions. Therefore, to determine whether a source should be issued a Registration, the emissions from paved and unpaved roads, storage piles, and other fugitive emission sources must be included in the sourcewide PTE calculations. Sources with the potential to emit regulated pollutants within the registration permit thresholds must obtain a registration in accordance with 326 IAC 2-5.1-2 (if a new source) and 2-5.5.

The Registration includes approval to both construct and operate the source and does not require a public notice period prior to issuance. Registrations do not need to be renewed; however, any changes made to the source, such as installing a new emission unit or modifying an existing emission unit, will require the source to submit an application either to revise the current Registration or apply for a different approval if the source no longer meets the Registration criteria listed above.

Threshold Emissions Levels For Registrations	
Particulate Matter	≥ 5 tons per year tpy and < 25 tpy
PM10	≥ 5 tpy and < 25 tpy
PM2.5	≥ 5 tpy and < 25 tpy
SO ₂	≥ 10 tpy and < 25 tpy
NO _x	≥ 10 tpy and <25 tpy
VOCs	≥ 10 tpy and < 25 tpy for sources not required to have a control device to comply with applicable provisions of 326 IAC 8 ≥ 5 tpy and < 25 tpy for sources that require a control device to comply with applicable provisions of 326 IAC 8
CO	≥ 25 tpy and < 100 tpy
Lead	≥ 0.2 tpy and <5 tpy
HAPs	<10 tpy for each single HAP < 25 tpy for any combination of HAPs
Hydrogen Sulfide (H ₂ S)	≥ 5 tpy and < 25 tpy
Total reduced sulfur (TRS)	≥ 5 tpy and < 25 tpy
Reduced sulfur compounds	≥ 5 tpy and < 25 tpy
Fluorides	≥ 5 tpy and < 25 tpy
For sources consisting of only decorative chromium electroplating tanks that use a trivalent chromium process that incorporates a wetting agent and are subject to 326 IAC 20-8, there is no emissions threshold.	

Registration Revisions

The source must submit an application for an administrative amendment within 30 days of making the change or modification described in 326 IAC 2-5.5-6(d). IDEM will issue the revised registration within 30 days of receipt. Any change or modification not described in 326 IAC 2-5.5-6(d) must be submitted for approval prior to implementation. IDEM will issue a modification approval and a revised registration within 45 days of receipt of the complete application. If the emission unit change(s) increase the potential to emit (PTE) to thresholds outside the ranges for a Registration, the source must apply for a permit level that will encompass their current and proposed equipment changes.

Minor Source Operating Permits

New sources qualify for a Minor Source Operating permit (MSOP) if:

- (a) At least one of the following statements is true:
- (1) The potential to emit before controls of at least one of the pollutants listed in the table below is within the range for MSOPs.
 - (2) The source consists of a chromium electroplating, chromium anodizing tank or an operation subject to 326 IAC 20-8 (Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks). [Note: Sources that consist only of decorative

chromium electroplating using only a trivalent chromium process that incorporates a wetting agent are excluded].

- (3) The source has the potential to emit before controls of equal to or greater than one ton per year of lead or lead compounds measured as elemental lead and operates one of the following types of facilities:

- A primary lead smelter,
- A secondary lead smelter,
- A primary copper smelter,
- A lead gasoline additive plant, and
- A lead-acid storage battery manufacturing plant that produces 2,000 or more batteries per day.

and

- (b) All of the following statements are true:

- (1) The source is not subject to a New Source Performance Standard (NSPS) (40 CFR Part 60 and 326 IAC 12) that specifically requires the source to apply for a Part 70 operating permit.
- (2) The source is not subject to National Emission Standard for Hazardous Air Pollutants (NESHAP) in 40 CFR Part 61 (326 IAC 14) that requires the source to apply for a Part 70 operating permit.
- (3) The source is not an area source subject to the requirements in a National Emission Standard for Hazardous Air Pollutants (NESHAP) in 40 CFR Part 63 (326 IAC 20) that specifically requires the source to apply for a Part 70 operating permit.

The PTE includes fugitive emissions as well as point source emissions. Therefore, to determine whether a source should be issued an MSOP, the emissions from paved and unpaved roads, storage piles, and other fugitive emission sources should be included in the PTE calculations.

Threshold Emissions Levels For MSOPs	
Particulate Matter	≥ 25 tons per year (tpy) and no upper limit
PM10	≥ 25 tpy and < 100 tpy
PM2.5	≥ 25 tpy and < 100 tpy
SO2	≥ 25 tpy and < 100 tpy
NOx	≥ 25 tpy and < 100 tpy
VOCs	≥ 25 tpy and < 100 tpy
CO	≥ 100 tpy
Lead	≥ 5 tpy and < 10 tpy
HAPs	< 10 tpy of a single HAP < 25 tpy of a combination of HAPs
Hydrogen Sulfide (H2S)	≥ 25 tpy
Total reduced sulfur (TRS)	≥ 25 tpy
Reduced sulfur compounds	≥ 25 tpy
Fluorides	≥ 25 tpy

The draft MSOP requires a 30-day public notice period prior to issuance, but does not require a subsequent review by the U.S. EPA. This public notice provides the public the opportunity to review and comment on the draft MSOP. The draft MSOP is available for public review on IDEM's website and at a local library near the source. For each comment received, IDEM must prepare a written response and provide it to the public. If requests for a public hearing are received, IDEM may decide to hold a public hearing on the draft permit. If a public hearing is held, IDEM may have an additional 45 days to process the permit application. IDEM conducts the hearing at a date and location that is made available to the public and accepts and considers any comments submitted during the public hearing regarding the draft permit. The permit conditions and the permit decision can be altered based on the public comments received. After all comments are addressed, IDEM issues a final permit decision.

An MSOP issued to a new source will include approval to both construct and operate the source. To indicate the permit includes construction conditions as well as operating conditions, the title page of the permit will include the heading "New Source Construction and Minor Source Operating Permit." Although the construction conditions do not expire (unless the units are not constructed in the approved timeframe), the operating conditions will expire five years after the initial permit issuance. Therefore, a source operating under an MSOP must submit an application to renew their permit 120 days prior to the expiration date of the existing MSOP. A MSOP renewal is valid for a term of 10 years. Any changes made to the source, such as installing a new emission unit or modifying an existing emission unit, will require the source to submit an application for either an administrative amendment or a permit revision.

MSOP Modifications

There are four types of permit modifications available to MSOP-permitted operations under Indiana air permitting rules. Permit modification approvals are required whenever a source makes a modification to the source that affects the permit for the source. Each option is briefly discussed in the following MSOP sub-sections below.

Summary of Types of Modifications and Rule Citations for MSOPs:	
Permit Type	Citation
Emergency Repair or Replacement	326 IAC 2-6.1-6(b)
MSOP Administrative Amendment	326 IAC 2-6.1-6(d)
MSOP Minor Permit Revision	326 IAC 2-6.1-6(g)
MSOP Significant Permit Revision	326 IAC 2-6.1-6(i)

MSOP Emergency Repair or Replacement

Emergency repair or replacement of an existing emissions unit or air pollution control equipment for that unit may be performed without prior approval if it:

- Does not result in an increase in the potential to emit for any regulated pollutant from any emissions unit or equipment that was repaired or replaced.
- Does not constitute a major modification under PSD (326 IAC 2-2), nonattainment Emission Offset regulations (326 IAC 2-3), or under the case-specific Maximum Achievable Control Technology (MACT) standards (326 IAC 2-4.1). and
- Either returns the emissions unit, process, or control equipment to normal operations after an upset, malfunction, or mechanical failure or prevents impending and imminent failure of the emissions unit, process, or control equipment.

If the repair or replacement constitutes a reconstruction or complete replacement of an emissions unit or air pollution control equipment requiring a permit or operating permit revision, then the owner or operator of the source must submit an application for the permit or the permit

modification to IDEM within 30 days after initiating the repair or replacement (326 IAC 2-6.1-6(b)).

MSOP Administrative Amendments

MSOP Administrative Amendments are used to make relatively minor changes to the permit such as changing descriptive or administrative information, making minor changes to existing permit terms or conditions, and the addition of small emission units to the source. Administrative Amendments can also include small changes made to existing units and certain changes in the method of operation of existing units. The provisions describing the qualifications of an Administrative Amendment are located under 326 IAC 2-6.1-6(d). These insignificant modifications to operations can be implemented without public notice or prior approval by IDEM. Notice of the change must be provided to IDEM within 30 days of the making the change or modification per 326 IAC 2-6-1-6(b)(3). IDEM will issue the revised permit within 30 days of receipt. Examples of administrative amendment changes include typographical errors, ownership and operational control changes, institution of more frequent monitoring, implementing a pollution control project reducing emissions, or a project increasing any individual HAP potential emissions to equal or greater than one ton per year but less than 10 tons per year, or greater than or equal to 2.5 tons per year or 25 tons per year of any combination of HAPs. A full list of notice only changes is provided in 326 IAC 2-6.1-6(d).

Non-Physical Changes

There are eight provisions in 326 IAC 2-6.1-6(d) that describe a variety of situations that qualify a permit change as an Administrative Amendment that do not include construction or physical changes to the source. These administrative changes can range from correcting typographical errors or changes in ownership or operational control of a source, to incorporation of newly applicable requirements as a result of a change in applicability or incorporation of newly applicable monitoring or testing requirements specified in 40 CFR 60*, 40 CFR 61*, or 40 CFR 63* that apply as the result of a change in applicability.

Physical Changes

There are seven citations in 326 IAC 2-6.1-6(d) that describe types of physical changes (including changes in the method of operation) that may be permitted as an Administrative Amendment (actually involve new construction, changes made to existing units, and changes in the method of operation of existing units). The provisions defining an Administrative Amendment for MSOPs do not specifically provide emission thresholds qualifying a physical change as an Administrative Amendment, except for Hazardous Air Pollutants (326 IAC 2-6.1-6(d)(10)). However, in general, if the proposed physical change does not qualify as a Minor or Significant Permit Revision, then the physical change is likely an exempt change that may be incorporated into the permit through an Administrative Amendment.

New emission units can be exempt from notification requirements if the potential to emit is less than exempt thresholds found in 326 IAC 2-1.1-3 (see table below). A source can elect to submit an application for an Administrative Amendment to include the additional emission units in order to maintain an accurate list of equipment in their permit. (This is always a good practice so that a new tally of sourcewide emissions can be calculated to make sure the source is operating under the proper permit level at all times, and avoid any potential enforcement actions for permitting requirements). If the source does not voluntarily submit an Administrative Amendment for the new emission units, they must include any additional emission units with their next renewal application. However, if the potential to emit from the exempt emissions unit(s) would put the source into a higher permit category, for example moving it from an MSOP to a FESOP or Title V, the source must obtain the proper source/permit modification prior to installing the equipment.

Threshold Table for Minor Source Operating Permits Based on Potential to Emit			
Pollutant	Administrative Amendment (tpy)*	Minor Permit Revision (tpy)	Significant Permit Revision (tpy)
Particulate Matter (PM)	< 5	≥ 5 and < 25	≥ 25
PM10/PM2.5	< 5	≥ 5 and < 25	≥ 25
Sulfur Dioxide (SO ₂)	< 10	≥ 10 and < 25	≥ 25
Nitrogen Oxides (NO _x)	< 10	≥ 10 and < 25	≥ 25
Volatile Organic Compounds (VOC)	< 10 for sources <u>not</u> required to use control equipment to comply with applicable provisions of 326 IAC 8	≥ 10 for sources <u>not</u> required to use control equipment to comply with applicable provisions of 326 IAC 8 <u>and</u> < 25	≥ 25
	< 5 for sources required to use control equipment to comply with applicable provisions of 326 IAC 8	≥ 5 for sources required to use control equipment to comply with applicable provisions of 326 IAC 8 <u>and</u> < 25	
Carbon Monoxide (CO)	< 25	≥ 25 and < 100	≥ 100
Lead (Pb)	< 0.2	≥ 0.2 and < 5	PTE ≥ 5 or Pb increase ≥ 0.6 when existing PTE ≥ 5
Hazardous Air Pollutants (HAP)	< 1 of a single HAP or ≤ 2.5 of any combination of HAP	PTE that is limited to < 10 of any single HAP or < 25 of any combination of HAP by complying with one of the constraints in 326 IAC 2-6.1-6(g)(5)	≥ 10 of any single HAP or ≥ 25 of any combination of HAP
Hydrogen Sulfide (H ₂ S)	< 5	≥ 5 and < 25	≥ 25
Total Reduced Sulfur (TRS)	< 5	≥ 5 and < 25	≥ 25
Reduced Sulfur Compounds	< 5	≥ 5 and < 25	≥ 25
Fluorides	< 5	≥ 5 and < 25	≥ 25

* Making a modification with exemption level PTE (Administrative Amendment) may not require a permit amendment/revision unless other provisions of 326 IAC 2-6.1-6 require a permit amendment/revision.

Note: In many instances, the unlimited/uncontrolled PTE indicates one permit level, but there are provisions elsewhere in 326 IAC 2-6.1-6 that may raise, or lower, the permit level. For example, 326 IAC 2-6.1-6(d)(13) allows for an Administrative Amendment regardless of the PTE if the source is adding an emissions unit of the same type that is already permitted and that will comply with the same applicable requirements, permit terms, and conditions as the existing emission unit or units.

MSOP Minor Permit Revisions

If a change does not qualify as an Administrative Amendment or require a Significant Permit Revision, a Minor Permit Revision may be needed. Minor permit revisions for MSOPs must be submitted for approval prior to implementation/construction. The source may not begin construction or implement process changes on any emissions units associated with the revision until the commissioner has revised the permit. Such revisions are described in 326 IAC 2-6.1-6(g) and are reviewed and approved by IDEM within a 45-day time period. Examples of minor permit revisions include:

- A permitted reduction in the frequency of monitoring or reporting
- The addition of a portable source to an existing source
- Pollution control or prevention projects that do not increase emissions above minor revision thresholds, but which will require a significant change in the method or methods to demonstrate or monitor compliance.
- A change involving an emissions limit to avoid the state Best Available Control Technology (BACT) rule, 326 IAC 8-1-6
- Modifications (addition of small emission units or changes to existing units or methods of operation of existing units) with a PTE within the ranges provided in the Table below

Non-Physical Changes (no construction involved)

Non-physical and physical changes may also require a Minor Permit Revision as follows: There is only one type of change described under 326 IAC 2-6.1-6(g) that constitutes a permit change not associated with a physical change, which is when a source requests permission to reduce the frequency of an existing monitoring or reporting requirement.

Physical Changes

There are five provisions in 326 IAC 2-6.1-6(g) that describe a variety of physical changes (including changes in the method of operation) that qualify as a Minor Permit Revision. The potential emission thresholds for determining whether a physical change qualifies as a Minor Permit Revision are found in 326 IAC 2-6.1-6(g)(3) and (4) as summarized in the table below (Thresholds for MSOP Minor Permit Revisions):

Thresholds for MSOP Minor Permit Revisions	
Particulate Matter	≥ 5 tpy and < 25 tpy
PM10/PM2.5	≥ 5 tpy) and < 25 tpy
SO2	≥ 10 tpy and < 25 tpy
NOx	≥ 10 tpy and < 25 tpy
VOCs	≥ 10 tpy and < 25 tpy for sources not required to have a control device ≥ 5 tpy and < 25 tpy for sources that require a control device to comply with provisions of 326 IAC 8
CO	≥ 25 tpy and < 100 tpy
Lead	≥ 0.2 tpy and < 5 tpy
HAPs	< 10 tpy of a single HAP < 25 tpy of a combination of HAPs
Hydrogen Sulfide (H2S)	≥ 5 tpy and < 25 tpy
Total reduced sulfur (TRS)	≥ 5 tpy and < 25 tpy
Reduced sulfur compounds	≥ 5 tpy and < 25 tpy
Fluorides	≥ 5 tpy and < 25 tpy

MSOP Significant Permit Revisions

Significant Permit Revisions are required for physical changes (including changes in the method of operation) that do not qualify as an Administrative Amendment or a Minor Permit Revision. Significant Permit Revisions of MSOPs require approval of IDEM prior to implementation/construction. IDEM will submit the draft Significant Permit Revision for a 30-day public comment period and issue a final decision within 120 days. Examples of modifications subject to 326 IAC 2-6.1-6(i) include:

- Major modifications subject to PSD (326 IAC 2-2) or nonattainment Emission Offset (326 IAC 2-3) or a case-specific MACT standard (326 IAC 2-4.1) - (the source will need to transition from an MSOP to a Title V permit).
- Modifications that result in the source needing to obtain a Federally Enforceable State Operating Permit (FESOP) or Title V permit (the source will need to transition from an MSOP to a FESOP or Title V permit).
- Modifications subject to 326 IAC 8-1-6 (BACT) - VOC reduction requirements for new facilities.
- Modifications reducing or removing compliance monitoring, testing, record keeping, or reporting, unless it was a result of a change under 326 IAC 2-6.1-6(d)(5) (change in applicability).
- Modifications with the potential to emit greater than or equal to the thresholds provided in the following table (Thresholds for MSOP Significant Permit Revisions):

Thresholds for MSOP Significant Permit Revisions	
Particulate Matter	> 25 tpy
PM10/PM2.5	> 25 tpy
SO ₂	> 25 tpy
NO _x	> 25 tpy
VOCs	> 25 tpy
CO	> 100 tpy
Lead	> 0.6 tpy (for a source with an existing PTE ≥ 5 tpy) ≥ 1 tpy (for a source with an existing PTE < 5 tpy)
Hydrogen Sulfide	> 25 tpy
Total Reduced Sulfur	> 25 tpy
Reduced Sulfur Compounds	> 25 tpy
Fluorides	> 25 tpy
HAPs	> 10 tpy for a single HAP > 25 tpy for a combination of HAPs

Note: If the emissions unit changes increase the potential to emit (PTE) to thresholds outside the ranges for a Minor Source Operating Permit, the source must apply for the appropriate level permit that will encompass their current and proposed equipment changes.

Part 70/Title V Operating Permits

The federal operating permit program was initially required by Title V of the CAA. This particular portion of the CAA was adopted by the 1990 amendments and has been adopted in Indiana by 326 IAC 2-7. The purpose of the permit program is to establish a comprehensive operating permit that would contain all applicable requirements in one enforceable document. Indiana's Title V permit program covers all major sources of air pollution as defined in the CAA. (Indiana rules refer to Title V permits as Part 70 permits; the terms are synonymous and will be used interchangeably.) The owner/operator of a Title V source is required to obtain a valid Title V permit or a bona fide alternative to the Title V permit.

New sources qualify for a Part 70 permit if at least one of the following statements is true:

- (1) The potential to emit before controls of at least one of the pollutants listed in the table below is equal to or greater than the threshold for Title V Sources.
- (2) The source is subject to a National Emission Standard for Hazardous Air Pollutants (NESHAP) in 40 CFR Part 61 (326 IAC 14) or 40 CFR Part 63 (326 IAC 20) that requires the source to apply for a Part 70 operating permit.
- (3) The source is subject to a New Source Performance Standard (NSPS) (40 CFR Part 60 and 326 IAC 12) that specifically requires the source to apply for a Part 70 operating permit.

The pollutants that are regulated as part of the Title V program are essentially the same as the pollutants regulated under every other permit program, except only PM₁₀ and PM_{2.5} are regulated, not particulate matter (PM). Exceeding the threshold for a single pollutant causes the source to obtain a Title V permit.

Threshold Emissions Levels For Title V/Part 70	
PM	NA
PM ₁₀ /PM _{2.5}	≥ 100 tpy
SO ₂	≥ 100tpy
NO _x	≥ 100 tpy
VOCs*	≥ 100 tpy
CO	≥ 100 tpy
Lead	≥ 100 tpy (≥ 10 tpy for lead smelters)
HAPs	≥ 10 tpy of a single HAP ≥ 25 tpy of a combination of HAPs

For new sources belonging to one of the source categories listed in 326 IAC 2-7-1(22)(B), the fugitive particulate and VOC emissions must be included in the PTE.

These source categories include:

- (a) The following source categories (normally referred to as the list of 28 source categories):
 - (1) Fossil fuel-fired steam electric plants of more than 250 million Btu/hr heat input
 - (2) Coal cleaning plants (with thermal dryers)
 - (3) Kraft pulp mills
 - (4) Portland cement plants
 - (5) Primary zinc smelters
 - (6) Iron and steel mill plants

- (7) Primary aluminum ore reduction plants
 - (8) Primary copper smelters
 - (9) Municipal incinerators capable of charging more than 250 tons of refuse per day
 - (10) Hydrofluoric acid plants
 - (11) Sulfuric acid plants
 - (12) Nitric acid plants
 - (13) Petroleum refineries
 - (14) Lime plants
 - (15) Phosphate rock processing plants
 - (16) Coke oven batteries
 - (17) Sulfur recovery plants
 - (18) Carbon black plants (furnace plants)
 - (19) Primary lead smelters
 - (20) Fuel conversion plants
 - (21) Sintering plants
 - (22) Secondary metal production plants
 - (23) Chemical process plants
 - (24) Fossil fuel boilers (or combinations thereof) totaling more than 250 million Btu/hr heat input
 - (25) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels
 - (26) Taconite ore processing plants
 - (27) Glass fiber processing plants
 - (28) Charcoal production plants
- (b) Any other stationary source category regulated under Section 111 or 112 of the Clean Air Act (CAA) and for which the U.S. EPA has made an affirmative determination under Section 302(j) of the CAA. These sources categories include all source categories that are regulated under the New Source Performance Standards (NSPS) or National Emission Standard for Hazardous Air Pollutants (NESHAP) as of August 7, 1980.

These source categories include such industries as asphalt plants, glass manufacturing plants, grain elevators, automobile or light-duty truck coating at assembly plants, etc. IDEM, OAQ references a [list of source categories](#) regulated by an NSPS or NESHAP prior to August 7, 1980, for assistance with applicability determinations.

For new sources not belonging to one of these source categories, the fugitive particulate and VOC emissions are not included in the PTE for the purposes of determining Part 70 applicability.

The fugitive particulate and VOC emissions are included in the PTE for the purpose of determining Part 70 source modification (326 IAC 2-7-10.5) applicability irrespective of source category.

The fugitive emissions of hazardous air pollutants are included in the PTE for the purpose of determining Part 70 applicability irrespective of source category.

Title V Permit Application

The procedures for obtaining a Title V operating permit are very similar to the procedures for obtaining any other state operating permit. The procedures are set forth in 326 IAC 2-7-4. The application includes, but is not limited to:

- A description of the source, including the designed capacity of the source, the pollution generating processes, and the control devices (if any).
- The potential emissions in tons per year of regulated pollutants.

- A listing of applicable requirements of the CAA relevant to the source.
- A statement of the source's current compliance status with the proposed permit requirements and a schedule for compliance with all required terms of the proposed permit if the source is not in compliance with the proposed permit terms.
- A certification by a responsible official that based on information and belief formed after reasonable inquiry, the statements contained in the application are true, accurate, and complete.
- A request for operational flexibility in the final terms and conditions of the permit. If the applicant fails to request such flexibility, it will not be included in the permit and the source will not have operational flexibility without modifying the permit.

Within 10 days of submittal of the permit application to IDEM, the applicant is required to make the application and all supporting documentation available for public review at a public library in the county where the construction or modification is proposed. In addition, some construction approvals require that the source identify and notify adjacent landowners and occupants (IC 13-15-8) and local government officials (IC 13-15-3-1).

Upon receipt, IDEM first performs a completeness review of the application. IDEM has 270 days to review Title V permit applications involving major source PSD or Emission Offset construction or modifications. IDEM has 120 days to review new source permits for construction of Title V sources not involving major source PSD or Emission Offset construction or modifications. IDEM will notify the applicant of any permit application deficiencies within 60 days of the receipt of the application.

After an application has been determined to be complete and sufficient, IDEM will prepare a draft permit and provide it to the source for applicant review prior to public notice. Once any comments provided by the source are addressed, the draft permit will be submitted for a 30-day public notice period. Part 70 permits require both a 30-day public notice period and a 45-day U.S. EPA review period prior to issuance. The public notice period provides the public and U.S. EPA the opportunity to review and comment on the draft permit. The draft permit is available for public review on IDEM's website and at a local library near the source. For each comment received, IDEM must prepare a written response and provide it to the public. After the 30-day public notice period has ended, the permit is proposed to U.S. EPA for review and comment. The U.S. EPA 45-day review period may run concurrent with the 30-day public notice period, or U.S. EPA may request for a separate 45-day review period after the 30-day public notice period. When the U.S. EPA 45-day review period is run concurrently with the 30-day public notice period, the U.S. EPA review period will end fifteen days after the permit is proposed to U.S. EPA.

If requests for a public hearing are received, IDEM may decide to hold a public hearing on the draft permit. For each comment received, IDEM must prepare a written response and provide it to the public. IDEM will then prepare a final permit decision that must address any U.S. EPA comments received. The terms and conditions of the final permit can be appealed to the Indiana Office of Environmental Adjudication. Part 70 permits issued to a new source will include approval to both construct and operate the source. To indicate the permit includes construction conditions as well as operating conditions, the title page of the permit will include the heading "New Source Construction and Part 70 Operating Permit." Although the construction conditions do not expire (unless the units are not constructed in the approved timeframe), the operating conditions will expire five years after permit issuance and must be renewed. A Title V permit must be renewed every five years. The source should submit the permit renewal application to IDEM at least 270 days (or nine months) prior to the expiration of the existing permit. Any changes made to the source, such as installing a new emission unit or modifying an existing emission unit, will require the source to submit an application for an administrative amendment, source modification approval, and/or permit modification. If not during the renewal process, when a source requests a change to the permit, they will be issued a modified permit that

updates their existing permit to reflect the requested change; however, the expiration date of the permit remains unchanged.

Alternative Operating Scenarios

At the request of an applicant, a Title V permit may include terms allowing a source to change to a pre-approved operating scenario that is different from the original operating scenario. A source may switch from one operating scenario to another, while only noting the operational differences, without violating the terms and conditions of the permit. Examples of alternative operating scenarios include:

- Use of an alternate fuel
- Use of a different raw material resulting in the production of a different final product
- Using a different method of compliance

Part 70/Title V Modifications

There are six types of modifications available to Title V permitted operations under Indiana air permitting rules. Modification approvals are required whenever a source makes a modification to the source that affects the source and/or permit. Each option is briefly discussed in the following table (Summary of Types of Modifications and Rule Citations for Title V Operating Permits) below:

Summary of Types of Modifications and Rule Citations for Title V Operating Permits:		
Construction / Operation	Modification Type	Rule Citation
Upon submission of application - no IDEM approval required to construct	Emergency Repair or Replacement	326 IAC 2-7-10.5(c)
Upon submission of application- no IDEM approval required to construct	TV Administrative Amendment	326 IAC 2-7-11(a)
Requires Approval to operate	TV Minor Permit Modification	326 IAC 2-7-12(b)
Requires Approval to operate	TV Significant Permit Modification	326 IAC 2-7-12(d)
Requires Approval to construct	TV Minor Source Modification	326 IAC 2-7-10.5(e)
Requires Approval to construct	TV Significant Source Modification	326 IAC 2-7-10.5(g)

Part 70/Title V Emergency Repair or Replacement

Emergency repair or replacement of existing emissions unit or air pollution control equipment for that unit may be performed without prior approval if it:

- Does not result in an increase in the potential to emit for any regulated pollutant from any emissions unit or equipment that was repaired or replaced.
- Does not constitute a major modification under PSD (326 IAC 2-2), nonattainment Emission Offset regulations (326 IAC 2-3), or under the case-specific Maximum Achievable Control Technology (MACT) standards (326 IAC 2-4.1). and
- Either returns the emissions unit, process, or control equipment to normal operations after an upset, malfunction, or mechanical failure or prevents impending and imminent failure of the emissions unit, process, or control equipment.

If the repair or replacement constitutes a reconstruction or complete replacement of an emissions unit or air pollution control equipment requiring a modification approval or operating permit modification, then the owner or operator of the source must submit an application for the

permit or the permit modification to IDEM within 30 days after initiating the repair or replacement (326 IAC 2-7-10.5(c)).

Title V Administrative Amendments

An administrative amendment is accomplished in accordance with 326 IAC 2-7-11 and is allowed to be made without prior notice to the public, the U.S. EPA, or affected states. Administrative amendments provide for revisions to the permit that do not affect any emissions or compliance conditions. The source can implement the change immediately upon submitting the administrative amendment to IDEM. Examples of Administrative Amendment changes are shown in the table below (Title V Administrative Amendments):

Title V Administrative Amendments	
Type of Change	Rule Citation
Corrects typographical errors.	326 IAC 2-7-11(a)(1)
Identifies a change in the name, address, or telephone number of any person identified in the Part 70 permit or provides a similar minor administrative change at the source.	326 IAC 2-7-11(a)(2)
Requires more frequent monitoring or reporting by the Permittee.	326 IAC 2-7-11(a)(3)
Allows for a change in ownership or operational control of a source where no other change in a Part 70 permit is necessary.	326 IAC 2-7-11(a)(4)
Incorporates into a Part 70 permit the requirements from preconstruction permits issued under 326 IAC 2-7-10.5 that have satisfied the requirements of 326 IAC 2-17 (Public Participation and notice to affected states) and 326 IAC 2-7-18 (Permit Review by the U.S. EPA) as appropriate.	326 IAC 2-7-11(a)(5)
Incorporates into a Part 70 permit a general permit issued under 2-7-13 (General Permits).	326 IAC 2-7-11(a)(6)
Revises descriptive information where the revision will not trigger a new applicable requirement or violate a permit term.	326 IAC 2-7-11(a)(7)
Incorporates an exempt unit as described in 326 IAC 2-1.1-3 that does not otherwise constitute a modification for purposes of 326 IAC 2-7-10.5 (Source Modifications) or 326 IAC 2-7-12 (Permit Modification).	326 IAC 2-7-11(a)(8)(A)
Incorporates an insignificant activity as defined in 326 IAC 2-7-1(21) that does not otherwise constitute a modification for purposes of 326 IAC 2-7-10.5 or 326 IAC 2-7-12.	326 IAC 2-7-11(a)(8)(B)
Incorporates a Plant wide Applicability Limitation(s) (PAL) small emissions unit that does not otherwise constitute a modification for purposes of 326 IAC 2-7-10.5 or 326 IAC 2-7-12.	326 IAC 2-7-11(a)(8)(C)

Title V Source Modifications

If a Title V regulated source seeks to modify permitted operations by construction of new emissions units, by making modifications to the existing emissions units, or by changing methods of operation of existing emission units, the source may need to obtain construction approval from IDEM through the source modification procedures in 326 IAC 2-7-10.5. Issued Source Modifications grant construction approval to a source for the new project. Operational approval must be obtained separately from the construction approval through an operating permit modification (if applicable). Although the source can apply for both construction and operating approval at the same time, the requirements for public/U.S. EPA review and issuance timeframes differ between source modifications and permit modifications.

Title V Minor Source Modifications

Minor Source Modifications (MSM) to a Title V permit are reviewed in accordance with 326 IAC 2-7-10.5(e) and (f). IDEM must approve a MSM prior to any implementation, construction, or operation of the changes proposed by the source in the MSM application. Minor Source Modifications provide construction approval only and must be accompanied by an AA or Permit Modification for operational approval. Construction approval through a MSM will be issued by IDEM within 45 days of receipt of a complete application without the requirement for public or U.S. EPA review prior to issuance. Except for modifications that require a Significant Source Modification, modifications that fall within the PTE ranges shown in the table below (Thresholds for Title V Minor Source Modifications) constitute a Minor Source Modification.

Thresholds for Title V Minor Source Modifications	
Particulate Matter	≥ 5 tpy and < 25 tpy
PM10/PM2.5	≥ 5 tpy and < 25 tpy
SO ₂	≥ 10 tpy and < 25 tpy
NO _x	≥ 10 tpy and < 25 tpy
VOCs	≥ 10 tpy and < 25 tpy for sources not required to have a control device ≥ 5 tpy and < 25 tpy for sources required to have a control device in accordance with 326 IAC 8
CO	≥ 25 tpy and < 100 tpy
Lead	≥ 0.2 tpy and < 1 tpy
HAPs	< 10 tpy of a single HAP < 25 tpy of a combination of HAPs Note: there is no specific provision under MSM that addresses HAPs
Hydrogen Sulfide (H ₂ S)	≥ 5 tpy and < 25 tpy
Total reduced sulfur (TRS)	≥ 5 tpy and < 25 tpy
Reduced sulfur compounds	≥ 5 tpy and < 25 tpy
Fluorides	≥ 5 tpy and < 25 tpy
*Sources in Lake or Porter County w/ VOC or NO _x PTE ≥ 25 tpy (326 IAC 2-7-10.5(e)(2))	Increase ≥ 15 pounds/day of VOCs Increase ≥ 25 pounds/day of NO _x

Title V Significant Source Modifications

Significant Source Modifications (SSM) to a Title V source are reviewed in accordance with 326 IAC 2-7-10.5(g) and (h). IDEM must approve a SSM prior to any implementation, construction, or operation of the changes proposed by the source in the SSM application. Significant Source Modifications provide construction approval only and must be accompanied by an AA or Permit Modification for operational approval. To obtain a SSM, the source must follow the guidance provided for applying for a Title V permit. IDEM will submit the draft modification for a 30 day public comment period and issue a final decision within 120 days of receipt of a complete application for a minor PSD or minor Emission Offset modification, or 270 days for a major PSD or major Emission Offset modification.

A significant source modification is required when the proposed changes constitute:

- 326 IAC 2-7-10.5(g)(1) - A major modification in accordance with PSD (326 IAC 2-2), nonattainment Emission Offset regulations (326 IAC 2-3), or in accordance with a case-specific MACT standard (326 IAC 2-4.1)

- 326 IAC 2-7-10.5(g)(2) - A modification subject to BACT under 326 IAC 8-1-6 (VOC reduction requirements for new facilities)
- 326 IAC 2-7-10.5(g)(3) through (7) - A modification with a PTE equal to or greater than the thresholds in the Table below (Thresholds for Title V Significant Source Modifications):

Thresholds for Title V Significant Source Modifications	
PM, PM10, PM2.5	> 25 tpy
SO ₂	> 25 tpy
NO _x	> 25 tpy
VOCs	> 25 tpy
CO	> 100 tpy
Lead	> 1 tpy
Lead (For a source with an existing PTE ≥ 5 tpy)	> 0.6 tpy
Hydrogen Sulfide	> 25 tpy
Total Reduced Sulfur	> 25 tpy
Reduced Sulfur Compounds	> 25 tpy
Fluorides	> 25 tpy
HAPs	> 10 tpy for a single HAP > 25 tpy for a combination of HAPs

Minor Permit Modifications

Minor Permit Modifications (MPM) to a Title V permit are reviewed in accordance with 326 IAC 2-7-12(b). Minor Permit Modifications may be implemented immediately upon submitting the MPM application to IDEM. However, should IDEM determine that the application is not approved as implemented or requires a different permitting level, the permit applicant may be subject to fines and/or other enforcement actions for implementing the modification without proper approval. If approvable, a MPM may be issued after a 30-day public comment period and a 45-day U.S. EPA review period (which typically run concurrently, but not always). IDEM will issue a MPM approval within 90 days of receipt of a complete application.

Minor Permit Modification procedures allow for changes as listed in the table below (Title V Minor Permit Modifications):

Title V Minor Permit Modifications	
Type of Change	Rule Citation
Do not violate any applicable requirement.	326 IAC 2-7-12(b)(1)(A)
Do not involve significant changes to existing monitoring, reporting, or record keeping requirements in the Part 70 permit.	326 IAC 2-7-12(b)(1)(B)
Do not require or change a: (i) case-by-case determination of an emission limitation or other standard; (ii) source-specific determination for temporary sources of ambient impacts; or (iii) visibility or increment analysis.	326 IAC 2-7-12(b)(1)(C)
Do not seek to establish or change a Part 70 permit term/condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. The terms and conditions include the following: (i) A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the CAA. (ii) An alternative emissions limit approved under regulations promulgated under Section 112(i)(5) of the CAA.	26 IAC 2-7-12(b)(1)(D)
Are not modifications under any provision of Title I of the CAA.	326 IAC 2-7-12(b)(1)(E)
Are not required by the Part 70 program to be processed as a significant modification.	326 IAC 2-7-12(b)(1)(F)
Minor Part 70 permit modification procedures may be used for Part 70 permit modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that the minor Part 70 permit modification procedures are explicitly provided for in the applicable implementation plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA	326 IAC 2-7-12(b)(2)

Significant Permit Modifications

Significant Permit Modifications (SPM) to a Title V permit are reviewed in accordance with 326 IAC 2-7-12(d). Significant Permit Modifications must be issued/approved by IDEM prior to the source implementing the modification. If approvable, a SPM may be issued after a 30-day public comment period and a 45-day U.S. EPA review period (which typically run concurrently, but not always). IDEM will issue a SPM approval within 270 days of receipt of a complete application.

A significant permit modification is required when the permitted facility requests any one or more of the following types of modifications to the existing permit:

- A modification that does not qualify as an AA or MPM;
- A modification that would reduce compliance terms included in the permit (Every significant change in existing monitoring Part 70 permit terms or conditions and every relaxation of reporting or record keeping permit terms or conditions shall be considered significant.);

- Title I modifications (modifications under NSPS, NESHAP, PSD, or Emission Offset);
- The addition of an alternative operating scenario
- The addition, renewal, termination, revocation and revision of PAL provisions in accordance with 326 IAC 2-2.4 or 326 IAC 2-3.4 shall be considered significant.

Summary of Title V Permit Modification Types and Approval Status	
Permit Modification Level	When Approval is Granted
AA	The source may implement the changes addressed in the AA immediately upon submission of the application.
MSM	The MSM authorizes the construction/modification of the emission unit(s) when the MSM is issued.
SSM	The SSM authorizes the construction/modification of the emission unit(s) when the SSM is issued. Each modification approval issued under SSM shall provide that construction must commence within 18 months of the issuance of the SSM.
MPM	The source may implement the changes proposed in the MPM immediately upon submission of the application.
SPM	The SPM authorizes the operation of the new emission unit(s) and other changes to the permit, when the SPM is issued.

Title V Permit Alternatives

IDEM issues several types of optional alternatives to a Title V permits based on restrictions of a source's emissions. These are voluntary programs for which sources agree to limit their **actual** emissions of regulated air pollutants to less than certain specified amounts (e.g. Title V thresholds). In general, alternative approvals are most practical for sources that have high potential emissions of one or more regulated air pollutants but relatively low actual emissions.

The alternative approvals issued by IDEM include:

- Federally Enforceable State Operating Permits (FESOPs);
- Source Specific Operating Agreements (SSOA); and
- Permit-by-Rule.

Federally Enforceable State Operating Permits

Under 326 IAC 2-8, IDEM offers the Federally Enforceable State Operating Permit (FESOP). A FESOP is an optional permit that is available to a source otherwise required to obtain a Title V permit (based on PTE), as long as the source can limit emissions from the entire source below Title V thresholds. A FESOP will require virtually the same compliance terms, but will not have the additional annual fee per each ton of actual emissions. However, the FESOP emission limits require additional record keeping, reporting, and sometimes testing to document and demonstrate compliance with the emission limits. IDEM will issue FESOP permits within 120 days for a new source that is minor for PSD or minor for Emission Offset and within 270 days for a new source that is major for PSD or major for Emission Offset. Both levels require a 30-day

public notice period; however, only major PSD or major Emission Offset sources require a 45-day U.S. EPA review period.

Almost any source that is subject to the Title V permit program can elect to construct and operate in accordance with a FESOP. The only exceptions are those sources that are specifically required to operate under a Part 70 permit by provisions in:

- A New Source Performance Standard in 40 CFR Part 60 (326 IAC 12);
- A National Emission Standard for Hazardous Air Pollutants in 40 CFR Part 61 (326 IAC 14);
- A National Emission Standard for Hazardous Air Pollutants in 40 CFR Part 63 (326 IAC 20) (for some area sources and for major sources under 112 of the CAA)

FESOP sources located in attainment areas must limit emissions from their entire source to less than Title V thresholds as shown below:

Pollutant	Emission Limit (tpy)
PM10/PM2.5	< 100
SO ₂	< 100
NO _x	< 100
VOC	< 100
CO	< 100
Hydrogen Sulfide	< 100
Total Reduced Sulfur	< 100
Reduced Sulfur Compounds	< 100
Fluorides	< 100
Single HAP	< 10
Total HAP	< 25

FESOP sources located in nonattainment areas that are designated as serious, severe, or extreme nonattainment must limit emissions of PM10/PM2.5, VOC, NO_x, and CO from their entire source to less than the following thresholds:

Pollutant(s)	Nonattainment Area Designation	FESOP Threshold (tons per year)
PM10/PM2.5	Serious	< 70
VOC Only (for Lake and Porter counties)	Serious	< 50
	Severe	< 25
VOC and NO _x (for all others)	Extreme	< 10
CO	Serious	< 50

Similar to new source Title V permits, fugitive emissions of HAPs are always counted toward the source PTE, while the fugitive particulate and VOC emissions from new FESOP sources are only counted for sources belonging to one of the source categories listed in 326 IAC 2-7-1(22)(B) (1 of the 28) and those sources subject to a pre-1980 NSPS. Therefore, for new FESOP sources belonging to one of these source categories, the sum of the point source and fugitive particulate, VOC, and HAP emissions must be limited to less than the Title V permit thresholds. For new FESOP sources not belonging to one of these source categories, only the point source emissions and fugitive HAP emissions must be limited to less than the Title V permit thresholds (no other fugitive emissions need to be considered). However, estimates of the fugitive emissions may be

required to determine the applicability of other rules (e.g., 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)). Finally, the fugitive particulate and VOC emissions are included in the PTE for the purpose of determining FESOP Permit Revision (326 IAC 2-8-11.1) applicability irrespective of source category.

Emissions from all facilities at a source must be considered and counted toward the source PTE. That means even insignificant and exempt activities must be taken into account when establishing the sourcewide FESOP emission limitations. A source can choose how to comply with specific limitations in their FESOP. Available compliance options can include:

- limitations on production or hours of operation
- material usage limitations
- use of control devices to meet emission limits

New FESOP is valid for a term of five years, and a FESOP renewal is valid for a term of 10 years. The source must apply for a renewal at least nine months prior to the expiration of the existing FESOP.

Modifications of Federally Enforceable State Operating Permits

Modification of a FESOP is reviewed under 326 IAC 2-8-10 through 326 IAC 2-8-11.1 and is similar to the thresholds and procedures to modify an MSOP (with the exception of the citation authority).

Summary of Types of Modifications and Rule Citations for FESOPs	
Type of Change	FESOP Citation
Permit Changes (Administrative Amendments)	326 IAC 2-8-10(a)(1) through (a)(9)
Physical Changes (Administrative Amendments)	326 IAC 2-8-10(a)(10) through (a)(13)
Physical Changes (Minor Permit Revisions)	326 IAC 2-8-11.1(d)
Physical Changes (Significant Permit Revisions)	326 IAC 2-8-11.1(f)(1)(A) through (f)(1)(H)
Permit Changes (Significant Permit Revisions)	326 IAC 2-8-11.1(f)(1)(H)

Source Specific Operating Agreements

Another alternative to operating under a Title V permit is for a source to obtain and operate under a Source Specific Operating Agreement (SSOA). The SSOA application process is simple and the SSOA itself is much less complicated than other permit types. Some sources that can comply with the SSOA regulations choose to do so because of the simple application and issuance process.

A SSOA is simple because it is only available to sources with specific types of emissions units. The terms and conditions of the SSOA are pre-established for each type of emissions unit category under 326 IAC 2-9. Most SSOAs require specific levels of air pollution control, strict limitations on the amount of materials used or processed, or a combination of the two. The SSOA program covers 13 specific types of industrial categories/ activities:

- (1) Industrial or commercial surface coating operations **not** subject to 326 IAC 8-2, graphic arts operations **not** subject to 326 IAC 8-5-5 (326 IAC 2-9-2.5);

- (2) Surface coating or graphic arts operation (326 IAC 2-9-3);
- (3) Woodworking operations (326 IAC 2-9-4);
- (4) Abrasive cleaning operations (326 IAC 2-9-5);
- (5) Grain elevators (326 IAC 2-9-6);
- (6) Sand and gravel plants (326 IAC 2-9-7);
- (7) Crushed stone processing plants (326 IAC 2-9-8);
- (8) Ready-mix concrete batch plants (326 IAC 2-9-9);
- (9) Coal mines and coal preparation plants (326 IAC 2-9-10);
- (10) Automobile refinishing operations (326 IAC 2-9-11);
- (11) Degreasing operations (326 IAC 2-9-12);
- (12) External Combustion Sources (326 IAC 2-9-13); and
- (13) Internal Combustion Sources (326 IAC 2-9-14).

It is important to remember:

- The source will need a SSOA for each type of operation at the source;
- A source may not simultaneously operate under more than one of the **same type** of SSOA or under a SSOA and some other type of operating permit (such as operating under a SSOA and a FESOP);
- Sources can operate under up to four **different** SSOAs, so long as the **total** potential to emit for any regulated pollutant, as limited by the SSOAs, does not exceed major source levels.
- There is no annual fee associated with SSOAs (with the exception of coal mining and stone crushing activities).

A source seeking to obtain a SSOA for an emissions unit will apply for the SSOA by agreeing to comply with the pre-established terms and conditions of the SSOA rules under 326 IAC 2-9. The limits contained in the SSOAs are not flexible. The source must accept the limits as they are written in 326 IAC 2-9. As a result, SSOAs are only issued once and never require renewal. An annual compliance certification is required of each permit. Most SSOAs also require detailed recordkeeping to document compliance with the limitations on the amount of materials used or processed. If a source needs to add, remove, or modify the SSOA to comply with a different SSOA, the source will need to apply for and obtain a new SSOA that will supersede the existing SSOA. There is no option to modify/revise a SSOA to deviate from the SSOA limitations requirements contained in the SSOA rules; however, Administrative Amendments are possible to add insignificant activities not covered by the SSOA or to make other administrative changes to the SSOA. If a source can no longer comply with the SSOA, the source will need to apply for and obtain the required permit prior to making changes to the operation to would result in noncompliance with the SSOA.

SSOAs that have sourcewide limited emissions equal to or greater than 25 tons per year require the source to obtain a construction permit. SSOAs that have sourcewide limited emissions less than 25 tons per year do not require a construction permit. The following table shows which types of individual SSOAs require construction permits, and which types do not require construction permits (note: If a source applies for more than one SSOA, the total sourcewide limited emissions are calculated to determine if a construction permit is required). If no construction permit is required, the source can begin construction and operation of the source once the SSOA approval letter has been issued by IDEM without a public notice period. For those SSOAs that require construction approval, a 30-day public notice period is required for the construction permit.

SSOA permits without construction approval will be issued by IDEM within 60 days of receipt of a complete application. SSOAs with a construction permit (referred to as a New Source Review (NSR) permit), will be issued within 120 days of receipt of a complete application.

SSOAs				
Type of SSOA	Principle Pollutants	Material Throughput	Emission Equivalents*	Individual SSOA Requires Construction Permit?
Abrasive Cleaning 326 IAC 2-9-5	PM, PM10	≤0.01 gr/acfm at no more than 40,000 cfm	PM, PM10 ≤ 15 tpy	No
Automobile Refinishing 326 IAC 2-9-11(b)(2)(A)	VOC, HAP	Total amount of solvent containing materials ≤ 2,000 gallons/yr.	VOC ≤ 8 tpy HAP ≤ 8 tpy Combined HAP ≤ 8 tpy	No
Automobile Refinishing 326 IAC 2-9-11(b)(2)(B)	VOC, HAP	Total amount of solvent containing materials that meets VOC limits of 326 IAC 8-10-4(b) and is limited to ≤ 3,000 gallons/yr	VOC ≤ 12 tpy HAP ≤ 10 tpy Combined HAP ≤ 12 tpy	No
Automobile Refinishing 326 IAC 2-9-11(b)(2)(C)	VOC, HAP	Total amount of VOC limited to ≤ 1 ton/month	VOC ≤ 12 tpy HAP ≤ 10 tpy Combined HAP ≤ 12 tpy	No
Coal Mine and Coal Preparation Operations 326 IAC 2-9-10 (that gave public notice under 310 IAC 12-3-106	PM, PM10	<5,000,000 tons/yr	PM, PM10 < 100 tpy, excluding fugitive dust	Construction permits for coal mining and processing facilities are issued by the IDNR
Crushed Stone 326 IAC 2-9-8(b)(1)	PM, PM10	<400,000 tons throughput per year; 4 crushers, 7 screens, a conveying operation	PM, PM10 < 25 tpy, including fugitive dust	No

E101 - Module One: Air Permitting

SSOAs				
Type of SSOA	Principle Pollutants	Material Throughput	Emission Equivalents*	Individual SSOA Requires Construction Permit?
Crushed Stone 326 IAC 2-9-8(b)(2)	PM, PM10	<1,000,000 tons throughput per year; 6 crushers, 13 screens, a conveying operation	PM, PM10 < 25 tpy, excluding fugitive dust	Yes
Crushed Stone 326 IAC 2-9-8(b)(3)	PM, PM10	<3,000,000 tons throughput per year; 9 crushers, 17 screens, a conveying operation	PM, PM10 < 25 tpy, excluding fugitive dust	Yes
Degreasing 326 IAC 2-9-12(a)(3)(C) (In Lake or Porter County)	VOC, HAP	Total VOC ≤ 1 ton/month, single HAP ≤ 833 lbs./month, combined HAP ≤ 1 ton/month	Total VOC ≤ 12 tpy, single HAP < 5 tpy, combined HAP ≤ 12 tpy	No
Degreasing 326 IAC 2-9-12(a)(3)(D) (Not in Lake or Porter County)	VOC, HAP	Total VOC ≤ 2 tons/month, single HAP ≤ 833 lbs./month, combined HAP ≤ 1 ton/month	Total VOC ≤ 24 tpy, single HAP < 5 tpy, combined HAP ≤ 12 tpy	No
External Combustion 326 IAC 2-9-13 (emissions associated with boilers, dryers, ovens, or various heaters)	CO, SO ₂ , NO ₂ , NO _x , VOC, PM, PM10, HAP	Various limits	Worst case emissions of ≤ 50 tpy (see specific fuel limits)	Yes
Grain Elevators 326 IAC 2-9-6(2) (storage capacity ≤ 1 million U.S. bushels)	PM, PM10	≤ 3,000,000 bushels per year	PM, PM10 ≤ 30 tpy	Yes
Grain Elevators 326 IAC 2-9-6(3) (storage capacity > 1 million, but ≤ 2.5 million U.S. bushels)	PM, PM10	≤ 10,000,000 bushels per year	PM, PM10 ≤ 75 tpy	Yes
Internal Combustion 326 IAC 2-9-14 (emissions associated with internal, diesel, jet, rotary, or other internal combustion engines or turbines)	CO, SO ₂ , NO ₂ , NO _x , VOC, PM, PM10, HAP	Various limits	Worst case emissions of ≤ 50 tpy (see specific fuel limits)	Yes

E101 - Module One: Air Permitting

SSOAs				
Type of SSOA	Principle Pollutants	Material Throughput	Emission Equivalents*	Individual SSOA Requires Construction Permit?
Ready-mix Concrete Batch Operations 326 IAC 2-9-9	PM, PM10	≤ 300,000 cubic yards of production	PM, PM10 < 25 tons/yr, including fugitive dust	No
Sand and Gravel 326 IAC 2-9-7(b)(1)	PM, PM10	<410,000 tons throughput per year; 5 crushers, 10 screens, a conveying system	PM, PM10 < 25 tons/yr, including fugitive dust	No
Sand and Gravel 326 IAC 2-9-7(b)(2)	PM, PM10	<1,000,000 tons throughput per year; 9 crushers, 20 screens, a conveying system	PM, PM10 < 25 tons/yr, excluding fugitive dust	Yes
Sand and Gravel 326 IAC 2-9-7(b)(3)	PM, PM10	<3,100,000 tons throughput per year; 12 crushers, 24 screens, a conveying system	PM, PM10 < 100 tons/yr, excluding fugitive dust	Yes
Surface Coating or Graphic Arts (Option 1) 326 IAC 2-9-2.5(b)(2)(A)	VOC, HAP	2,000 gallons or less of solvent containing material per year	VOC ≤ 8 tons/yr, single HAP ≤ 8 tons/yr, combined HAP ≤ 8 tons/yr	No
Surface Coating or Graphic Arts (Option 2) 326 IAC 2-9-2.5(b)(2)(B)	VOC, HAP	Total VOC ≤ 2 tons/month, single HAP ≤ 833 lbs./month, combined HAP ≤ 1 ton/month	VOC ≤ 24 tons/yr, single HAP ≤ 5 tons/yr, combined HAP ≤ 12 tons/yr	No
Surface Coating or Graphic Arts 326 IAC 2-9-3(2)(B) (In Lake or Porter County)	VOC, HAP	Total VOC and HAP ≤ 7 lbs./day	VOC ≤ 1.3 tons/yr, single HAP ≤ 1.3 tons/yr, combined HAP ≤ 1.3 tons/yr	No
Surface Coating or Graphic Arts 326 IAC 2-9-3(2)(B) (Not in Lake or Porter County)	VOC, HAP	Total VOC and HAP ≤ 15 lbs./day	VOC ≤ 2.7 tons/yr, single HAP ≤ 2.7 tons/yr, combined HAP ≤ 2.7 tons/yr	No
Woodworking 326 IAC 2-9-4(b), (c), (d), or (f)	PM, PM10	No PM10 in excess of 0.001 grain/acfm, at no more than 400,000 cfm	PM, PM10 ≤ 15 tons/yr for options (b), (c), or (d); and ≤ 24.4 tons/yr for option (f)	No
Woodworking 326 IAC 2-9-4(e)	PM, PM10	No PM10 in excess of 0.01 grain/dscfm, at no more than 125,000 cfm	PM, PM10 <47 tons/yr for option (e)	Yes

Important Responsibilities to Remember:

- Any records required to be kept by a source in accordance with the SSOA shall be maintained at the site for at least five years and shall be made available for inspection by the department upon request.
- Any exceedance of any requirement contained in the SSOA shall be reported, in writing, within one week of its occurrence.
- The SSOA does not relieve the permittee of the responsibility to comply with the provisions of any applicable federal, state, or local rules, or any New Source Performance Standards (NSPS), 40 CFR Part 60, or National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61. However, if an applicable NSPS or NESHAP is identified, the specific requirements applicable to the affected emission units should be included in the SSOA.

Permit-by-Rule

If a source's actual emissions are much lower than potential emissions, and less than 20 percent (<20%) of any major source thresholds (Title V) for regulated air pollutants or hazardous air pollutants without the use of pollution control devices, a source may choose to avoid Title V or minor source operation permitting by complying with a Permit-by-Rule (PBR). The source must demonstrate compliance by maintaining records demonstrating compliance with the PBR requirements.

There are two distinct Permit-by-Rule programs, 326 IAC 2-10 (Permit-by-Rule) and 326 IAC 2-11 (Permit-by-Rule for Specific Source Categories).

The requirements of 326 IAC 2-10 (Permit-by-Rule) include the following:

- (a) Sources located within an **attainment** area that have actual emissions as follows are eligible to operate under the Permit-by-Rule program:
- Less than 20 tons per year of regulated pollutants (CO, NO_x, SO₂, VOC, PM₁₀, PM_{2.5}), or any other regulated pollutant;

Hazardous air pollutants, as defined in Section 112 of the Clean Air Act:

- Less than two tons per year of lead or any other single hazardous air pollutant (HAP); and
 - Less than five tons per year of a combination of HAPs
- (b) Sources located in an area where major source threshold levels for a specific pollutant have been lowered because that area is in nonattainment for that pollutant must have actual emissions that are less than 20 percent of the area-specific threshold in order to participate in the Permit-by-Rule program.
- (c) The source does not rely on air pollution control equipment to comply with the limitations.

The requirements of 326 IAC 2-11 (Permit-by-Rule for Specific Source Categories) are applicable only to the following specific source categories:

- Gasoline dispensing operations;
- Grain elevators; and
- Grain processing or milling.

Note that the PBR rules (326 IAC 2-10 and 326 IAC 2-11) do not limit PM. The rule references Title V regulated pollutants, which exclude PM. This means that a source that has 250 TPY PTE (or 100 for a listed source) for PM would still need a federally enforceable operating permit limit that limits PM PTE to less than the major source threshold or they would be subject to PSD.

Prior to obtaining and operating under a PBR under 326 IAC 2-10, a new source is required to obtain a construction and operating permit (e.g., Title V, FESOP, or MSOP) and operate under the permit for 12 months in order to demonstrate compliance with the less than 20 percent thresholds. Pursuant to 326 2-10-4.1, "the demonstration of compliance shall be based on actual emissions for the previous 12 months and may include, but is not limited to, fuel or material usage or production records. No other demonstration of compliance shall be required." Therefore, the source can self-limit production, but may not use control devices in order to achieve compliance with the limitations.

Alternately, pursuant to 326 IAC 2-1.1-3(d)(3), new sources that operate under a PBR under 326 IAC 2-11 are not required to obtain a construction permit prior to operating under the PBR. A source with operations of select gasoline dispensing operations, certain grain elevators, and some grain processing or milling operating can elect to limit operations and operate under PBR conditions found in 326 IAC 2-11 without first obtaining a new source construction permit. However, this portion of the Indiana SIP has not been fully approved by the U.S. EPA, and IDEM's Office of Air Quality recommends applying for and obtaining the appropriate new source construction permit.

The Permit-by-Rule does not have to be renewed, so long as the source complies with the limits, and there is no annual fee associated with operating under a PBR. Sources operating under the Permit-by-Rule program do not need to request IDEM approval for future source modifications, so long as the following conditions are met:

For 326 IAC 2-10:

Actual emissions remain less than 20 percent of major source threshold levels and the modification is not subject to a federal rule that requires the source to have a Part 70 permit.

For 326 IAC 2-11:

The source is still able to comply with the source-specific provisions in 326 IAC 2-11.

If a source determines that it can no longer comply with the Permit-by-Rule requirements, then the source must apply for another type of operating permit program prior to making changes to the operation to would result in noncompliance with the PBR.

Renewals, Timeframes and Fees

Renewal permits are required for MSOPs, FESOPs, and Part 70 permits. The initial permit term of a new source construction/operation permit is five years. The application for renewal must be submitted nine months prior to the expiration date for Part 70 and FESOP permits, and 120 days for MSOPs. Upon renewal, MSOP and FESOP terms are extended to 10 years before renewal is required, while Part 70 permits must be renewed once every five years. Exemptions, Registrations, construction permits, SSOAs, and Permit-by-Rule approvals do not have to be renewed. Note that changes to the source, such as installing new emissions units that emit air pollutants, may require the source to obtain a permit revision/modification or apply for a different level of permit rather than renewing an existing permit.

This chart provides information about permitting timeframes and associated fees:

E101 - Module One: Air Permitting

Permitting Timeframes and Fees				
Permit Type & Subtype	Statutory Deadline	Public Notice	Proposed to U.S. EPA	Base Application Fees
Title V Program				
New Source Minor PSD	120 days	Yes	Yes	\$4,375
New Source Major PSD	270 days	Yes	Yes	\$7,500
Significant Source Modification Minor PSD	120 days	Yes	No	\$4,375
Significant Source Modification Major PSD	270 days	Yes	No	\$7,500
Minor Source Modification	45 days	No	No	\$625
Significant Permit Modification	270 days	Yes	Yes	none
Minor Permit Modification	90 days	Yes	Yes	none
Administrative Amendment	60 days	No	No	none
Title V EUSGU Notification	NA	No	No	none
Renewal	270 days	Yes	Yes	none
Renewal with New Equipment Minor PSD	120 days	Yes	Yes	\$4,375
Renewal with New Equipment Major PSD	270 days	Yes	Yes	\$7,500
Title V Relocation	30 days	No	No	none
Interim	NA	No	No	\$625
FESOP Program				
New Source FESOP Minor PSD	120 days	Yes	No	\$4,375
New Source FESOP Major PSD	270 days	Yes	Yes	\$7,500
Significant Permit Revision Minor PSD	120 days	Yes	No	\$4,375
Significant Permit Revision Major PSD	270 days	Yes	Yes	\$7,500
Minor Permit Revision	45 days	No	No	\$625
Administrative Amendment	60 days	No	No	none
Renewal	270 days	Yes	No	none
Renewal with New Equipment	120 days	Yes	No	\$4,375
FESOP Relocation	30 days	No	No	none
Interim	NA	No	No	\$625
MSOP Program				
MSOP	NA	Yes	No	\$100
New Construction MSOP Minor PSD	120 days	Yes	No	\$3,500
New Construction MSOP Major PSD	270 days	Yes	Yes	\$6,000
Significant Permit Revision Minor PSD	120 days	Yes	No	\$3,500
Significant Permit Revision Major PSD	270 days	Yes	Yes	\$6,000
Minor Permit Revision	45 days	No	No	\$600

E101 - Module One: Air Permitting

Administrative Amendment	30 days	No	No	none
Renewal	NA	Yes	No	\$100
Renewal with New Equipment	120 days	Yes	No	\$3,500
MSOP Relocation	30 days	No	No	\$100
Interim	NA	No	No	\$500
Registration/Exemption				
Registration	60 days	No	No	\$600
Registration Revision	45 days	No	No	\$100
Registration Notice-Only Change	30 days	No	No	none
Exemption	60 days	No	No	\$100
SSOA Program				
SSOA	60 days	No	No	\$625
SSOA New Source Review	120 days	Yes	No	\$4,375
SSOA Relocation	30 days	No	No	\$125
Acid Rain Program				
Acid Rain Permit	NA	Yes	Yes	none
Acid Rain Modification	NA	Yes	Yes	none
Acid Rain Administrative Amendment	NA	No	No	none
Acid Rain Renewal	NA	Yes	Yes	none
Transition *				
From Title V to FESOP	120 days	Yes	No	\$1,250
From Title V to SSOA	90 days	No	No	\$625
From FESOP to TV	120 days or 15 days after U.S. EPA review ends, whichever is later	Yes	Yes	None
From FESOP to SSOA	60 days	No	No	\$625
All other transitions	Use the information for the permit type/subtype being transitioned to.			
Other Approvals				
Revocation - any Type	NA	No	No	none
Permit-by-Rule	NA	No	No	none
Other Application Fees				
	TV/FESOP/SSOA		All Other Approvals	
Public hearing	\$625		\$500	
For each NSPS Review	\$625		\$500	
For each NESHAP Review	\$625		\$500	
For each 326 IAC 8-1-6 BACT Review	\$750		\$600	
PSD BACT or LAER Review				
2 to 5 Review Analyses	\$3,750		\$3,000	
6 to 10 Review Analyses	\$7,500		\$6,000	
11 or more Review Analyses	\$12,500		\$10,000	

Air Quality Impact Study Review		
If applicant does analysis	\$4,375	\$3,500
Per pollutant If OAQ does analysis	\$7,500	\$6,000
PAL		
Fee per ton of allowable emissions per PAL pollutant	\$50	\$40
Maximum combined for all PAL pollutants	\$50,000	\$40,000

* A transition is a move from one permit type to another, based solely on a Permittee's choosing. A transition does not include any physical and/or operational changes, modifications, or new construction. If a Permittee plans physical and operational changes, modifications, or new construction that requires a different level of permit, IDEM will issue a New Source Review/Construction Permit of the new Permit level. The approval timeframes and permit base fee are all determined by the New Source Review/Construction Permit.

Further Permitting Considerations

Beyond the permitting approvals describe previously, sources have the option to request an Interim approval to expedite construction activities. Furthermore, sources that are major pursuant to 326 IAC 2-2 (PSD) or 326 IAC 2-3 (Emission Offset) have additional considerations when it comes to permitting and making modifications to existing permits.

Interim Operating Permit Revision Approvals

If a source is operating under a valid operating permit and wishes to modify the source or construct a new emissions unit, the source can obtain approval to construct the modification prior to the issuance of a source modification/permit modification by petitioning for an interim operating permit revision approval (MSOP or FESOP) or source modification approval (Title V Permits). While such an approval allows one to construct a proposed modification, operation of the modification may not begin until the operating permit revision/modification has been issued by IDEM.

The following types of modifications are not eligible for an interim approval under 326 IAC 2-13:

- Modifications subject to PSD (326 IAC 2-2);
- Modifications increasing the potential emissions of a nonattainment pollutant above levels requiring a permit modification;
- Modifications which are subject to MACT standards under 326 IAC 2-4.1

To obtain an interim operating approval, the applicant must submit a written petition to IDEM for interim approval that contains:

- Information regarding the type of operating permit revision required ;
- All emissions limits, restrictions, or conditions as described in 326 IAC 2-13-1 (c)(2)(B) that will be in effect to assure construction does not qualify as a major PSD source, major PSD modification, or a major new source or reconstructed source of HAPs;
- All conditions required to satisfy an applicable NSPS, NESHAP, or other state rules;
- A statement that the applicant consents to federal enforceability of an interim approval;
- The applicant's or its authorized agent's signature;
- A notarized affidavit (in accordance with 326 IAC 2-13-1(c)(2)(F)) stating the applicant accepts any risk involved with constructing the modification prior to issuance of the operating permit revision.

If the applicant is requesting either a significant permit revision or a significant source modification, the applicant must also notify the public of the interim approval by posting public notice in the newspaper of general circulation in the county where the construction will occur in accordance with 326 IAC 2-13-1(e). In addition, by the end of the 14th day of the public notice period, the applicant must provide IDEM with a copy of the proof of publication of the public notice.

If the petition for interim approval involves a minor permit revision or a minor source modification, IDEM has 19 days to review the petition and either approve or deny the application. If the petition involves a significant permit revision or a significant source modification, then IDEM must approve or deny the petition by the later of the following dates:

- 17 days after publication of the public notice if no comments are submitted
- 31 days after publication of the public notice if comments are submitted
- 19 days after receipt of the petition for interim approval

Major New Source Review

New, stationary major PSD or Emission Offset sources of air pollution and major PSD or Emission Offset sources seeking to complete major modifications (equal to or greater than the significance level) are required to obtain an air permit prior to beginning construction/modification. Each proposed new source or major modification must be reviewed under the major New Source Review (NSR) guidelines. NSR is required whether the major source or major modification is planned for an attainment area, a Nonattainment Area (NAA), or an unclassifiable area. Permits for sources in attainment areas are referred to as Prevention of Significant Deterioration (PSD) (326 IAC 2-2) permits, while permits for sources in nonattainment areas are referred to as NSR permits subject to Emission Offset under 326 IAC 2-3. Sources subject to major NSR will also need a Title V operating permit.

PSD permits require pollution controls/measures on sources representing the Best Available Control Technology (BACT). BACT is a requirement to limit emissions through specific actions based on the best available emissions reduction technology for each pollutant regulated under the Clean Air Act (CAA). Based on U.S. EPA guidance, the BACTs are determined on a case-by-case basis using a five-step “top down” process. Each BACT determination should consider energy, environmental, and economic impacts.

Nonattainment area NSR permits must meet the Lowest Achievable Emissions Rate (LAER). The LAER is the requirement for a source to achieve the lowest possible emissions for each regulated pollutant by utilizing existing technology and proven methods. Like the BACT, the LAER is determined on a case-by-case basis. Additionally, new sources and modifications to existing sources increasing emissions may be subject to emissions offset requirements. Emission offset (326 IAC 2-3) requires sources to reduce emissions in other ways to offset the proposed increases in emissions. Offsets generally must be obtained by the same source or other sources within the nonattainment area; however, there are special circumstances for which the Commissioner may allow offsets to be obtained from another nonattainment area.

In any case, the BACT and LAER must be at least as stringent as any New Source Performance Standards (NSPS) or National Emission Standard for Hazardous Air Pollutants (NESHAP) applicable to the source. It is important to note, NSPS or NESHAP requirements apply to all sources nationwide while NSR requirements are source specific. Essentially, the NSR requirements provide individual states the authority to require more stringent controls to meet the National Ambient Air Quality Standards (NAAQS) in specific Air Quality Control Regions (AQCR).

Prevention of Significant Deterioration

In accordance with 326 IAC 2-2, a Prevention of Significant Deterioration (PSD) permit approval is required when construction or modification of a major source is to take place in an area of NAAQS attainment. The permitting thresholds for PSD permits are listed in the table below:

PSD Permit Thresholds	
Any of the 28 stationary source categories identified in 326 IAC 2-2-1(ff)(1)	100 tons per year (tpy) or more of any regulated NSR pollutant
Any other stationary source	250 tpy or more of a regulated NSR pollutant
Lead emissions from primary lead smelters, secondary lead smelters, primary copper smelters, lead gasoline additive plants, and lead-acid storage battery manufacturing plants that produce 2,000 or more batteries per day	5 tpy or more of lead or lead compounds (measured as elemental lead)
Lead emissions from any other stationary source	25 tpy or more of lead or lead compounds (measured as elemental lead)
Any physical change at a stationary source not described above, if the change itself would qualify as a major PSD source under the aforementioned descriptions.	

Since PSD rules allow for reductions in potential emissions due to federally enforceable restrictions on operating time, process rates, or emissions controls, it is possible for a major PSD source to avoid PSD regulations by voluntarily accepting federally enforceable emissions limitations to become a minor PSD source. To do this, the source accepts the conditions limiting potential emissions and is legally bound by them. The source is then referred to as a PSD “minor” source.

Major modifications to PSD sources are subject to approval by the Indiana Department of Environmental Management (IDEM). Due to a number of exemptions and stipulations, it can be difficult to determine if a modification constitutes a major source modification. A major PSD modification at a major PSD source means any physical or operational change resulting in a significant increase in net emissions. The following presents some of the considerations used to determine if a modification is major under PSD.

Any physical changes or change in the method of operation resulting in a significant emissions increase and a significant net emissions increase of a regulated NSR pollutant is considered a major modification. The definition includes exceptions for what is considered a physical change or change in operation including, but not limited to:

- Routine maintenance, repair, and replacement.
- Use of certain alternative fuels or raw materials.
- An increase in the hours of operation or production rate.
- A change in ownership.
- Certain clean coal technology projects.

Existing sources can use an actual-to-projected-actual test, and new units may use an actual-to-potential-applicability test to determine if a significant emissions increase will occur. This process is described more fully in the [NSR Reform Training Manual](#).

A significant net emissions increase is determined by the pollutant-specific thresholds noted in the regulation. Some of the more common are presented in the table below:

PSD Significant Emissions Increase Threshold	
CO	100 tpy
NO _x	40 tpy
SO ₂	40 tpy
Particulate Matter (PM)	25 tpy
PM ₁₀	15 tpy
PM _{2.5}	10 tpy direct PM _{2.5} (or 40 tpy of SO ₂ and 40 tpy of NO _x)
Ozone (measured as VOCs or NO _x)	40 tpy
Lead (Pb)	0.6 tpy
Greenhouse Gases	75,000 tpy CO ₂ e
Asbestos	0.007 tpy
Beryllium	0.0004 tpy
Mercury	0.1 tpy
Vinyl Chloride	1 tpy
Fluorides	3 tpy
Sulfuric acid mist	7 tpy
Hydrogen Sulfide	10 tpy
Total reduced sulfur (including hydrogen sulfide)	10 tpy
Reduced sulfur compounds	10 tpy
Ozone-depleting substances	100 tpy

Obtaining a major NSR permit under PSD regulations is similar to obtaining a new source construction permit, except the PSD application must include additional information and is reviewed to different standards. For example, the PSD permit application must show how the source will apply BACT to the processes generating pollutants subject to PSD. For a modification, BACT will apply to every pollutant for which the modification will result in a significant net emissions increase. The applicant must evaluate prospective BACT alternatives and submit the chosen method for approval by IDEM.

The PSD permit applicant is also required to submit an Air Quality Analysis (AQA) for the area being affected by the major stationary source or major modification. An AQA is required for each NSR pollutant emitted at a significant level at the source. Regarding a modification, an AQA is required for each pollutant resulting in a significant net emission increase. (Exemptions to this requirement are listed in 326 IAC 2-2-4(b).) Based on this analysis, the applicant must demonstrate the emissions increases (after the application of the BACT) will not cause or contribute to the violation of any NAAQS or an applicable maximum allowable increase over the baseline concentration in any Air Quality Control Region (AQCR).

Due to this requirement, PSD permit application preparation will take more time resulting in IDEM's review time also being longer. The allowable time IDEM has to review a PSD permit application is 270 days after the receipt of a complete application (which should include a sufficient BACT analysis). Once again, if IDEM requests additional information at any time, the time allotment for IDEM's review is suspended until all appropriate information is received.

Nonattainment New Source Review

New major sources or major sources with a modification that increases the emissions of a pollutant in a designated Nonattainment Area (NAA) will require a Nonattainment Area New Source Review (NAA NSR) permit or modification. Sources subject to NAA NSR will also need a Title V operating permit.

Nonattainment Area NSR Thresholds	
Any stationary source or any physical change at a stationary source	100 tpy of any regulated pollutant
In ozone nonattainment areas	VOC or NOX: Marginal –100 tpy Moderate – 100 tpy Serious – 50 tpy Severe – 25 tpy
Lead emissions from primary lead smelters, secondary lead smelters, primary copper smelters, lead gasoline additive plants, and lead-acid storage battery manufacturing plants that produce 2,000 or more batteries per day	5 tpy or more of lead or lead compounds (measured as elemental lead)
Lead emissions from any other stationary source	25 tpy or more of lead or lead compounds (measured as elemental lead)

Like the major PSD threshold determinations, major NAA NSR threshold determinations allow emissions estimates to accommodate for limitations from control equipment or restrictions on hours of operation and/or processes throughput as long as the controls are federally enforceable.

Like the major PSD modification requirements, the major NAA NSR modifications to an existing source are subject to IDEM approval. The definition for a major modification under NAA NSR is similar to the major PSD modification definition. However, there are some differences in the significant emissions increase thresholds because Nonattainment Areas only concern regulated pollutants for which a NAAQS has been established. (Other pollutants that are above the thresholds for PSD for which the area is attainment may be subject to PSD requirements as well).

NAA NSR Significant Emissions Increase Thresholds	
Carbon monoxide	100 tpy
Nitrogen oxides	40 tpy
Sulfur dioxide	40 tpy
Particulate Matter	25 tpy
PM ₁₀	15 tpy
PM _{2.5}	10 tpy direct PM _{2.5} (or 40 tpy of SO ₂ & 40 tpy NO _x)
Ozone (measured as VOC or NO _x)	40 tpy
Lead	0.6 tpy

The procedure for obtaining a construction permit under NAA NSR regulations is similar to the process for obtaining a new source construction permit or a PSD permit. However, the permit review also encompasses a review of emissions offsets and the LAER.

New stationary sources or major modifications subject to NAA NSR must “offset” the emissions increase by reducing actual emissions of the same pollutant. This reduction generally must be obtained by the same source or other sources within the NAA. However, there are special circumstances for which the commissioner may allow offset to be obtained from another NAA. The offset is required to be greater than one-for-one. For ozone nonattainment areas the minimum offset ratio is 1.1:1 for marginal, 1.15:1 for moderate, 1.2:1 for serious, and 1.3:1 for severe ozone nonattainment areas.

While PSD is required to meet BACT, NAA NSR permits are required to meet the LAER. LAER is the most stringent emissions limitation achieved in practice by such class or category of source without taking into account economic, energy, or other environmental impact analysis, except in certain very narrowly defined situations.

IDEM is allowed 270 days to review NAA permit applications. If IDEM requests additional information at any time, the time allotment for IDEM review may be suspended until all appropriate information is received.

Additional Air Regulations

Fugitive dust, open burning, and asbestos rules are often overlooked, although they significantly affect the regulated community. These issues are regularly the source of complaints and/or violations for sources. Knowing how these activities are regulated can help sources avoid the problem scenarios associated with noncompliance.

Fugitive Dust

Under PSD, Emission Offset, Part 70, and MSOP definitions, "fugitive emissions" means those emissions that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening, and includes all regulated pollutants and HAPs. "Fugitive dust" is regulated separately, and is defined under 326 IAC 1-2-30, as "Particulate matter composed of soil which is uncontaminated by pollutants resulting from industrial activity. Fugitive dust may include emissions from haul roads, wind erosion of exposed soil surfaces and soil storage piles and other activities in which soil is removed, stored, transported or redistributed." For the purposes of 326 IAC 6-4 (Fugitive Dust Emissions), "fugitive dust" means the generation of particulate matter to the extent that some portion of the material escapes beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located.

Indiana's fugitive dust regulations found in 326 IAC 6-4 makes exceptions for:

- Steam not in combination with any other pollutants.
- Fugitive dust from publicly maintained unpaved thoroughfares (as long as no nuisance or public health risk is present).
- Fugitive dust from construction or demolition activities where every reasonable precaution has been taken to minimize fugitive dust emissions.
- Fugitive dust from agricultural operations where every reasonable precaution has been taken to minimize fugitive dust emissions.
- Visible plumes from stacks or chimneys that provide for adequate dispersion.
- Fugitive dust from a source caused by adverse meteorological conditions (e.g., high winds).

A violation of the fugitive dust regulations is most commonly cited when fugitive dust is visibly crossing the boundary or property line of a source at or near ground level (often resulting from neighboring complaints). However, it is possible to identify fugitive dust violations using air monitoring equipment even though the fugitive dust is not visibly crossing the property line. Fugitive dust violations are subject to enforcement actions.

Sources of fugitive dust in nonattainment areas are regulated under 326 IAC 6-5-1, if they have potential fugitive particulate matter emissions of 25 tons per year or more. These sources are required to submit fugitive dust control plans (or request an exemption from this requirement), which outline the sources planned control measures. Control plans must be submitted in writing from a source to the OAQ, include specific information about the source and the activities on-site, must be approved by the OAQ (the Commissioner), and must be updated upon permit renewal. Example control measures can include:

Paved roads and parking lots:

- Cleaning by vacuum sweeping.
- Flushing.
- An equivalent alternate measure.

Unpaved roads and parking lots:

- Paving with a material such as asphalt or concrete.
- Treating with a suitable and effective oil or chemical dust suppressant approved by the Commissioner. (Frequency of application shall be on an as needed basis).
- Spraying with water, the frequency of application shall be on an as needed basis.
- Double chip and seal the road surface and maintain on an as needed basis.
- An equivalent alternate measure.

Open aggregate piles:

- Cleaning the area around the perimeter of the aggregate piles.
- Application of a suitable and effective oil or other dust suppressant on an as needed basis.
- An equivalent alternate measure.

Fugitive particulate matter emissions resulting from outdoor conveying of aggregate material such as sand, gravel, stone, grain, and coal, by equipment such as belt conveyors and bucket elevators

- Enclosing the conveyor belt totally on the top and sides as needed to minimize visible emissions. Also, if needed, exhausting emissions to particulate control equipment during operation of conveyor.
- Applying water or suitable and effective chemical dust suppressant at the feed and/or intermediate points as needed to minimize visible emissions.
- An equivalent alternate measure.

Fugitive particulate matter emissions resulting from the transferring of aggregate material

- Minimizing the vehicular distance between the transfer points.
- Enclosing the transfer points and if needed exhausting emissions to particulate control equipment during the operation of the transferring system.
- Application of water or suitable and effective chemical dust suppressant as needed to minimize visible emissions.
- An equivalent alternate measure.

Fugitive particulate matter emissions resulting from transportation of aggregate material by truck, front-end loaders, or similar vehicles

- Use of completely enclosed vehicles.
- Tarping the vehicle.
- Maintaining the vehicle body in such a condition that prevents any leaks of aggregate material.
- Spraying the materials in the vehicle with a suitable and effective dust suppressant.
- An equivalent alternate measure.

Fugitive particulate matter emissions resulting from the loading and unloading operations of the material from storage facilities such as bins, hoppers, and silos, onto or out of vehicles

- Enclosure of the material loading/unloading area.

- Total or partial enclosure of the facility and exhausting of emissions to particulate collection equipment. (Requires approval from the board.)
- Spraying with water or suitable and effective chemical dust suppressant as needed to minimize visible emissions.
- Reduction of free fall distance.
- An equivalent alternate measure.

Open Burning

To open burn means to burn any material in a manner that air contaminants (resulting from combustion) are emitted directly into the air without passing through a stack or chimney from an enclosed chamber (326 IAC 4-1). Generally, open burning is prohibited in Indiana except for some specific exemptions, mainly for vegetation from agricultural activities, or for road or railroad right-of-ways. There is also a specific exemption for undesirable wood structures or wood remnants of a predominantly wooden structure in an unincorporated area. Even these exempted burns have specific restrictions on what may be burned, the conditions under which the burning may be conducted, and who may conduct the burning.

Certain types of fires do not fall under the open burning exemption, but are allowed under the open burning regulation, provided a number of specific requirements are met. Allowed types of fires include recreation or ceremonial fires, private residential burning of only clean wood products and paper in certain circumstances, and burning of clean petroleum products for fire extinguisher training. Specific burning by governmental entities is also provided for under allowed types of fires.

For businesses, open burning is prohibited in Indiana unless it is one of the allowed types of fires, falls under the exemptions, is allowed pursuant to its air permit or registration, or a business receives an open burning approval from IDEM's Commissioner or the Commissioner's designated agent. Please note, most air permits prohibit open burning without exemption.

Burning not exempted or allowed under the open burning regulations may be authorized by the issuance of an approval by IDEM's Commissioner or the Commissioner's designated agent. One must submit a completed application and receive approval from IDEM prior to conducting the burn. An approval may be authorized for, but not limited to, fire training burns, burning of natural growth derived from a clearing operation, burning high explosives for disposal purposes, burning clean wood, and burning select vegetation for management purposes.

In all cases, a burn must be attended at all times and if at any time the burn presents an uncontrolled fire hazard, nuisance, pollution problem, or a threat to public health, it must be immediately extinguished. Further, the burn cannot be conducted during high winds, temperature inversions, or during any pollution alert. The burn must be conducted during daylight hours with adequate firefighting equipment on hand. All burns must be extinguished by sunset and must comply with all other rules and regulations. Unless exceptional circumstances apply, only clean wood product can be burned. No burn can take place within 100 feet of a power line or structure or 300 feet from a frequently traveled road, fuel storage area, or pipeline. The burned material must not contain normal waste from operations and cannot exceed 1,000 cubic feet in size. An approval is valid for one year and can be extended to five years if a burn plan is submitted by the owner/operator with the approval application.

An owner/operator may obtain permission to operate an air curtain destructor in accordance with 326 IAC 4-1-6. An air curtain destructor is an engineered structure consisting of a motorized, high velocity fan and air distribution system designed to assist the combustion of clean wood materials in an adjoining earthen pit. The air curtain destructor must be constructed appropriately and must meet all conditions detailed in 326 IAC 4-1-7.

Asbestos

Asbestos is a naturally occurring mineral fiber that has been used in a wide variety of building materials to help insulate and reduce heat. The heat resistant properties and fiber strength of asbestos allow it to be used in a wide range of building products including but not limited to boiler/tank insulation, pipe insulation, spray-applied fireproofing, roofing shingles, cement siding, plaster, ceiling and floor tiles.

When an asbestos containing product is disturbed or damaged, asbestos fibers become airborne and may be inhaled into the lungs. The inhalation of asbestos fibers can result in significant health effects. Asbestos is a known carcinogen.

The Indiana Department of Environmental Management (IDEM) Asbestos Program conducts compliance inspections, licenses companies and individuals directly involved with asbestos abatement, and audits licensed asbestos training course providers. These services are conducted to protect human health, the environment and the quality of asbestos-related work conducted in the State of Indiana. Renovation or demolition projects must be performed in accordance with the proper notification (Notification of Demolition and Renovation Operations, State Form 44593 - available on the [IDEM Forms](#) page), and emission control requirements for asbestos.

Regulated demolition activities require notification to IDEM, regardless of whether the inspection reveals the presence of asbestos. A written notification is also required for renovation activities that involve stripping, removing, cutting, drilling or similarly dislodging/disturbing a minimum of 260 linear feet, 160 square feet, or 35 cubic feet of regulated asbestos-containing material (RACM). Renovation projects involving less than the aforementioned amounts do not require a notification. Renovation projects involving the stripping, removing, cutting, drilling, or similarly dislodging/disturbing at least three linear feet, three square feet or 0.75 cubic feet of RACM must be conducted by an Indiana licensed asbestos abatement contractor. The contractor must utilize Indiana licensed asbestos abatement supervisors and workers and all emission control requirements would apply.

Compliance Inspections

The main goal of the Air Compliance Branch is to ensure that all air pollution sources are in compliance with all state and federal air pollution laws, rules and permits in order to continually improve air quality. The branch determines compliance of regulated sources of air emissions by inspecting, monitoring, testing, and reviewing records. The branch also relies on voluntary efforts by the regulated community to implement pollution prevention techniques and continual compliance improvements.

Three sections of the branch have compliance and enforcement managers that conduct inspections, respond to complaints, provide compliance assistance to sources, and provide input on permits and rules. These sections also inspect and review asbestos abatement. The fourth section, Compliance Data, reviews and approves stack tests, continuous emissions, and opacity monitors. All sections coordinate with the four IDEM regional offices.

All permitted sources (and many unpermitted sources) will experience a compliance inspection at some point in time. It is beneficial to both sources and inspectors if everyone involved knows what to expect and how to be prepared. During a compliance inspection, the typical course of events is as follows:

- The inspector will consult with the environmental manager(s) at a source in a pre-inspection conference
- The inspector and interested parties will conduct a plant tour
- The inspector will conduct a records review based on the recordkeeping requirements in the source's permit

- A closing conference will be held in order to clarify, summarize or seek additional information (from both sides)
- The inspector will construct an inspection summary letter outlining the findings of the visit. This document will be sent to the source no later than 45 days after inspection

The Air Compliance Branch has recommended these top 10 inspection tips for sources:

- Review and understand your permit (and draft permit).
- Call your inspector, permit writer, or Compliance and Technical Assistance Program (CTAP) with questions.
- Request a compliance assistance visit (before you have an inspection).
- Have backup personnel available for inspections.
- Know where environmental records and plans are maintained and make them easily accessible to appropriate personnel.
- Be aware of permitted emission unit and control device descriptions and locations. If you notice something isn't in your permit, request a modification ASAP to get it added to the permit.
- Understand all stack testing requirements and timelines.
- Review and understand both state and federal regulations – applicability, incorporation, and compliance.
- Have a plan in place for when problems occur.
- Submit required reports accurately and by applicable due dates.

Enforcement

Perhaps nothing is of greater concern to members of the regulated community than the imposition of enforcement against their business. When something goes awry at a source and enforcement actions are imminent, it is helpful to know how the process works and what to expect.

Enforcement Information Available From IDEM

In recent years, IDEM has made increasing amounts of enforcement information available via the Internet, including a [searchable enforcement database](#) and [material explaining the enforcement process](#) (as shown below).

Why Does IDEM Take Enforcement Actions?

Making Indiana a cleaner, healthier State is the goal of the Indiana Department of Environmental Management. An important step toward achieving that goal is to ensure Indiana businesses, individuals, and governmental entities are complying with environmental laws. IDEM uses the tool of enforcement to bring facilities with serious environmental problems into compliance with the law. The IDEM, OAQ Enforcement section's mission is to respond to violations with timely, quality enforcement actions that accomplish three major goals:

- Achieve compliance,
- Deter future violations, and
- Result in an improved environment.

Once violations are noted by personnel in the Office of Air Quality, the nature of the violation is evaluated. If the violation is serious, it is immediately referred to the Enforcement section. If the violation is not serious in nature, the OAQ will typically work with the violator to correct the problem. Only in cases where the violation remains uncorrected, will more serious continued action be taken.

Understanding the Enforcement Process

There are several levels of action that may be taken by IDEM that may not be considered enforcement actions as the U.S. EPA defines the term. Issuance of a Violation Letter could lead to a source returning to compliance. It is considered a first step in the IDEM enforcement process, and sometimes may be all that is necessary to return a source or facility to compliance. Issuance of a Notice of Violation (NOV) is considered, by IDEM, to be a formal action because it initiates the enforcement process and ultimately leads to action that will "resolve" the case. Issuance of a NOV leads to either a negotiated "Agreed Order" or a unilateral "Commissioner's Order" which requires the violator to take actions to resolve the case. Once such an "order" has been signed by the IDEM Commissioner, the case is considered "resolved" by IDEM.

Enforcement Actions taken by the agency utilize the tools listed below:

- **Notice of Violation:** A Notice of Violation (NOV) informs the Respondent that IDEM believes violations of environmental laws or regulations have occurred. The Respondent (violator) is invited to attend a conference to discuss violations or solutions.
- **Agreed Order:** By statute, the Respondent has a 60-day settlement period after receiving a Notice of Violation in which to enter into an Agreed Order with IDEM. Agreed Orders contain steps the Respondent must take to comply with the law. In most cases, Agreed Orders include a fine for past violations and stipulated penalties for failure to complete future compliance steps. Agreed Orders will not necessarily require a Respondent to admit that a violation of law occurred. Fines may be lessened if the Respondent can demonstrate that mitigating circumstances existed.
- **Commissioner's Order:** This is a unilateral order requiring specific action to correct a violation and/or pay a fine. Commissioner's Orders are issued when a Notice of Violation is not settled by Agreed Order.
- **Emergency Order:** An Emergency Order is a formal enforcement action that may be issued by IDEM (or other state agency) if an emergency exists; or a statute authorizes the agency to issue a temporary order to take immediate action to cease activities causing violations where human and/or environmental health is threatened. Emergency Order's expire after 90 days. A party affected by the Emergency Order may request a hearing under IC 4-21.5-4-4 by submitting a written request to the Office of Environmental Adjudication.
- **Judicial Order:** Any Order issued by a court of record, such as a Superior Court or Circuit Court. This would not include an order issued by an administrative court such as the Office of Environmental Adjudication.
- **Fines:** Although state law authorizes fines up to \$25,000 per day per violation, most are much less. The amount of the fine depends on the magnitude of the violation, the potential harm to human health and the environment, the economic benefit gained by the violator by not complying, and the violator's efforts to achieve compliance (See Civil Penalty Policy). Many fines today are partially offset through the use of Supplemental Environmental Projects (SEP's). These projects allow violators to offset a portion of their penalty by performing projects, which remediate adverse health and environmental consequences of pollution. SEPs provide opportunities to improve the environment beyond the requirements specified by law.
- **If You Receive a Notice of Violation:** The first step in ensuring a smooth settlement of your case is to contact the case manager at the IDEM, OAQ Enforcement section who is assigned to your case. He or she is familiar with the circumstances of the alleged violation(s), and is eager to work with you. Before you do so, please review the contents

of the proposed Agreed Order, if one has been included. If an Agreed Order is not included, the case manager will discuss the specifics of your case in a conference.

What Comes Next?

It is time to schedule a settlement conference with your case manager at the Indiana Department of Environmental Management.

- Check your Notice of Violation to see if your case manager has prearranged the date, time, and location of your conference.
- In many instances, the case manager will contact you. However, it is your responsibility to contact him or her and schedule a conference within 15 days of receiving this Notice of Violation.
- Remember to ask your case manager:
 - What is the date, time, and location of the settlement conference?
 - What documents should be brought to the settlement conference?
 - What will be discussed?
 - Would it be beneficial to bring others from your company (e.g., managers, scientists, attorneys)?

It is always in a source's best interest to comply with the Indiana Department of Environmental Management's settlement procedures. If you feel that your case manager has wrongly assessed your situation, and that you may not have violated the regulations in question, please do not simply refuse to cooperate with your IDEM case manager. He or she is willing to review additional information and listen to the source's concerns about the circumstances surrounding violations. The OAQ Enforcement section strives to ensure that actions taken are both consistent and equitable.

References

Air Pollution Training Institute: Air Pollution Control Orientation Course, U.S. EPA, 2005

Environmental Compliance Handbook, 5th Edition, Indiana Chamber of Commerce, Indianapolis, Indiana 2005

Indiana Air Permitting Guide, New Source Review and operating Permits, Indiana Chamber of Commerce, Indianapolis, IN 1998

Plain English Guide to the Clean Air Act, U.S. EPA, 1993

Potential to Emit: A Guide for Small Businesses, U.S. EPA, 1998

Clean Air Act, Title 42 United States Code, Section 7401 et seq., as amended

Title 326 of the Indiana Administrative Code, 2016, as amended

Additional Resources

IDEM Office of Air Quality Permits
www.idem.IN.gov/airquality/2356.htm

IDEM Forms
www.idem.IN.gov/5157.htm

IDEM Office of Air Quality
www.idem.IN.gov/airquality/index.htm

IDEM Rules in Progress, Title 329 Air Pollution Control Division
www.idem.IN.gov/5679.htm

Indiana Administrative Code (IAC), 326 Air Pollution Control Division
http://www.in.gov/legislative/iac/iac_title

Electronic Code of Federal Regulations (e-CFR)
<http://www.ecfr.gov/cgi-bin/ECFR?page=browse>

IDEM Acronyms
www.idem.IN.gov/5218.htm

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

- [Subpart A—General Provisions](#)
- [Subpart B—Adoption and Submittal of State Plans for Designated Facilities](#)
- [Subpart C—Emission Guidelines and Compliance Times](#)
- [Subpart Ca \[Reserved\]](#)
- [Subpart Cb—Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors That are Constructed on or Before September 20, 1994](#)
- [Subpart Cc—Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills](#)
- [Subpart Cd—Emissions Guidelines and Compliance Times for Sulfuric Acid Production Units](#)
- [Subpart Ce—Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators](#)
- [Subpart Cf—Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills](#)
- [Subpart D—Standards of Performance for Fossil-Fuel-Fired Steam Generators](#)
- [Subpart Da—Standards of Performance for Electric Utility Steam Generating Units](#)
- [Subpart Db—Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units](#)
- [Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units](#)
- [Subpart E—Standards of Performance for Incinerators](#)
- [Subpart Ea—Standards of Performance for Municipal Waste Combustors for Which Construction Is Commenced After December 20, 1989 and On or Before September 20, 1994](#)
- [Subpart Eb—Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994 or for Which Modification or Reconstruction is Commenced After June 19, 1996](#)
- [Subpart Ec—Standards of Performance for New Stationary Sources: Hospital/Medical/Infectious Waste Incinerators](#)
- [Subpart F—Standards of Performance for Portland Cement Plants](#)
- [Subpart G—Standards of Performance for Nitric Acid Plants](#)
- [Subpart Ga—Standards of Performance for Nitric Acid Plants for Which Construction, Reconstruction, or Modification Commenced After October 14, 2011](#)
- [Subpart H—Standards of Performance for Sulfuric Acid Plants](#)
- [Subpart I—Standards of Performance for Hot Mix Asphalt Facilities](#)
- [Subpart J—Standards of Performance for Petroleum Refineries](#)
- [Subpart Ja—Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007](#)
- [Subpart K—Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978](#)
- [Subpart Ka—Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984](#)
- [Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels \(Including Petroleum Liquid Storage Vessels\) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984](#)
- [Subpart L—Standards of Performance for Secondary Lead Smelters](#)

APPENDIX A - NSPS

- [Subpart M—Standards of Performance for Secondary Brass and Bronze Production Plants](#)
- [Subpart N—Standards of Performance for Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973](#)
- [Subpart Na—Standards of Performance for Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983](#)
- [Subpart O—Standards of Performance for Sewage Treatment Plants](#)
- [Subpart P—Standards of Performance for Primary Copper Smelters](#)
- [Subpart Q—Standards of Performance for Primary Zinc Smelters](#)
- [Subpart R—Standards of Performance for Primary Lead Smelters](#)
- [Subpart S—Standards of Performance for Primary Aluminum Reduction Plants](#)
- [Subpart T—Standards of Performance for the Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants](#)
- [Subpart U—Standards of Performance for the Phosphate Fertilizer Industry: Superphosphoric Acid Plants](#)
- [Subpart V—Standards of Performance for the Phosphate Fertilizer Industry: Diammonium Phosphate Plants](#)
- [Subpart W—Standards of Performance for the Phosphate Fertilizer Industry: Triple Superphosphate Plants](#)
- [Subpart X—Standards of Performance for the Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities](#)
- [Subpart Y—Standards of Performance for Coal Preparation and Processing Plants](#)
- [Subpart Z—Standards of Performance for Ferroalloy Production Facilities](#)
- [Subpart AA—Standards of Performance for Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974, and On or Before August 17, 1983](#)
- [Subpart AAa—Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983](#)
- [Subpart BB—Standards of Performance for Kraft Pulp Mills](#)
- [Subpart BBa—Standards of Performance for Kraft Pulp Mill Affected Sources for Which Construction, Reconstruction, or Modification Commenced After May 23, 2013](#)
- [Subpart CC—Standards of Performance for Glass Manufacturing Plants](#)
- [Subpart DD—Standards of Performance for Grain Elevators](#)
- [Subpart EE—Standards of Performance for Surface Coating of Metal Furniture](#)
- [Subpart FF \[Reserved\]](#)
- [Subpart GG—Standards of Performance for Stationary Gas Turbines](#)
- [Subpart HH—Standards of Performance for Lime Manufacturing Plants](#)
- [Subpart KK—Standards of Performance for Lead-Acid Battery Manufacturing Plants](#)
- [Subpart LL—Standards of Performance for Metallic Mineral Processing Plants](#)
- [Subpart MM—Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations](#)
- [Subpart NN—Standards of Performance for Phosphate Rock Plants](#)
- [Subpart PP—Standards of Performance for Ammonium Sulfate Manufacture](#)
- [Subpart QQ—Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing](#)
- [Subpart RR—Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations](#)
- [Subpart SS—Standards of Performance for Industrial Surface Coating: Large Appliances](#)
- [Subpart TT—Standards of Performance for Metal Coil Surface Coating](#)

APPENDIX A - NSPS

- [Subpart UU—Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture](#)
- [Subpart VV—Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006](#)
- [Subpart VVa—Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006](#)
- [Subpart WW—Standards of Performance for the Beverage Can Surface Coating Industry](#)
- [Subpart XX—Standards of Performance for Bulk Gasoline Terminals](#)
- [Subpart AAA—Standards of Performance for New Residential Wood Heaters](#)
- [Subpart BBB—Standards of Performance for the Rubber Tire Manufacturing Industry](#)
- [Subpart CCC \[Reserved\]](#)
- [Subpart DDD—Standards of Performance for Volatile Organic Compound \(VOC\) Emissions from the Polymer Manufacturing Industry](#)
- [Subpart EEE \[Reserved\]](#)
- [Subpart FFF—Standards of Performance for Flexible Vinyl and Urethane Coating and Printing](#)
- [Subpart GGG—Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After January 4, 1983, and on or Before November 7, 2006](#)
- [Subpart GGGa—Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006](#)
- [Subpart HHH—Standards of Performance for Synthetic Fiber Production Facilities](#)
- [Subpart III—Standards of Performance for Volatile Organic Compound \(VOC\) Emissions From the Synthetic Organic Chemical Manufacturing Industry \(SOCMI\) Air Oxidation Unit Processes](#)
- [Subpart JJJ—Standards of Performance for Petroleum Dry Cleaners](#)
- [Subpart KKK—Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011](#)
- [Subpart LLL—Standards of Performance for SO₂ Emissions From Onshore Natural Gas Processing for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011](#)
- [Subpart MMM \[Reserved\]](#)
- [Subpart NNN—Standards of Performance for Volatile Organic Compound \(VOC\) Emissions From Synthetic Organic Chemical Manufacturing Industry \(SOCMI\) Distillation Operations](#)
- [Subpart OOO—Standards of Performance for Nonmetallic Mineral Processing Plants](#)
- [Subpart PPP—Standard of Performance for Wool Fiberglass Insulation Manufacturing Plants](#)
- [Subpart QQQ—Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems](#)
- [Subpart RRR—Standards of Performance for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry \(SOCMI\) Reactor Processes](#)
- [Subpart SSS—Standards of Performance for Magnetic Tape Coating Facilities](#)
- [Subpart TTT—Standards of Performance for Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines](#)
- [Subpart UUU—Standards of Performance for Calciners and Dryers in Mineral Industries](#)

APPENDIX A - NSPS

- [Subpart VVV—Standards of Performance for Polymeric Coating of Supporting Substrates Facilities](#)
- [Subpart WWW—Standards of Performance for Municipal Solid Waste Landfills](#)
- [Subpart XXX—Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014](#)
- [Subpart AAAA—Standards of Performance for Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001](#)
- [Subpart BBBB—Emission Guidelines and Compliance Times for Small Municipal Waste Combustion Units Constructed on or Before August 30, 1999](#)
- [Subpart CCCC—Standards of Performance for Commercial and Industrial Solid Waste Incineration Units](#)
- [Subpart DDDD—Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units](#)
- [Subpart EEEE—Standards of Performance for 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](#)
- [Subpart FFFF—Emission Guidelines and Compliance Times for Other Solid Waste Incineration Units That Commenced Construction On or Before December 9, 2004](#)
- [Subparts GGGG-HHHH \[Reserved\]](#)
- [Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines](#)
- [Subpart JJJJ—Standards of Performance for Stationary Spark Ignition Internal Combustion Engines](#)
- [Subpart KKKK—Standards of Performance for Stationary Combustion Turbines](#)
- [Subpart LLLL—Standards of Performance for New Sewage Sludge Incineration Units](#)
- [Subpart MMMM—Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units](#)
- [Subpart OOOO—Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced after August 23, 2011, and on or before September 18, 2015](#)
- [Subpart OOOOa—Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015](#)
- [Subpart PPPP \[Reserved\]](#)
- [Subpart QQQQ—Standards of Performance for New Residential Hydronic Heaters and Forced-Air Furnaces](#)
- [Subpart TTTT—Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units](#)
- [Subpart UUUU—Emission Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units](#)

PART 61—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

- [Subpart A—General Provisions](#)
- [Subpart B—National Emission Standards for Radon Emissions From Underground Uranium Mines](#)
- [Subpart C—National Emission Standard for Beryllium](#)
- [Subpart D—National Emission Standard for Beryllium Rocket Motor Firing](#)
- [Subpart E—National Emission Standard for Mercury](#)
- [Subpart F—National Emission Standard for Vinyl Chloride](#)
- [Subpart G \[Reserved\]](#)
- [Subpart H—National Emission Standards for Emissions of Radionuclides Other Than Radon From Department of Energy Facilities](#)
- [Subpart I—National Emission Standards for Radionuclide Emissions From Federal Facilities Other Than Nuclear Regulatory Commission Licensees and Not Covered by Subpart H](#)
- [Subpart J—National Emission Standard for Equipment Leaks \(Fugitive Emission Sources\) of Benzene](#)
- [Subpart K—National Emission Standards for Radionuclide Emissions From Elemental Phosphorus Plants](#)
- [Subpart L—National Emission Standard for Benzene Emissions from Coke By-Product Recovery Plants](#)
- [Subpart M—National Emission Standard for Asbestos](#)
- [Subpart N—National Emission Standard for Inorganic Arsenic Emissions From Glass Manufacturing Plants](#)
- [Subpart O—National Emission Standard for Inorganic Arsenic Emissions From Primary Copper Smelters](#)
- [Subpart P—National Emission Standard for Inorganic Arsenic Emissions From Arsenic Trioxide and Metallic Arsenic Production Facilities](#)
- [Subpart Q—National Emission Standards for Radon Emissions From Department of Energy Facilities](#)
- [Subpart R—National Emission Standards for Radon Emissions From Phosphogypsum Stacks](#)
- [Subpart S \[Reserved\]](#)
- [Subpart T—National Emission Standards for Radon Emissions From the Disposal of Uranium Mill Tailings](#)
- [Subpart U \[Reserved\]](#)
- [Subpart V—National Emission Standard for Equipment Leaks \(Fugitive Emission Sources\)](#)
- [Subpart W—National Emission Standards for Radon Emissions From Operating Mill Tailings](#)
- [Subpart X \[Reserved\]](#)
- [Subpart Y—National Emission Standard for Benzene Emissions From Benzene Storage Vessels](#)
- [Subparts Z-AA \[Reserved\]](#)
- [Subpart BB—National Emission Standard for Benzene Emissions From Benzene Transfer Operations](#)
- [Subparts CC-EE \[Reserved\]](#)
- [Subpart FF—National Emission Standard for Benzene Waste Operations](#)

APPENDIX C - PART 63 NESHAPS

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

- [Subpart A—General Provisions](#)
- [Subpart B—Requirements for Control Technology Determinations for Major Sources in Accordance With Clean Air Act Sections, Sections 112\(g\) and 112\(j\)](#)
- [Subpart C—List of Hazardous Air Pollutants, Petitions Process, Lesser Quantity Designations, Source Category List](#)
- [Subpart D—Regulations Governing Compliance Extensions for Early Reductions of Hazardous Air Pollutants](#)
- [Subpart E—Approval of State Programs and Delegation of Federal Authorities](#)
- [Subpart F—National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry](#)
- [Subpart G—National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater](#)
- [Subpart H—National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks](#)
- [Subpart I—National Emission Standards for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks](#)
- [Subpart J—National Emission Standards for Hazardous Air Pollutants for Polyvinyl Chloride and Copolymers Production](#)
- [Subpart K \[Reserved\]](#)
- [Subpart L—National Emission Standards for Coke Oven Batteries](#)
- [Subpart M—National Perchloroethylene Air Emission Standards for Dry Cleaning Facilities](#)
- [Subpart N—National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks](#)
- [Subpart O—Ethylene Oxide Emissions Standards for Sterilization Facilities](#)
- [Subpart P \[Reserved\]](#)
- [Subpart Q—National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers](#)
- [Subpart R—National Emission Standards for Gasoline Distribution Facilities \(Bulk Gasoline Terminals and Pipeline Breakout Stations\)](#)
- [Subpart S—National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry](#)
- [Subpart T—National Emission Standards for Halogenated Solvent Cleaning](#)
- [Subpart U—National Emission Standards for Hazardous Air Pollutant Emissions: Group I Polymers and Resins](#)
- [Subpart V \[Reserved\]](#)
- [Subpart W—National Emission Standards for Hazardous Air Pollutants for Epoxy Resins Production and Non-Nylon Polyamides Production](#)
- [Subpart X—National Emission Standards For Hazardous Air Pollutants From Secondary Lead Smelting](#)
- [Subpart Y—National Emission Standards for Marine Tank Vessel Loading Operations](#)
- [Subpart Z \[Reserved\]](#)
- [Subpart AA—National Emission Standards for Hazardous Air Pollutants from Phosphoric Acid Manufacturing Plants](#)

APPENDIX C - PART 63 NESHAPS

- [Subpart BB—National Emission Standards for Hazardous Air Pollutants from Phosphate Fertilizers Production Plants](#)
- [Subpart CC—National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries](#)
- [Subpart DD—National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations](#)
- [Subpart EE—National Emission Standards for Magnetic Tape Manufacturing Operations](#)
- [Subpart FF \[Reserved\]](#)
- [Subpart GG—National Emission Standards for Aerospace Manufacturing and Rework Facilities](#)
- [Subpart HH—National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities](#)
- [Subpart II—National Emission Standards for Shipbuilding and Ship Repair \(Surface Coating\)](#)
- [Subpart JJ—National Emission Standards for Wood Furniture Manufacturing Operations](#)
- [Subpart KK—National Emission Standards for the Printing and Publishing Industry](#)
- [Subpart LL—National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants](#)
- [Subpart MM—National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills](#)
- [Subpart NN—National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing at Area Sources](#)
- [Subpart OO—National Emission Standards for Tanks—Level 1](#)
- [Subpart PP—National Emission Standards for Containers](#)
- [Subpart QQ—National Emission Standards for Surface Impoundments](#)
- [Subpart RR—National Emission Standards for Individual Drain Systems](#)
- [Subpart SS—National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process](#)
- [Subpart TT—National Emission Standards for Equipment Leaks—Control Level 1](#)
- [Subpart UU—National Emission Standards for Equipment Leaks—Control Level 2 Standards](#)
- [Subpart VV—National Emission Standards for Oil-Water Separators and Organic-Water Separators](#)
- [Subpart WW—National Emission Standards for Storage Vessels \(Tanks\)—Control Level 2](#)
- [Subpart XX—National Emission Standards for Ethylene Manufacturing Process Units: Heat Exchange Systems and Waste Operations](#)
- [Subpart YY—National Emission Standards for Hazardous Air Pollutants for Source Categories: Generic Maximum Achievable Control Technology Standards](#)
- [Subparts ZZ-BBB \[Reserved\]](#)
- [Subpart CCC—National Emission Standards for Hazardous Air Pollutants for Steel Pickling—HCl Process Facilities and Hydrochloric Acid Regeneration Plants](#)
- [Subpart DDD—National Emission Standards for Hazardous Air Pollutants for Mineral Wool Production](#)
- [Subpart EEE—National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors](#)

APPENDIX C - PART 63 NESHAPS

- [Subpart FFF \[Reserved\]](#)
- [Subpart GGG—National Emission Standards for Pharmaceuticals Production](#)
- [Subpart HHH—National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities](#)
- [Subpart III—National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production](#)
- [Subpart KKK \[Reserved\]](#)
- [Subpart LLL—National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry](#)
- [Subpart MMM—National Emission Standards for Hazardous Air Pollutants for Pesticide Active Ingredient Production](#)
- [Subpart NNN—National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing](#)
- [Subpart OOO—National Emission Standards for Hazardous Air Pollutant Emissions: Manufacture of Amino/Phenolic Resins](#)
- [Subpart PPP—National Emission Standards for Hazardous Air Pollutant Emissions for Polyether Polyols Production](#)
- [Subpart QQQ—National Emission Standards for Hazardous Air Pollutants for Primary Copper Smelting](#)
- [Subpart RRR—National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production](#)
- [Subpart SSS \[Reserved\]](#)
- [Subpart TTT—National Emission Standards for Hazardous Air Pollutants for Primary Lead Smelting](#)
- [Subpart UUU—National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units](#)
- [Subpart VVV—National Emission Standards for Hazardous Air Pollutants: Publicly Owned Treatment Works](#)
- [Subpart WWW \[Reserved\]](#)
- [Subpart XXX—National Emission Standards for Hazardous Air Pollutants for Ferroalloys Production: Ferromanganese and Silicomanganese](#)
- [Subpart AAAA—National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills](#)
- [Subpart CCCC—National Emission Standards for Hazardous Air Pollutants: Manufacturing of Nutritional Yeast](#)
- [Subpart DDDD—National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products](#)
- [Subpart EEEE—National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution \(Non-Gasoline\)](#)
- [Subpart FFFF—National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing](#)
- [Subpart GGGG—National Emission Standards for Hazardous Air Pollutants: Solvent Extraction for Vegetable Oil Production](#)
- [Subpart HHHH—National Emission Standards for Hazardous Air Pollutants for Wet-Formed Fiberglass Mat Production](#)

APPENDIX C - PART 63 NESHAPS

- [Subpart IIII—National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks](#)
- [Subpart JJJJ—National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating](#)
- [Subpart KKKK—National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Cans](#)
- [Subpart MMMM—National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products](#)
- [Subpart NNNN—National Emission Standards for Hazardous Air Pollutants: Surface Coating of Large Appliances](#)
- [Subpart OOOO—National Emission Standards for Hazardous Air Pollutants: Printing, Coating, and Dyeing of Fabrics and Other Textiles](#)
- [Subpart PPPP—National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products](#)
- [Subpart QQQQ—National Emission Standards for Hazardous Air Pollutants: Surface Coating of Wood Building Products](#)
- [Subpart RRRR—National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Furniture](#)
- [Subpart SSSS—National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Coil](#)
- [Subpart TTTT—National Emission Standards for Hazardous Air Pollutants for Leather Finishing Operations](#)
- [Subpart UUUU—National Emission Standards for Hazardous Air Pollutants for Cellulose Products Manufacturing](#)
- [Subpart VVVV—National Emission Standards for Hazardous Air Pollutants for Boat Manufacturing](#)
- [Subpart WWWW—National Emissions Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production](#)
- [Subpart XXXX—National Emissions Standards for Hazardous Air Pollutants: Rubber Tire Manufacturing](#)
- [Subpart YYYYY—National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines](#)
- [Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines](#)
- [Subpart AAAAA—National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants](#)
- [Subpart BBBBB—National Emission Standards for Hazardous Air Pollutants for Semiconductor Manufacturing](#)
- [Subpart CCCCC—National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks](#)
- [Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters](#)
- [Subpart EEEEE—National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries](#)
- [Subpart FFFFF—National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing Facilities](#)

APPENDIX C - PART 63 NESHAPS

- [Subpart GGGGG—National Emission Standards for Hazardous Air Pollutants: Site Remediation](#)
- [Subpart HHHHH—National Emission Standards for Hazardous Air Pollutants: Miscellaneous Coating Manufacturing](#)
- [Subpart IIIII—National Emission Standards for Hazardous Air Pollutants: Mercury Emissions From Mercury Cell Chlor-Alkali Plants](#)
- [Subpart JJJJJ—National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing](#)
- [Subpart KKKKK—National Emission Standards for Hazardous Air Pollutants for Clay Ceramics Manufacturing](#)
- [Subpart LLLLL—National Emission Standards for Hazardous Air Pollutants: Asphalt Processing and Asphalt Roofing Manufacturing](#)
- [Subpart MMMMM—National Emission Standards for Hazardous Air Pollutants: Flexible Polyurethane Foam Fabrication Operations](#)
- [Subpart NNNNN—National Emission Standards for Hazardous Air Pollutants: Hydrochloric Acid Production](#)
- [Subpart OOOOO \[Reserved\]](#)
- [Subpart PPPPP—National Emission Standards for Hazardous Air Pollutants for Engine Test Cells/Stands](#)
- [Subpart QQQQQ—National Emission Standards for Hazardous Air Pollutants for Friction Materials Manufacturing Facilities](#)
- [Subpart RRRRR—National Emission Standards for Hazardous Air Pollutants: Taconite Iron Ore Processing](#)
- [Subpart SSSSS—National Emission Standards for Hazardous Air Pollutants for Refractory Products Manufacturing](#)
- [Subpart TTTTT—National Emission Standards for Hazardous Air Pollutants for Primary Magnesium Refining](#)
- [Subpart UUUUU—National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units](#)
- [Subpart VVVVV \[Reserved\]](#)
- [Subpart WWWW—National Emission Standards for Hospital Ethylene Oxide Sterilizers](#)
- [Subpart XXXXX \[Reserved\]](#)
- [Subpart YYYYY—National Emission Standards for Hazardous Air Pollutants for Area Sources: Electric Arc Furnace Steelmaking Facilities](#)
- [Subpart ZZZZZ—National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources](#)
- [Subpart AAAAA \[Reserved\]](#)
- [Subpart BBBBB—National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities](#)
- [Subpart CCCCC—National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities](#)
- [Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Polyvinyl Chloride and Copolymers Production Area Sources](#)
- [Subpart EEEEE—National Emission Standards for Hazardous Air Pollutants for Primary Copper Smelting Area Sources](#)

APPENDIX C - PART 63 NESHAPS

- [Subpart FFFFFFF—National Emission Standards for Hazardous Air Pollutants for Secondary Copper Smelting Area Sources](#)
- [Subpart GGGGGG—National Emission Standards for Hazardous Air Pollutants for Primary Nonferrous Metals Area Sources—Zinc, Cadmium, and Beryllium](#)
- [Subpart HHHHHH—National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources](#)
- [Subpart IIIII \[Reserved\]](#)
- [Subpart JJJJJJ—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources](#)
- [Subpart KKKKKK \[Reserved\]](#)
- [Subpart LLLLLL—National Emission Standards for Hazardous Air Pollutants for Acrylic and Modacrylic Fibers Production Area Sources](#)
- [Subpart MMMMMM—National Emission Standards for Hazardous Air Pollutants for Carbon Black Production Area Sources](#)
- [Subpart NNNNNN—National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources: Chromium Compounds](#)
- [Subpart OOOOOO—National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production and Fabrication Area Sources](#)
- [Subpart PPPPPP—National Emission Standards for Hazardous Air Pollutants for Lead Acid Battery Manufacturing Area Sources](#)
- [Subpart QOOOOO—National Emission Standards for Hazardous Air Pollutants for Wood Preserving Area Sources](#)
- [Subpart RRRRRR—National Emission Standards for Hazardous Air Pollutants for Clay Ceramics Manufacturing Area Sources](#)
- [Subpart SSSSSS—National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources](#)
- [Subpart TTTTTT—National Emission Standards for Hazardous Air Pollutants for Secondary Nonferrous Metals Processing Area Sources](#)
- [Subpart UUUUUU \[Reserved\]](#)
- [Subpart VVVVVV—National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources](#)
- [Subpart WWWWWW—National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations](#)
- [Subpart XXXXXX—National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories](#)
- [Subpart YYYYYY—National Emission Standards for Hazardous Air Pollutants for Area Sources: Ferroalloys Production Facilities](#)
- [Subpart ZZZZZZ—National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries](#)
- [Subpart AAAAAA—National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing](#)
- [Subpart BBBBBB—National Emission Standards for Hazardous Air Pollutants for Area Sources: Chemical Preparations Industry](#)
- [Subpart CCCCCC—National Emission Standards for Hazardous Air Pollutants for Area Sources: Paints and Allied Products Manufacturing](#)

APPENDIX C - PART 63 NESHAPS

- [Subpart DDDDDDD—National Emission Standards for Hazardous Air Pollutants for Area Sources: Prepared Feeds Manufacturing](#)
- [Subpart EEEEEEE—National Emission Standards for Hazardous Air Pollutants: Gold Mine Ore Processing and Production Area Source Category](#)
- [Subparts FFFFFFFF and GGGGGGG \[Reserved\]](#)
- [Subpart HHHHHHH—National Emission Standards for Hazardous Air Pollutant Emissions for Polyvinyl Chloride and Copolymers Production](#)

APPENDIX D - 1990 LIST OF HAPS

The Clean Air Act Amendments of 1990 List of Hazardous Air Pollutants			
CAS Number	Chemical Name	CAS Number	Chemical Name
75070	Acetaldehyde	126998	Chloroprene
60355	Acetamide	1319773	Cresols/Cresylic acid (isomers and mixture)
75058	Acetonitrile	95487	o-Cresol
98862	Acetophenone	108394	m-Cresol
53963	2-Acetylaminofluorene	106445	p-Cresol
107028	Acrolein	98828	Cumene
79061	Acrylamide	94757	2,4-D, salts and esters
79107	Acrylic acid	3547044	DDE
107131	Acrylonitrile	334883	Diazomethane
107051	Allyl chloride	132649	Dibenzofurans
92671	4-Aminobiphenyl	96128	1,2-Dibromo-3-chloropropane
62533	Aniline	84742	Dibutylphthalate
90040	o-Anisidine	106467	1,4-Dichlorobenzene(p)
1332214	Asbestos	91941	3,3-Dichlorobenzidine
71432	Benzene (including benzene from gasoline)	111444	Dichloroethyl ether (Bis(2-chloroethyl)ether)
92875	Benzidine	542756	1,3-Dichloropropene
98077	Benzotrichloride	62737	Dichlorvos
100447	Benzyl chloride	111422	Diethanolamine
92524	Biphenyl	121697	N,N-Diethyl aniline (N,N-Dimethylaniline)
117817	Bis(2-ethylhexyl)phthalate (DEHP)	64675	Diethyl sulfate
542881	Bis(chloromethyl)ether	119904	3,3-Dimethoxybenzidine
75252	Bromoform	60117	Dimethyl aminoazobenzene
106990	1,3-Butadiene	119937	3,3'-Dimethyl benzidine
156627	Calcium cyanamide	79447	Dimethyl carbamoyl chloride
105602	Caprolactam(See Modification)	68122	Dimethyl formamide
133062	Captan	57147	1,1-Dimethyl hydrazine
63252	Carbaryl	131113	Dimethyl phthalate
75150	Carbon disulfide	77781	Dimethyl sulfate
56235	Carbon tetrachloride	534521	4,6-Dinitro-o-cresol, and salts
463581	Carbonyl sulfide	51285	2,4-Dinitrophenol
120809	Catechol	121142	2,4-Dinitrotoluene
133904	Chloramben	123911	1,4-Dioxane (1,4-Diethyleneoxide)
57749	Chlordane	122667	1,2-Diphenylhydrazine
7782505	Chlorine	106898	Epichlorohydrin (1-Chloro-2,3-epoxypropane)
79118	Chloroacetic acid	106887	1,2-Epoxybutane
532274	2-Chloroacetophenone	140885	Ethyl acrylate
108907	Chlorobenzene	100414	Ethyl benzene
510156	Chlorobenzilate	51796	Ethyl carbamate (Urethane)
67663	Chloroform	75003	Ethyl chloride (Chloroethane)
107302	Chloromethyl methyl ether	106934	Ethylene dibromide (Dibromoethane)

APPENDIX D - 1990 LIST OF HAPS

The Clean Air Act Amendments of 1990 List of Hazardous Air Pollutants			
CAS Number	Chemical Name	CAS Number	Chemical Name
107062	Ethylene dichloride (1,2-Dichloroethane)	98953	Nitrobenzene
107211	Ethylene glycol	92933	4-Nitrobiphenyl
151564	Ethylene imine (Aziridine)	100027	4-Nitrophenol
75218	Ethylene oxide	79469	2-Nitropropane
96457	Ethylene thiourea	684935	N-Nitroso-N-methylurea
75343	Ethylidene dichloride (1,1-Dichloroethane)	62759	N-Nitrosodimethylamine
50000	Formaldehyde	59892	N-Nitrosomorpholine
76448	Heptachlor	56382	Parathion
118741	Hexachlorobenzene	82688	Pentachloronitrobenzene (Quintobenzene)
87683	Hexachlorobutadiene	87865	Pentachlorophenol
77474	Hexachlorocyclopentadiene	108952	Phenol
67721	Hexachloroethane	106503	p-Phenylenediamine
822060	Hexamethylene-1,6-diisocyanate	75445	Phosgene
680319	Hexamethylphosphoramide	7803512	Phosphine
110543	Hexane	7723140	Phosphorus
302012	Hydrazine	85449	Phthalic anhydride
7647010	Hydrochloric acid	1336363	Polychlorinated biphenyls (Aroclors)
7664393	Hydrogen fluoride (Hydrofluoric acid)	1120714	1,3-Propane sultone
7783064	Hydrogen sulfide(See Modification)	57578	beta-Propiolactone
123319	Hydroquinone	123386	Propionaldehyde
78591	Isophorone	114261	Propoxur (Baygon)
58899	Lindane (all isomers)	78875	Propylene dichloride (1,2-Dichloropropane)
108316	Maleic anhydride	75569	Propylene oxide
67561	Methanol	75558	1,2-Propylenimine (2-Methyl aziridine)
72435	Methoxychlor	91225	Quinoline
74839	Methyl bromide (Bromomethane)	106514	Quinone
74873	Methyl chloride (Chloromethane)	100425	Styrene
71556	Methyl chloroform (1,1,1-Trichloroethane)	96093	Styrene oxide
78933	Methyl ethyl ketone (2-Butanone)(See Modification)	1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin
60344	Methyl hydrazine	79345	1,1,2,2-Tetrachloroethane
74884	Methyl iodide (Iodomethane)	127184	Tetrachloroethylene (Perchloroethylene)
108101	Methyl isobutyl ketone (Hexone)	7550450	Titanium tetrachloride
624839	Methyl isocyanate	108883	Toluene
80626	Methyl methacrylate	95807	2,4-Toluene diamine
1634044	Methyl tert butyl ether	584849	2,4-Toluene diisocyanate
101144	4,4'-Methylene bis(2-chloroaniline)	95534	o-Toluidine
75092	Methylene chloride (Dichloromethane)	8001352	Toxaphene (chlorinated camphene)
101688	Methylene diphenyl diisocyanate (MDI)	120821	1,2,4-Trichlorobenzene
101779	4,4'-Methylenedianiline	79005	1,1,2-Trichloroethane
91203	Naphthalene	79016	Trichloroethylene

APPENDIX D - 1990 LIST OF HAPS

The Clean Air Act Amendments of 1990 List of Hazardous Air Pollutants	
CAS Number	Chemical Name
95954	2,4,5-Trichlorophenol
88062	2,4,6-Trichlorophenol
121448	Triethylamine
1582098	Trifluralin
540841	2,2,4-Trimethylpentane
108054	Vinyl acetate
593602	Vinyl bromide
75014	Vinyl chloride
75354	Vinylidene chloride (1,1-Dichloroethylene)
1330207	Xylenes (isomers and mixture)
95476	o-Xylenes
108383	m-Xylenes
106423	p-Xylenes
0	Antimony Compounds
0	Arsenic Compounds (inorganic including arsine)
0	Beryllium Compounds
0	Cadmium Compounds
0	Chromium Compounds
0	Cobalt Compounds
0	Coke Oven Emissions
0	Cyanide Compounds ¹
0	Glycol ethers ²
0	Lead Compounds
0	Manganese Compounds
0	Mercury Compounds
0	Fine mineral fibers ³
0	Nickel Compounds
0	Polycyclic Organic Matter ⁴
0	Radionuclides (including radon) ⁵
0	Selenium Compounds
NOTE: For all listings above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc.) as part of that chemical's infrastructure.	
¹ X'CN where X = H' or any other group where a formal dissociation may occur. For example KCN or Ca(CN) ₂	
² Includes mono- and di- ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH ₂ CH ₂) _n -OR' where	
n = 1, 2, or 3	
R = alkyl or aryl groups	
R' = R, H, or groups which, when removed, yield glycol ethers with the structure: R-(OCH₂CH₂)_n-OH. Polymers are excluded from the glycol category. (See Modification)	
³ Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.	
⁴ Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100 °C.	
⁵ A type of atom which spontaneously undergoes radioactive decay.	