How to Complete a Plan Approval Application to Construct, Modify or Reactivate an Air Contamination Source and/or Install an Air Cleaning Device

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DISCLAIMER

This document describes in general the requirements of the Pennsylvania Department of Environmental Protection, Bureau of Air Quality's plan approval and operating permit program, as contained in 25 Pa. Code Chapter 127. Nothing in this document alters or supersedes the requirements contained in those regulations.

To receive a copy of Title 25 of the Pennsylvania Code, Chapters 121 to 143, contact the Bureau of Air Quality, 400 Market St., 12th Floor, Harrisburg, PA 17101 or call (717) 787-9702 or visit DEP's website at www.dep.state.pa.us .

Introduction

Before you begin operating a new source of air pollution in Pennsylvania, you may need an air permit. This permit is a regulatory document that is legally enforceable at both federal and state levels. It covers all sources of air pollution, process equipment and air cleaning devices at your facility. In addition, the permit lists applicable rules and requirements pertaining to each source, along with operating requirements, emission limits, stack information and monitoring requirements within a facility.

The process of obtaining the air permit generally consists of two steps. First, you must obtain a construction permit, also known as a "plan approval," from the state Department of Environmental Protection (DEP) to begin construction, installation or modification of your facility. To avoid confusion, DEP uses the term "*plan approval"* throughout this manual. Historically, DEP has used this term in all of its statutes and regulations. You do not need a plan approval if the work is specifically exempt or if DEP determines it to be of minor significance. A list of exemptions is available from the regional DEP offices or can be downloaded from DEP's website, www.dep.state.pa.us (directLINK: air quality). Please refer to page seven for the list of regional offices and phone numbers.

Second, once you build your facility in accordance with the plan approval, you must obtain an operating permit. Depending on the type and size of the source, you will need either a state permit or a Title V permit. DEP generally issues this permit for a maximum five-year term, unless the regulations require a shorter time or you request a shorter term. The state operating permit is for sources that are not subject to Title V permitting requirements. Title V permits are required for major facilities that have the potential to emit air pollutants over a specific threshold as defined in both state and federal regulations. Title V may be extended to smaller facilities when the federal Environmental Protection Agency (EPA) completes further rulemaking in the future. Philadelphia and Allegheny counties have their own permitting programs, and you must submit your plans to those programs. For information about permits in Philadelphia, call (215) 823-7584. In Allegheny County, call (412) 578-8111.

Overview of Plan Approval Process

The process for obtaining a plan approval begins with gathering information and completing all requirements, such as a plan approval application form, application fees, compliance review form, proof of municipal notice, etc. You then submit the completed plan approval application, with all supporting documents, in triplicate to the regional office serving the area in which your facility is located.

DEP conducts an administrative completeness review, which generally includes checking for the appropriate signatures, filing fees, maps, notifications and application forms. The review is normally conducted within 20 days after DEP receives your application.

If everything is in order, DEP notifies you in writing that the application has been accepted for technical review. Included in this correspondence are the name and telephone number of the engineer assigned to review the application.

If your application has incomplete or missing information, DEP will notify you by telephone or in writing. You will have a reasonable amount of time to submit the required information. If you fail to submit the information within the given time frame, DEP will deny your application.

In addition to a review by DEP's Bureau of Air Quality, the regional office sends the application to other DEP bureaus to determine whether additional permits are necessary. The regional office does this to assist you and ensure that you obtain all required environmental permits. Following these steps, the regional office initiates the technical review process.

The technical review includes the following:

- Checking for conformance with all applicable statutes and regulations
- Analyzing the proposal for potential adverse environmental impacts
- Checking for clarity and engineering soundness of the proposal
- Reviewing the submitted Compliance Review Form for existing violations
- Reviewing all comments submitted by the public

If DEP staff members find deficiencies, they will notify you by telephone or in writing. You will have a reasonable period of time to submit the missing information. If the regional office does not receive the information in the given time frame, your application will be denied. If the material you submit still fails to meet our requirements, DEP will issue a pre-denial letter. You will have one final chance to correct the deficiencies listed in this pre-denial letter. This is your last chance to submit the missing information. At the end of the given time, DEP will deny your application if the regional office does not receive the required information or if the information is inadequate.

Upon technical approval, DEP will publish a public notice in the *Pennsylvania Bulletin*. Depending on the complexity of the plan approval application, you may be required to publish a notice in a local newspaper (refer to § 127.44 and 127.45 of *Pa. Code Title 25* for more information). If you need other environmental permits, the assistant regional director's office will issue them simultaneously.

DEP renders its decision after completing the technical review. Generally, DEP will issue a plan approval within 180 days. However, a more complex application may take as much as one year. Also, plan approval applications are subject to the money-back guarantee program, which has standard, pre-designated timetables for each type of application. If DEP does not review your application in the time allotted, your application fees will be returned to you. Further details are available at www.dep.state.pa.us (choose Subjects/Money Back Guarantee).

When DEP issues your plan approval, the complexity of your project determines how long you have to complete it. The plan approval will have a sufficient and reasonable amount of time to complete the project as described in your application. If you do not finish the construction, modification or installation within the approved time, you must either submit a new application or get an extension of your initial plan approval. Applications are available on the DEP website at www.dep.state.pa.us (Choose Subjects/Air Quality/Permits).

If you are testing and or adjusting new sources and air-cleaning devices, DEP authorizes temporary operations as a condition within the plan approval.

How to Appeal a Decision by DEP

If you disagree with a decision by DEP, you can contact the regional office, or you can appeal to the Pennsylvania Environmental Hearing Board (EHB). If you do appeal, you must file the paperwork within 30 days of DEP's issuing its decision.

General Plan Approval and Operating Permit

This is a special kind of "general permit" that covers certain categories of pollution sources that are similar in nature. DEP has determined that it can adequately regulate these sources by using standardized specifications and conditions. The primary intention for a General Plan Approval and Operating Permit is to cover a group of smaller and similar facilities. Because this permit requires less individual processing, it may be quicker to obtain after the general permit application or conditions have been drafted and subjected to public and Environmental Protection Agency (EPA) review. These applications are available from DEP's website.

Profile of these Instructions

This instruction package is intended to assist you in submitting a complete plan approval application. Please type or print clearly in the spaces provided. If you need more space, attach separate sheets of paper to provide detailed information. Do not leave any space on the form blank. In those cases where the question is not relevant, enter "None" or "Not applicable." Please keep a copy of the completed application for your records.

You are encouraged to contact your regional office to arrange for pre-application meetings, especially if you are filing complex applications, such as Prevention of Significant Deterioration (PSD) or New Source Review (NSR) or where multiple permits are required. See Page 7 for a list of the regional offices and phone numbers.

All plan approval applications must include a ***General Information Form (GIF)***. This GIF is used in all of DEP's bureaus, such as Air Quality, Water Quality, Waste Management, Mining, etc. A copy of the GIF and instructions (Section A through G) are available in our regional offices and central office in Harrisburg or can be downloaded from our website at www.dep.state.pa.us (directLINK: "air quality," then choose "permits").

There are three parts in this instruction package, as follows:

Part A: Instructions for submitting Plan Approval Application

Part B: Separate instructions for completing the more intensive sections of the "Plan Approval Application to Construct, Modify or Reactivate an Air Contamination Source and/or Install an Air Cleaning Device" for one of DEP's 10 types of plan approvals.

Part C: Appendix A – Glossary of Environmental Terms and Abbreviations
Appendix B – Measurement Units and Abbreviations

Parts A and C are common for all types of plan approval applications. DEP advises you to choose the appropriate application instructions from Part B for the proposed project.

How to download an application form

All plan approval application forms, including General Plan Approval and operating permits, compliance review form, and Addendum A for Source Applicable Requirements, are available from our World Wide Web site at www.dep.state.pa.us (directLINK: air quality, then choose "applications, permits").

Resources for obtaining emission estimate information:

The Pennsylvania ENVIROHELP website is at www.pa-envirohelp.org. The phone number is 800-722-4743. ENVIROHELP is a free service to help small business people understand and comply with air-pollution-control equipment. All requests for information from ENVIROHELP are handled by an outside contractor and are kept confidential.

The EPA also has information about emission estimates. Visit EPA's website at www.epa.gov.

Part A: Instructions for submitting a Plan Approval Application

1. Application Submission

You must submit your application, with supporting documents, in ***triplicate*** to the appropriate regional office. DEP's six regional offices are listed below with the counties they serve:

SOUTHEAST REGION Engineering Services Chief Lee Park - Suite 6010 555 North Lane Conshohocken, PA 19428-2233 Telephone: 610-832-6242 Fax: 610-941-5153 **Counties:** Bucks, Chester, Delaware, Montgomery	**NORTHEAST REGION** Engineering Services Chief Two Public Square Wilkes-Barre, PA 18711-0790 Telephone: 570-826-2531 Fax: 570-826-2357 **Counties:** Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Schuylkill, Susquehanna, Wayne, Wyoming.
SOUTHCENTRAL REGION Engineering Services Chief 909 Elmerton Avenue Harrisburg, PA 17110-8200 Telephone: 717-705-4710 Fax: 717-705-4710 **Counties:** Adams, Bedford, Berks, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry, York	**NORTHCENTRAL REGION** Engineering Services Chief 208 W. Third St., Suite 101 Williamsport, PA 17701-6448 Telephone: 570-327-3637 Fax: 570-327-3637 **Counties:** Bradford, Cameron, Centre, Clearfield, Clinton, Columbia, Lycoming, Montour, Northumberland, Potter, Snyder, Sullivan, Tioga, Union.
SOUTHWEST REGION Engineering Services Chief 400 Waterfront Drive Pittsburgh, PA 15222-4745 Telephone: 412-442-4174 Fax: 412-442-4194 **Counties:** Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland	**NORTHWEST REGION** Engineering Services Chief 230 Chestnut St. Meadville, PA 16335-3481 Telephone: 814-332-6940 Fax: 814-332-6940 **Counties:** Butler, Clarion, Crawford, Elk, Erie, Forest, Jefferson, Lawrence, McKean, Mercer, Venango, Warren.

You may also obtain forms, guidance documents, or general information on permitting by contacting our central office at 717-787-4325.

In addition to DEP's regional offices, Philadelphia and Allegheny counties have their own air quality programs. If the proposed source is located in either of these counties, the agency's forms can be obtained from:

Philadelphia County Department of Public Health Air Management Services 321 University Ave. Spelman Building Philadelphia, PA 19104 Telephone: 215-823-7584	**Allegheny County** Plan Review Section Allegheny County Health Department Bureau of Air Pollution Control 301 39th St. Pittsburgh, PA 15201 Telephone: 412-578-8111

2. Plan Approval Application Forms

There are 10 plan approval application forms. Nine plan approval application forms are for specific source categories. One titled ***"Processes***" is for a source that does not fall under any one of the nine specific source categories. These application forms are as follows:

1. Processes (for sources not specified below)
2. Combustion Units
3. Incineration
4. Graphic Arts (Rotogravure and Flexographic Operations)
5. Gasoline Bulk Terminals/Plants
6. Surface Coating Operations
7. VOC Storage Tanks
8. Mineral and Coal Preparation Plants
9. Degreasers
10. Batch Asphalt Plants

You should fill out one of the above application forms, depending on the type of source you are proposing. All applications must be submitted in triplicate. If applicable, you must also fill out Addendum A and Addendum B. These two addenda are as follows:

1. Addendum A: Source Applicable Requirements
2. Addendum B: Waste Derived Liquid Fuel

Each of the above plan approval applications has seven sections that concern specific air- quality requirements. Section I deals with identity and a checklist for completing the application package; Section J covers general information on the proposed source; Section K covers information on the air-cleaning device; Section L deals with applicable requirements; Section M deals with demonstrating compliance; Section N covers flue and air-contaminant emissions; and Section O deals with attachments.

When specifying capacity, process or throughput rate, emissions rate etc., use an abbreviation for the throughout the application. The abbreviations are listed here in Part C, Appendix B.

3. Municipal Notification

When you apply for a plan approval, regulations (*25 Pa. Code* § 127.43a) require you to notify the municipality and county where the pollution source will be located. The notification must include the following:

- A statement that you have submitted an application to DEP.
- A detailed description of the source and modifications that you plan to make.
- A statement that a 30-day comment period begins when the municipality and county receive the notice.

Mailing the notice is part of the application process. When you submit your application, you must submit a copy of the correspondence to the municipalities. You are then required to provide evidence that the county and municipality have received the correspondence, either through a certified-mail

receipt or written acknowledgment that they have received your notification. You should send this evidence within 30 days of submitting your application.

The Commonwealth Administrative Code provides that "the written notices shall be received by the municipalities at least thirty (30) days before the Department of Environmental Protection may issue or deny the permit." If you fail to provide a copy of the notification correspondence and subsequent evidence that the municipality received it, there will be a delay in processing your application.

4. Compliance Review

Complete a compliance review form following the instructions provided with the form, and submit it to your regional office. The form must be certified with an original signature. You can choose to submit the form at the time of the plan approval and/or operating permit approval or on a periodic basis of at least once every six months. You may only change how you do this periodic filing with DEP's approval in writing or upon renewal of a permit application. The form and instructions are available by contacting DEP or can be downloaded from www.dep.state.pa.us. Questions about the compliance review form should be directed to your regional office or to DEP's central office at 717-787-9257.

5. Plan Approval Fees

Plan approval fees are based on the type of review required. Enclose the appropriate fee from the table below for each application. Make the check payable to the "Commonwealth of PA Clean Air Fund." Rows 1 and 2 from the following table are exclusive; however, Rows 3, 4, 5 and 6 are additive. If you enclose an incorrect fee, DEP will notify you of the correct fees and ask that you send the balance, or DEP will refund the excess fees.

Row	Fees*	Type of Review Required
1	$1,000	Sources which are not subject to NSPS, NESHAPs, MACT, NSR and PSD.
2	$300	Source requiring a minor modification or extension of a plan approval.
3	$1,700	Sources subject to NSPS (National Standards of Performance for Stationary Sources) or NESHAPs (National Emission Standards for Hazardous Air Pollutants). If a source is subject to both NSPS and NESHAPs, the fee is doubled from $ 1,700 to $ 3,400
4	$5,300	Sources requiring approval under New Source Review (NSR) regulation, Subchapter E, Section 127 of *25 Pa. Code*.
5	$8,000	Sources requiring the establishment of a MACT (Maximum Achievable Control Technology) limitation.
6	$22,700	Sources requiring approval under PSD (Prevention of Significant Deterioration) regulation Subchapter D, Section 127 of *25 Pa. Code*.

Note: *The fees listed here are for calendar year beginning 2005.

Examples: If a source is subject to NSPS and New Source Review (NSR), enclose fee of $7,000 ($1,700 plus $5,300). If a source is subject to MACT, NSPS and NESHAPs, enclose fee of $11,400 ($8,000 plus $3,400).

6. Treatment of confidential information

All information in your application is considered public information and can be made available to anyone requesting the information except in limited circumstances. Some information in a plan approval or an operating permit is confidential, according to state law [*25 Pa Code* §§ 127.12(d) and 127.411(d)]. This includes information that would divulge production or sales figures or methods, processes or production unique to your facility or would otherwise adversely affect your competitive position by revealing trade secrets, including intellectual property rights. Emission data is never confidential information. Also, nothing in this section prevents the disclosure of the report, record or information to federal, state or local officials so they can administer air-pollution control laws or when relevant in any proceeding under the Air Pollution Control Act.

If you want to keep production or any other qualifying information confidential, place the information on separate pages and mark it ***"confidential,"*** so it can be removed from the rest of the application. Our review engineer will review the information and inform you if it meets the criteria for confidentiality.

Part B

Detailed Instructions for Completing a "Plan Approval Application for '<u>Processes</u>' to Construct, Modify or Reactivate an Air Contamination Source and/or Install an Air Cleaning Device"

As you fill out your plan approval application, you can use these sections to guide you through the process.

Section J: Processes Information

1. Source Information

In this section, give a brief description of the pollution source you have proposed or want to modify. Provide the manufacturer's name from the source's nameplate. If applicable, provide the nameplate information for the model number. Do not use the serial number. Also, give the number of sources you propose to install or modify and the company designation of each source (for example Furnace No. 3, Line A, etc.). Provide the maximum design rating for the source in terms of raw material and finished materials that can be maintained for extended periods, and include the nameplate rated capacity. List the types of materials processed, and provide information for the maximum operating schedule and/or operational restrictions, whichever is applicable. If you operate the proposed source seasonally, indicate the starting and ending months of operation.

2. Fuel Information

List the type and grade of fuel you will be burning (i.e., #2, #4, #6 etc.). The fuel information can be obtained from suppliers. For maximum and rated fuel firing rate, indicate the rates for all burners combined (per hour). Indicate the maximum percentage for both sulfur and ash in the fuel you plan to use. Indicate the higher heating value per unit for that fuel.

If you are using wood/wood waste, liquid petroleum gas, waste-derived liquid fuels, etc., give complete details, including physical and chemical properties and their effects on air pollution, on a separate page. Describe how these fuels will be burned. In the case of waste-derived liquid fuel, also give the maximum concentration of lead, arsenic cadmium, chromium, polychlorinated biphenyls, total halids (TX), sulfur and ash. Use abbreviations in Addendum B for this information. Describe the methods used for sampling oil and monitoring contaminants.

3. Burner Data

Provide the manufacturer's name, the burner type and the manufacturer's model number. Do not use the serial number. Indicate how many burners you have, and give the description and function of each burner. You can get this information from the manufacturer's catalogs. Indicate the rated heat input of each burner in mmBtu per hour and the maximum fuel firing rate for all burners in this unit combined (per hour). Be sure to include units (gallons/hour, cubic feet/hour, tons/hour, etc.).

Miscellaneous Information

Attach a flow diagram or sketch that includes all information requested in the application. Provide a detailed list of monitoring and recording devices, such as pressure, temperature, humidity, air flow rate, leak detector, pH and conductivity measurement device or recorder. Also, show that the monitoring and recordkeeping devices are reasonable and adequate. In addition, describe any restrictions you are

requesting and how they will be monitored. You must also describe the proposed modification of existing sources, if any. Provide detailed information on all fugitive emission points, all relief and emergency valves and all bypass stacks, as requested in the application. You need to show how you will minimize fugitive emissions during startup, shutdown, process upsets and/or disruption. Provide anticipated milestones of the proposed source.

Section K: Air Cleaning Device

1. Precontrol Emissions

List each pollutant (particulate or gaseous pollutants, including HAPs, etc.) by estimating rates prior to entering air-cleaning devices. Precontrol emissions can be calculated at the restricted physical limitations, design limitations or operating hours. These limits will become part of the permit conditions. If you do not take any limitations, the emissions must be calculated using rated capacity, operating 24 hours per day, 365 days per year. The calculations should include flue (stack) emissions and all additional fugitive emissions from material transfer, use of parking lots and paved and unpaved roads, etc.

Precontrol Emissions	=	Maximum design or operational capacity unless restricted	X	Emissions rate per unit capacity	X	8,760 hours per year unless restricted

You can obtain emission rates from performance-test data, continuous-emission monitoring (CEM) data, equipment-vendor emission data, mass balance, emission factors from technical reference, AP-42, etc. Attach calculation methods used to estimate precontrol emissions for each applicable pollutant.

The precontrol emissions should be estimated as follows:

First, a source must be evaluated for the physical or design limitations. For example, this could be the fuel delivery capacity of a burner or the tonnage capacity of a kiln. Next, you should assume that a source operates 8,760 hours per year, unless you are allowed to apply for a limitation on operating hours.

Example:

= (5 gallons of paint/hour) X (2 pounds VOC/gallon) X (8,760 hours per year)

= 87,600 pounds/year

= 43.80 tons per year of VOCs

2.-13. Air Cleaning Devices

These items pertain to air cleaning devices, such as gas cooling, settling chambers, cyclone, incinerators/afterburners, fabric collector, wet collection equipment, electrostatic precipitator, adsorption equipment, absorption equipment, selective catalytic reduction/selective non-catalytic reduction/non-selective catalytic reduction, flares, etc. These are the common types of air cleaning devices used in a variety of industries. If the air cleaning device you propose differs from Nos. 2 through 12, use No. 13 or provide details on a separate sheet of paper. Please use only the pages for the air cleaning devices that pertain to this project. Remove remaining pages regarding air cleaning devices from the application and number the pages in the upper right hand corner, accordingly.

For reference, a glossary of some environmental terms is included in Part C. You can find technical information from manufacturers or vendors of the control equipment.

14. Cost

Provide the direct cost, indirect cost, total cost and operating cost individually for all air cleaning devices proposed. This information is useful for the permit reviewer to calculate economic feasibility of the proposed project.

Direct cost includes the property, foundations and supports, the primary control device and auxiliary equipment, handling and erection of the equipment, electrical and instrumentation work, piping, insulation and painting, etc.

Indirect cost includes legal and administrative fees, engineering costs, construction and field expenses, contractor fees, startup and performance-test costs, contingencies, etc.

Operating cost includes raw materials; utilities like electricity, fuel, steam, water and compressed air; labor; maintenance and replacement parts; overhead; property taxes; insurance; administrative charges; capital recovery; recovery credits for materials and energy; etc.

Detailed cost examples can be found in EPA's OAQPS Cost Control Manual (EPA 450/3-90-006, January, 1990) and subsequent supplements.

15. Work Practice Standards

The work practice standards require a written plan describing emission control work practices to be implemented for a new or modified existing source. This plan must include provisions for training and procedures for use of materials, processes, or operating practices to reduce or prevent emissions or waste. Work practices are implemented when performance standards are not in effect or when emission limits are violated.

List or describe any work practice standards, including maintenance, cleanup, startup and shutdown procedures, effluent/waste disposal, and controlling fugitive dust, etc.

16. Miscellaneous

Attach all information required in detail.

Section L: Applicable Requirements

In this section, provide information related to state and federal regulations and limitations affecting the emission unit.

1. Increased Emissions

If the installation or modification of a source(s) will result in the increase of emissions from another source(s) within the plant, explain how you might have a bottleneck if one unit or activity limits the output of a multi-step process. Eliminating the bottleneck, or debottlenecking, can increase the emissions capacity of other steps. These emissions increases must be counted as part of the entire project's emissions increase. For example, if you replace a paper cutter at the end of the printing line and increase the volume of paper, resulting in more printing, emissions will increase. You must examine those increases to determine if they trigger Prevention of Significant Deterioration (PSD) or major source New Source Review (NSR) requirements. Note that the cutter has no emissions by itself, but by replacing it, a bottleneck on the printing process was removed. Another example is a steel mill that increases its capacity by modifying a vessel in the middle of the steel-making process. The application must address associated emissions increases from the entire steel mill.

2. Federal Requirements

In addition to state regulations, your proposed source may be subject to federal requirements such as Prevention of Significant Deterioration (PSD, 40 CFR Part 52), National Standards of Performance for New Stationary Sources (NSPS, 40 CFR Part 60), National Emission Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Part 61), or Maximum Achievable Control Technology (MACT, CAAA 112/40 CFR Part 63). These federal regulations are adopted by reference in DEP's regulations, in Title 25, Article III.

DEP's regulations (*25 Pa Code* § 127.1) require that new sources (installed after July 1, 1972) control emissions to the maximum extent, consistent with the best available technology (BAT). You must provide justification for your selection of controls to show that BAT is being used. DEP has established general BAT guidance for a few source categories such as boilers, hospital and municipal waste incinerators, landfills, coal preparation plants, wood furniture coatings, vapor degreasers, etc. You can get this information by contacting your regional office or DEP's central office (see Page 7), or you can download it from our website: www.dep.state.pa. us.

3. PSD Pollutants

If the proposed source is located in an existing PSD facility, provide emission increases or decreases within the last five years for applicable PSD pollutants.

4. NOx and VOC Emissions

Provide actual emission increases for nitrogen oxides (NOx) and volatile organic compounds (VOCs) in potential to emit (PTE) figures and creditable emissions decreases that occurred after January 1, 1991, or November 15, 1992. DEP uses this information to determine whether a proposed source is subject to

NSR regulations (*25 Pa. Code* Chapter 127, Subchapter E). You may use the attached Checklist-2 found under New Source Review Applicability on subsequent pages to determine which date to use for providing emissions increases and decreases in your plan approval application. Emissions increases include flue emissions (duct, pipe, stack, chimney, etc.), fugitive emissions, secondary emissions and emissions increases from exempted sources, etc.

Creditable emission decreases must satisfy Emission Reduction Credit (ERC) requirements, i.e. surplus, quantifiable, permanent and federally enforceable.

If the facility is located in a moderate ozone nonattainment area, and if you are using your emissions reduction in a netting analysis, submit an ERC registry application at the time of the proposed modification or use banked ERCs in an NSR applicability determination. Please note that emission reductions used to generate ERCs must submit an ERC Registry application within one year from the initiation emissions of emissions.

If your facility is in a severe ozone nonattainment area, you may elect to offset increased emissions internally by a 1.3 to 1 ratio in order to avoid NSR. If you elect this option, you should submit an ERC registry application within one year after you start to reduce emissions. This will generate ERCs that you can use either internally or externally to offset proposed emission increases.

5. NSR Requirements

Instructions below will guide you in determining whether your proposed source is subject to NSR requirements.

New Source Review (NSR) Applicability:

Introduction

The purpose of this document is to assist you in determining whether a source is subject to NSR requirements (*25 Pa. Code* Chapter 127, Subchapter E).

DEP's NSR regulations implement the federal NSR preconstruction permit requirements for a new or modified major facility. NSR requirements are pollutant specific. In other words, a facility can emit many air pollutants, but only one or a few may be subject to NSR requirements, depending on the magnitude of emissions of each pollutant. For example, a major VOC (volatile organic compound) facility is not automatically subject to NSR for NOx unless it is also a major source for nitrogen oxide (NOx) pollution.

Since Pennsylvania is included in the Northeast Ozone Transport Region (OTR), any new or modified major NOx or VOC facility located in the Commonwealth must be in compliance with NSR regulations even though a county might be designated as an ozone attainment or unclassified area. NSR also applies to pollutants emitted from sources in an attainment area if they impact on a nonattainment area in excess of the levels specified in the NSR regulation.

Table 1: Major Facility and Major Modification Threshold for NO_x and VOCs

Area Classification ***Column A***	Pollutant ***Column B***	Annual emission rate for a new or existing major facility tons per year (tpy) ***Column C***	Modification threshold for an existing major facility ***Column D***
Moderate non-attainment	NOx	100 tpy	40 tpy or 1,000 pounds per day (lb/day) or 100 pounds per hour (lb/hr).
Moderate non-attainment	VOC	50 tpy	40 tpy or 1,000 lbs/day or 100 lb/hr.
Severe non-attainment	NOx or VOC	25 tpy	25 tpy or 1,000 lb/day or 100 lb/hr.

Determination of NSR applicability

"Applicability determination" is the process of determining which new source requirements, including netting, apply to a facility. The following steps will identify whether or not the increase in emissions from a new or modified facility located in a moderate nonattainment area is subject to NSR.

A. The first step is to determine what constitutes a major facility, or major modification. A major facility is one that has the potential to emit a pollutant equal to or greater than the applicable annual emissions rate specified in Table 1, Column C. For example: A facility is considered major if it is located in a moderate nonattainment area for ozone and has the potential to emit equal to or greater than 100 tpy of NOx or 50 tpy of VOCs. A "facility" constitutes all air contamination sources located on one or more contiguous or adjacent properties and owned or operated by the same person.

Major facility modification threshold is specified in Table 1, Column D.

B. The next step is the net emissions increase calculation, which depends on the potential to emit. To do the calculation, use either a contemporaneous period (see below) or an applicability accounting period (see below), depending on the magnitude of the potential to emit from a proposed project. These steps are referred to as netting or a netting transaction. Checklist-1 (see next page) can be used to determine whether to use contemporaneous or applicability accounting.

◊ *Contemporaneous Period:* You must use this period when your project's potential to emit is equal to or greater than the modification threshold specified in Table 1, Column D. For example: Assume your facility is in a moderate nonattainment area for ozone. You submit a plan approval application for a project that is capable of emitting greater than 40 tpy for VOCs or NOx. In this

case, you must total the project's potential to emit with all previous increases in the potential to emit and decreases in the actual emissions occurring in the contemporaneous period. That period begins five years before you begin construction of the modification, and ends when the emissions increase occurs.

- *Applicability Accounting Period:* You use this period when your project's potential to emit is less than the modification threshold specified in Table 1, Column D. You determine the calculation by totaling your project's potential to emit with all previous increases in the potential to emit and decreases in the actual emissions occurring after January 1, 1991, or November 15, 1992.

You may use Checklist-2 (see next page) to determine when aggregation of emissions begins.

In both cases, emission reductions must be creditable emission decreases, which means they must be permanent, surplus, quantifiable and federally enforceable, according to ERC requirements. DEP's regulations [*25 Pa. Code* § 127.211(b)(3)(iii)(B)] specify the creditable emissions decreases requirements. Please note that the emissions decreases occurring at a non-adjacent facility may not be used for netting, even if the facility is under the same ownership.

C. The final step is to compare your net emissions increase with the modification threshold listed in Table 1, Column D. If the net emissions increase is equal to or greater than the modification threshold, the proposed modification is subject to NSR. You may avoid NSR requirements if you keep your project's potential to emit at a lower level. To do so, you may install more efficient control technology or place physical or operational limitations on the proposed project, for example limit the project's potential to emit. Note that the regulations require any new source to be in compliance with BAT.

Checklist-1 for Selecting Net Emissions Increase Period to Determine NSR Applicability

A. Is the existing facility a major facility for a nonattainment pollutant including NOx or VOC?

☐ Yes: Proceed to C.
☐ No: Proceed to B.

B. Is the potential to emit from the proposed modification equal to or greater than the annual emission rate specified in the Table 1, Column C?

☐ Yes: The modification is subject to NSR requirements.
☐ No: The modification is not subject to NSR requirements at this time.

C. Is the proposed modification a major modification?

☐ Yes: The modification requires NSR applicability determination. Use the contemporaneous period to calculate the net emissions increase.
☐ No: The modification requires NSR applicability determination. Use the applicability accounting period to calculate the net emissions increase.

Checklist-2 for Selecting Aggregation Begin Date to Determine NSR Applicability

A. Is the existing facility a major facility for nitrogen oxides (NO_x)?

☐ Yes: The aggregation of emissions begins after November 15, 1992.
☐ No : Proceed to B.

B. Is this a major facility for VOCs, and was it previously subjected to *25 Pa. Code* Section 127, Subchapter C (currently reserved)?

☐ Yes: The aggregation of emissions will begin after January 1, 1991.
☐ No : The aggregation of emissions may not begin until after November 15, 1992.

7. Data Used

Provide all information needed to evaluate the application thoroughly, including calculations and any other details.

Section M: Compliance Demonstration

To verify compliance with applicable requirements, DEP needs information about the type of monitoring chosen, the testing methods used and the type and frequency of recordkeeping. Note: If the facility is subject to federal Compliance Assurance Monitoring (CAM) rule requirements in the Code of Federal Regulations (CFR), 40 CFR 64, a CAM plan must be attached.

Section N: Flue and Air Contamination Emission Information

1. Estimated Atmospheric Emissions

List each pollutant (particulates or gaseous pollutants including HAPs, etc.) as discharged through pollution controls into the open air. DEP will include the estimated emissions in the permit conditions as applicable requirements. These federally enforceable emission limits become allowable emissions or potentials to emit for the source. DEP encourages you to estimate emissions in the application close to the actual emissions from that source. Attach an example of calculation methods used to estimate atmospheric emissions for each applicable pollutant.

Use the same restrictions as those listed in Section J for design, operational capacity or operating conditions.

Atmospheric Emissions	=	Maximum design or operational capacity unless restricted	X	Emissions rate per unit capacity	X	Control system efficiency (1 minus Control Efficiency)	X	8,760 hours per year unless restricted

Example:

= (5 gallons of paint/hour) X (2 pounds VOC/gallon) X (1- 0.8) (control system efficiency) X (8,760 hours per year)

= 2.0 tons per year.

2. Stack and Exhauster

If your source is connected to more than one stack and exhauster, make copies of the page to provide information for each stack and exhauster.

Provide the designation/identification number of the stack, stack height above grade elevation, stack diameter/outlet duct area, its distance from the nearest property line, etc. State whether the stack meets Good Engineering Practice (GEP) or not. Using a 7.5-minute topographic map published by the U.S. Geological Survey, locate your site. Enclose a site plan with buildings and their dimensions and other obstructions so we can understand the physical nature of the surrounding area for modeling (estimating) ambient air quality impacts. Indicate the volume of exhaust gas the stack can handle and the temperature and moisture percentage of the exit gases. In addition, sketch (with dimensions) the location of sampling ports with respect to an exhaust fan, breeching, etc. Provide exhauster (blower or fan) pressure drop in inch of water column (in w.g.), horsepower and revolutions per minute (RPM).

Section O: Attachments

Number and list all attachments submitted with this application.

Part C: GLOSSARY OF ENVIRONMENTAL TERMS AND ABBREVIATIONS

Appendix A

Absorption equipment: A cleaning device in which one or more soluble components of a gas mixture are absorbed by contact with a relatively nonvolatile liquid. Examples of absorption equipment include a spray scrubber, a venturi scrubber, an orifice scrubber, a moving bed, a packed tower scrubber, etc. Absorption equipment is used in removing both particulates and pollutant gases from the exhaust stream of many industrial processes. These devices usually use water to make small, hard-to-collect particles easier to collect by incorporating them in larger water droplets. Gases can be absorbed by virtue of their solubility in water or by adding chemicals to the water.

ACFM (Actual Cubic Feet per Minute): A measure of the volume of gas at operating temperature and pressure.

Adsorption equipment: An air-cleaning device where the contaminated air stream is passed through a layer of solid particles referred to as the adsorbent bed. As the contaminated air stream passes through the adsorbent bed, the pollutant molecules adsorb or stick to the surface of the adsorbent bed. Several adsorbent materials are used commercially as adsorbing agents. The most common adsorbent types are activated carbon, silica gel, activated alumina, zeolites or molecular sieves. Adsorber systems are used for the control of organic compounds from exhaust streams that are relatively free of particulate matter.

Afterburner: An afterburner uses one or more sets of burners in a chamber to convert combustible material (gases, vapors or odors) to carbon dioxide and water. An afterburner is commonly referred to as a Thermal Oxidizer/Thermal Incinerator.

Air cleaning device: An article, chemical, machine, equipment or other contrivance that may eliminate, reduce or control the emission of air contaminants into the atmosphere. Examples include gas conditioner; settling chambers; cyclone, catalytic or thermal afterburner; fabric collector; scrubber; electrostatic precipitator; adsorption equipment; absorption equipment; low NOx burner; and flare.

Air dilution: A method of diluting an exhaust gas stream by adding ambient air.

Air pollutant: Any substance in air that could, if in a high enough concentration, harm man, other animals, vegetation or material. It may be in the form of solid particles, liquid droplets gases, or in a combination of these forms.

Air pollution: The presence in the outdoor atmosphere of a contaminant, including discharge from stacks, chimneys, openings, buildings, structures, open fires, vehicles or processes, or any other source of smoke, soot, fly ash, dust, cinders, dirt, noxious or obnoxious acids, fumes, oxides, gases, vapors, odors, toxic, hazardous or radioactive substances or waste.

Airless spray coating: A type of application method where the coating is atomized by forcing it through a small opening at high pressure. The liquid coating is not mixed with air before exiting the nozzle.

Air spray coating: A type of application method where the coating is atomized by mixing it with compressed air.

Air to cloth (A/C) ratio: How much dirty gas passes through a given surface area of a filter in a given time. It is usually expressed in terms of [$(ft^3/min)/ft^2$].

Alcohol substitutes: Non-alcoholic additives that contain VOCs and are used in a fountain solution. Some additives are used to reduce the surface tension of water; others (especially in the newspaper industry) are added to prevent piling (ink buildup).

Applicability determination: The process of determining which new source review requirements, including netting, apply to a modification to a facility.

Applicable requirements: Requirements that apply to any source at a Title V facility, including the following:

1. Those that have been promulgated or approved by the EPA under the Clean Air Act (CAA) or regulations adopted under the CAA through rulemaking when a Title V permit is issued and having an effective date in the future.

2. A standard provided for in the Commonwealth's state implementation plan approved by the EPA under Title I of the CAA (42 U.S.C.A. §§ 7401-7508) that implements the relevant requirements of the CAA, including revisions to that plan.

3. A term or condition of preconstruction permits issued under regulations approved or promulgated through rulemaking under Title I, including Part C or D, of the CAA.

4. A standard or other requirement under Section 111 of the CAA (42 U.S.C.A. § 7411), including Subsection (d).

5. A standard or other requirement under Section 112 of the CAA (42 U.S.C.A. § 7412), including a requirement concerning accident prevention under Subsection (r)(7).

6. A standard or other requirement of the acid rain program under Title IV of the CAA (42 U.S.C.A. §§ 7641-7651) or the regulations thereunder.

7. Requirements established under Section 504(b) or Section 114(a)(3) of the CAA [42 U.S.C.A. § 7414(a)(3)].

8. A standard or other requirement governing solid waste incineration under Section 129 of the CAA (42 U.S.C.A. § 7429).

9. A standard or other requirement for consumer and commercial products under Section 183(e) of the CAA [42 U.S.C.A. § 7511b(e)].

10. A standard or other requirement for tank vessels under Section 183(f) of the CAA.

11. A standard or other requirement of the program to control air pollution from outer continental shelf sources under Section 328 of the CAA (42 U.S.C.A. § 7627).

12. A standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the CAA (42 U.S.C.A. §§ 7671-7671q), unless the Administrator of the EPA has determined that the requirements are not necessary in a Title V permit.

13. A national ambient air quality standard or increment or visibility requirement under Title I, Part C of the CAA, but only as it would apply to temporary sources permitted under Section 504(e) of the CAA (42 U.S.C.A. § 7661d).

14. A requirement enforceable by the EPA administrator and by citizens under the Act, limiting emissions for purposes of creating offset credits or for complying with or avoiding applicability of applicable requirements.

Applied solids: Solids that remain on the substrate being coated or painted.

Atmospheric emission: See "Actual emission."

Batch cleaning machine: A solvent cleaning machine in which individual parts or a set of parts move through the entire cleaning cycle before new parts are introduced into the solvent cleaning machine. An open-top vapor cleaning machine is a type of batch cleaning machine. A solvent cleaning machine, such as a Ferris wheel cleaner that cleans multiple batch loads simultaneously and is manually loaded, is a batch cleaning machine.

Best available technology (BAT): Equipment, devices, methods or techniques, as determined by DEP, which will prevent, reduce or control emissions of air contaminants to the maximum degree possible and which are available or may be made available.

Best Achievable Control Technology (BACT): An emission limitation based on the maximum degree of reduction for each pollutant subject to regulation under the Clean Air Act. These pollutants come from a major facility. In issuing BACT permits to control the emissions, DEP is determines them on a case-by-case basis and takes into account energy, environmental and economic impacts and other costs.

Biologicals: Preparations made from living organisms and their products, including vaccines, cultures, etc., intended for use in diagnosing, immunizing or treating humans or animals or in research pertaining thereto.

Biological waste: Waste derived from living organisms.

Breakthrough capacity: The adsorption capacity of a packed bed where traces of pollutants begin to appear in the exit gas stream.

Breeching: A duct through which the products of combustion are transported from the furnace to the stack, usually applied in steam boiler.

Btu: British thermal unit. The amount of energy required to raise the temperature of a pound of water one degree Fahrenheit from 32.2^0 Fahrenheit.

Bubbling fluidized bed combustor: A fluidized bed combustor in which the majority of the bed material remains in a fluidized state in the primary combustion zone.

Bypass stacks: Devices used for discharging combustion gases to avoid severe damage to the air-pollution control device or other equipment.

Can coating: The application of a coating material to a single walled container that is manufactured from metal sheets thinner than 29 gauge (0.0141 in.).

Capture device: A hood, enclosed room, floor sweep or other means of collecting solvent or other pollutants into a duct. The pollutant can then be directed to a pollution control device, such as an incinerator or a carbon adsorber.

Capture efficiency: The fraction of all organic vapors generated by a process that are directed to an abatement or recovery device.

Carbon adsorber: An add-on control device that uses activated carbon to adsorb volatile organic compounds from a gas stream. The VOCs may later be recovered from the carbon, usually by steam stripping.

Catalyst: A substance that causes or speeds a chemical reaction without undergoing a change or participating in the reaction.

Catalytic afterburner: A control device that oxidizes VOCs by using a catalyst to promote the combustion process.

Catalytic incinerator: A control device that oxidizes VOCs by using a catalyst to promote the combustion process. The catalyst allows the combustion process to proceed at a lower temperature (usually around 600^0 F to 800^0 F) than a conventional thermal incinerator would (1,100 to $1,400^0$ F), resulting in fuel savings and lower cost incineration.

Chemotherapeutic waste: All waste resulting from the production or use of antineoplastic agents used for the purpose of stopping or reversing the growth of malignant cells. Chemotherapeutic waste shall not include any waste containing antineoplastic agents that are listed as hazardous waste under *25 Pa. Code* Section 75.261 (relating to criteria, identification and listing of hazardous waste).

Circulating fluidized bed combustor: A fluidized bed combustor in which the majority of the fluidized bed material is carried out of the primary combustion zone and is transported back to the primary zone through a recirculation loop.

Clean Air Act (CAA): The CAA (42 U.S.C.A. §§ 7401-7642), and its rules and regulations.

Cleaning solution: A liquid used to remove ink and debris from the surfaces of the printing press and its parts.

Clear coat: A transparent coating usually applied over a colored opaque coating to give improved gloss and protection to the color coat below. In some cases, a clear coat simply refers to any transparent coating without regard to substrate.

Carbon monoxide (CO): A colorless, odorless, poisonous gas produced by incomplete fossil fuel combustion. When carbon monoxide is inhaled, it replaces oxygen in the blood and impairs vision, alertness and other bodily functions. Sources of carbon monoxide include exhaust from motor vehicles, industrial processes and combustion.

Coal/RDF mixed fuel fired combustor: A combustor that fires coal and RDF simultaneously.

Coating: A protective or decorative film applied in a thin layer to a surface. This term often applies to paints, such as lacquers and enamels, but also is used when referring to films applied to paper, plastics, or foil.

Cocurrent flow: When the flow of exhaust gas and liquid are in the same direction in absorption equipment.

Cold cleaning machine: Any device or piece of equipment that contains and/or uses liquid solvent into which parts are placed to remove soils from the surfaces of the parts or to dry the parts. Cleaning machines that contain and use nonboiling solvent to clean the parts are classified as cold cleaning machines.

Combustion unit: Stationary equipment used to burn fuel primarily for the purpose of producing power or heat by indirect heat transfer.

Compliance review form: The form completed by an applicant periodically or as part of a plan approval or operating permit application to submit information about applicant's compliance status and that of related parties. This also includes information about which DEP does not know about the applicant's compliance status.

Construction: A physical assembly, installation, erection or fabrication of an air contamination source or an air pollution control device, including building supports and foundations and other support functions.

Contaminant: Any physical, chemical, biological, or radiological substance or matter that has an adverse effect on air, water or soil.

Continuous emission monitor (CEM): A CEM is a device that continuously measures the emissions from one or more source operations.

Continuous emission monitoring system (CEMS): A monitoring system for continuously sampling, conditioning (if applicable), analyzing and providing a record of emissions of a pollutant from an affected facility.

Continuous monitoring system (CMS): CMS is a comprehensive term that may include, but is not limited to, continuous emission monitoring systems, continuous opacity monitoring systems, continuous parameter monitoring systems or other manual or automatic monitoring that is used to demonstrate compliance with an applicable regulation on a continuous basis, as defined by the regulation.

Continuous-feed incinerator: An incinerator into which solid waste is charged almost continuously to maintain a steady rate of burning.

Continuous opacity monitoring system (COMS): A continuous monitoring system that measures the opacity of emissions. Opacity is the fraction of incident light that is attenuated by an optical medium.

Continuous parameter monitoring system: This is the total equipment used to sample, condition (if applicable), analyze and provide a record of process or control-system parameters.

Controlled air incinerator: An incinerator that uses excess or starved air with two or more combustion chambers within which the amounts and distribution of air are controlled.

Conveyorized degreaser: A continuously-loaded device containing either boiling or nonboiling solvents used to clean metal parts or used in production of electronic circuit boards.

Corona: The corona is a discharge phenomenon in which gaseous molecules are ionized by electron collisions in the region of a strong electric field.

Corona power: The amount of power, or electrical energy, supplied to the electrostatic precipitator to provide the desired corona voltage and current.

Corona power density: The amount of power per unit area in a radiated electromagnetic field, usually expressed in units of watts per square feet.

Countercurrent flow: The flow of exhaust gas and liquid that are in the opposite direction in absorption equipment.

Crematory incinerator: Any incinerator designed and used solely for the burning of human remains or animal remains.

Cross flow: When, in absorption equipment, liquid is sprayed from the top of a chamber and the polluted gas flows horizontally across the chamber.

Cubic feet per minute (CFM): A measure of the volume of a substance flowing through a duct, control device or stack within a fixed period of time.

Current density: The current per-unit, cross-sectional area of a conductor, usually expressed in units of microampere per square feet.

Cyclone collector: A control device used for collecting dust from polluted air. It is a cylindrical or conical chamber, where the dust-laden gas usually enters the chamber at the side or the top, particles separate due to centrifugal forces and settle at the bottom, and the cleaner gas exits from another opening at the top.

Daily: The discrete 24-hour period from 12 p.m. to the next 12 p.m.

Dampening system: Equipment used to deliver fountain solution to a press.

De minimis emission increase: An increase in actual or potential emissions that is below the threshold limits specified in Section 127.203 (relating to facilities subject to special permit requirements).

Demister: See Entrainment separator.

Density: The ratio of the mass of a specimen of a substance to the volume of the specimen. It is expressed in pounds per cubic foot.

Design value: The monitor reading used by the U.S. EPA to determine an area's air quality status.

Dew point: The temperature and pressure at which component of a gas begins to condense to a liquid.

Dioxins/furans: The combined emissions of tetra-through octa-chlorinated dibenzo-para-dioxins and dibenzofurans, as measured by EPA Reference Method 23.

Dry scrubber: An add-on air-pollution control system that injects a dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) into an exhaust stream to react with and neutralize acid gases, forming a dry powder material.

Dust resistivity: The resistance of the collected dust layer to the flow of electric current. It is determined by measuring the leakage current through a dust layer to which a high voltage is applied using conductivity cells. Resistivity can be measured by a number of methods either analyzing dust samples in the laboratory or by using an in-situ resistivity probe in the field.

Electrostatic precipitator (ESP): A control device used for separating dust particles and/or mist from a polluted air stream. An electrostatic field imparts an electrical charge to the particles, causing them to

adhere to metal plates inside the precipitator. ESPs have been used in many industrial application to collect particles and liquid aerosols at a very high rate of efficiency.

Emission: Emission is defined in *25 Pa. Code* Section 121.1 as an air contaminant emitted into the outdoor atmosphere.

Emission factor: The relationship between the amount of pollution produced and the amount of raw material processed. For example, an emission factor for a blast furnace making iron would be the number of pounds of particulate per ton of raw materials.

Emission inventory: A listing, by source, of the amount of air pollutants discharged into the atmosphere. It is used to establish emission standards.

Emission standard: The maximum amount of air-pollution discharge legally allowed from a single source, mobile or stationary.

Entrainment separator (Demister): That part of a gas scrubber designed to remove entrained droplets from a gas stream by centrifugal action, by impingement on internal surfaces of the scrubber or by a bed of packing, mesh or baffles at or near the scrubber gas outlet.

Emission Reduction Credit (**ERC**)**:** A permanent, enforceable, quantifiable and surplus emissions reduction that can be considered a reduction for the purpose of offsetting emissions increases.

Exempt solvent: Specified organic compounds that are not subject to the requirements of a regulation. Such solvents have been deemed by EPA to have negligible photochemical reactivity.

Fabric collector: An air-pollution control device used to trap particulates by filtering gas streams through large fabric bags. It is similar to a large vacuum cleaner. Various filter materials used are glass fibers, teflon, nylon and cotton. It is also referred to as a baghouse.

Fabric permeability: The volume of air that can be passed through one square foot of filter medium with a pressure drop of no more than 0.5 inches of water.

Facility: Facility is defined in *25 Pa. Code* Section 121.1 as an air-contamination source or a combination of air-contamination sources located on one or more contiguous or adjacent properties and which is owned or operated by the same person or persons under common control.

Felted fabric: The randomly placed fibers compressed into a mat and attached to some loosely woven backing material.

Flue: A duct, pipe, stack, chimney or conduit permitting air contaminants to be emitted into the outdoor atmosphere.

Flue-fed incinerator: An incinerator that is charged through a shaft that functions as a chute for charging waste and as a flue for conveying products of combustion.

Flue gas: The products of combustion, including pollutants, emitted to the air after a production process or combustion takes place.

Flue gas desulfurization: A technology that uses a sorbent, usually lime or limestone, to remove sulfur dioxide from the gases produced by burning fossil fuels.

Fluidized bed combustion: Oxidation of combustible material within a bed of solid, inert (noncombustible) particles which, under the action of vertical hot airflow, will act as a fluid.

Food waste: The organic residues generated by the handling, storage, sale, preparation, cooking and serving of foods, commonly called garbage.

Fountain solution: A mixture of water, nonvolatile printing chemicals, and an additive that reduces the surface tension of the water so that it spreads easily across the printing surfaces. The fountain solution wets the non-image areas so that the ink is maintained within the image areas. Isopropyl alcohol, a VOC, is the most common additive used to reduce the surface tension of the fountain solution. This is also called wetting solution.

Fugitive air contaminant: Fugitive air contaminant is defined in *25 Pa. Code* Section 121.1 as an air contaminant of the outdoor atmosphere not emitted through a flue, including, but not limited to, industrial process losses, stockpile losses, re-entrained dust and construction/demolition activities.

Garbage: Solid waste resulting from animal, grain, fruit or vegetable matter used or intended for use as food.

Gas conditioner: A device used to cool the process gas stream before the gas goes to the air cleaning device.

Grade elevation: The vertical distance from ground level to the stack exit point, usually expressed in feet.

Hazardous air pollutant (HAP): A pollutant listed in the Clean Air Amendments of 1990, as well as any added by the U.S. EPA that may present a threat of adverse health or environmental effects. Criteria air pollutants cannot be listed as hazardous unless they meet certain conditions. Prior to the1990 amendments, EPA issued standards for some sources of seven hazardous air pollutants: arsenic, asbestos, benzene, beryllium, mercury, radionuclides and vinyl chlorides. Also called air toxics.

Hazardous waste: A waste or a combination of wastes that may cause or significantly contribute to an increase in mortality or an increase in serious, irreversible or incapacitating, reversible illness, posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed.

Heating value: The amount of heat released in the oxidation of one mole of a substance at constant pressure, or constant volume.

Heat-set: Any operation where heat is required to set the printing ink. Hot-air dryers are used to deliver the heat.

Heel percent: The percentage of the contaminant that remains in the adsorbent bed after the regeneration cycle.

Hood capture efficiency: The percentage of all emissions from a process that are captured by a hood and directed into the control device.

Hospital waste: Waste generated in any hospital or any health care facility, or any pathological wastes (except for human and animal remains burned in a crematory incinerator), chemotherapeutic wastes or infectious wastes generated in any facility.

Hospital/infectious waste incinerator: Any device specifically designed to provide the controlled combustion of hospital/infectious waste with the products of combustion directed to a flue, as defined in *25 Pa. Code* Section 121.1.

Immersion cold-cleaning machine: A cold-cleaning machine in which the parts are immersed in the solvent to be cleaned. A remote-reservoir cold-cleaning machine that is also an immersion cold-cleaning machine.

Incineration: The combustion of wastes, including municipal wastes, in an enclosed device with the products of combustion directed to a flue.

Incinerator: A device used in the process of burning solid, semisolid, liquid or gaseous waste for the primary purpose of destroying matter and/or reducing the volume of the waste by removing combustible matter.

Inertial separator/collector: Pollution-control device that operates by the principle of imparting centrifugal force to the particle to be removed from the carrier gas stream. This force is produced by directing the gas in a circular path or effecting an abrupt change in direction. This is suitable for medium-sized particles (15 to 40 microns) and coarse-sized particulates and is generally unsuitable for fine dusts or metallurgical fumes. (See Cyclone Collector)

Infectious waste: Waste that contains or may contain any disease-producing microorganism or material.

Infectious wastes include, but are not limited to, the following:

1. Those wastes that are generated by hospitalized patients who are isolated in order to protect others from their communicable diseases.
2. All cultures and stocks of etiologic agents.
3. All waste blood and blood products.

4. Tissues, organs, body parts, blood and body fluids that are removed during surgery and autopsy, and other wastes generated by surgery or autopsy of septic cases or patients with infectious diseases.
5. Wastes that were in contact with pathogens in any type of laboratory work, including collection containers, culture dishes, slides, plates and assemblies for diagnostic tests; and devices used to transfer, inoculate and mix cultures.
6. Sharps, including hypodermic needles, suture needles, disposable razors, syringes, Pasteur pipettes, broken glass and scalpel blades.
7. Wastes that were in contact with the blood of patients undergoing hemodialysis at hospitals or independent treatment centers.
8. Carcasses and body parts of all animals that were exposed to zoonotic pathogens.
9. Animal bedding and other wastes that were in contact with diseased or laboratory research animals or their excretions, secretions, carcasses or body parts.
10. Waste biologicals (e.g., vaccines) produced by pharmaceutical companies for human or veterinary use.
11. Food and other products that are discarded because of contamination with etiologic agents.
12. Discarded equipment and equipment parts that are contaminated with etiologic agents.

Inlet concentration: Gas stream concentration at inlet of control device, usually expressed in grains per dry standard cubic foot (gr/dscf) or pounds per hour (lb/hr).

Lithographic printing: A planographic method of printing, in which the print area and the non-print area are essentially in the same plane on the surface of a thin metal plate. The image area of a lithographic plate is made of a material that is ink-receptive and water-repellent, whereas the non-image area is made of a material that can be made water-receptive. The image plate is wrapped around the plate cylinder. In every revolution of the lithographic press, the plate is wetted by a dampening system with an aqueous solution, called the fountain solution; the ink is applied to the plate adhering only to the image area; the ink is transferred or offset to a rubber-covered blanket cylinder; and the rubber blanket transfers the inked image to the printing substrate.

The printing process requires the paper to be either sheet-fed or web-fed. In the sheet-fed process, the paper is cut into sheets of the proper size before being printed.

In the web-fed process, the paper is supplied to the machine in the form of rolls. At the end of the printing process, the rolls are folded and/or cut into sheets. Web-fed presses are categorized not only by size but by their ability to dry ink. Non-heatset or cold-set presses allow the ink to dry on its own. Cold-set presses can print only on uncoated stock. Heat-set presses pass the printed paper through dryers before cutting it into sheets. Methods of drying include hot air, gas-flame, ultraviolet and infra-red radiation. Heat-set presses can print on coated stock.

Low NOx burner (LNB): A low NOx burner is one that provides internal staged combustion, thus reducing peak flame temperatures and oxygen availability.

MACT: Maximum Achievable Control Technology (40 CFR Part 63)

Mass burn refractory combustor: A combustor that burns municipal waste and/or refuse derived fuel (RDF) in a refractory wall furnace.

Mass burn rotary waterwall combustor: A combustor that burns municipal waste and/or refuse derived fuel (RDF) in cylindrical rotary waterwall furnace.

Mass transfer zone (MTZ): The mass transfer zone of an adsorbent bed is where the concentration gradient is present. It extends from the location where the concentration is saturated to where the value of concentration approaches zero. The MTZ varies, depending on the adsorbent, packing size, bed depth, gas velocity, temperature and total pressure of the gas stream.

Method 18: An EPA test method that uses gas chromatographic techniques to measure the concentration of individual VOCs in a gas stream.

Method 24: An EPA reference method to determine density, water content and total volatile content of coatings.

Method 25: An EPA reference method to determine the VOC concentration in a gas stream.

Modification: A physical change in a source or a change in the method of operation of a source that would increase the amount of an air contaminant emitted by the source or that would result in the emission of an air contaminant not previously emitted, with the exception of routine maintenance, repair and replacement, which are not considered physical changes.

Modular excess air combustor: A combustor that burns municipal waste and/or refuse derived fuel (RDF) that is not field-erected and has multiple combustion chambers, all of which are designed to operate at conditions with combustion air in excess of theoretical air requirements.

Modular starved air combustor: A combustor that burns municipal waste and is not field-erected and has multiple combustion chambers in which the primary combustion chamber is designed to operate at substoichiometric conditions.

Moisture: The total water substance (gaseous, liquid and solid) present in a given volume of air.

Monitoring: Periodic or continuous surveillance or testing to determine the level of compliance with statutory requirements and/or pollutant levels in various media or in humans, animals or other living things.

Multiple-chamber incinerator: An incinerator that consists of two or more chambers, arranged as in-line or retort types, interconnected by gas passage parts or flues.

Municipal waste incinerator: Any enclosed device designed for combustion of municipal wastes, alone or in conjunction with fossil fuel and/or wood, with the products of combustion directed to a flue, as defined in *25 Pa. Code* Section 121.1.

Municipal waste: Municipal waste, as defined by DEP's Bureau of Waste Management, that is collected by a public or private hauler from more than one waste generator, but excluding waste from construction and demolition, chemotherapy, waste that is pathological, infectious, sewage sludge, radioactive contaminated or hazardous, and other wastes excluded by the Bureau of Air Quality due to their characteristics. Air-quality permitting requirements for the excluded wastes will be established on a case-by-case basis.

NAAQS: National Ambient Air Quality Standards. (40 CFR Part 50)

NESHAP: National Emission Standard for Hazardous Air Pollutants is a technology-based standard of performance prescribed for hazardous air pollutants from certain stationary source categories under Section 112 of the CAA. (40 CFR Part 61)

NSPS: New Source Performance Standards are an emission standards prescribed for criteria pollutants from certain stationary source categories under Section 111 of the CAA. NSPS can be found in 40 CFR 60.

New Source: A stationary air contamination source that:

1. Was constructed and commenced operation on or after July 1,1972.
2. Was modified, irrespective of a change in the amount or kind of air contaminants emitted, so that the fixed capital cost of new components exceeds 50% of the fixed capital cost that would be required to construct a comparable new source. Fixed capital cost means the capital needed to provide the depreciable components.

Nonattainment area: An area, as designated by the EPA under Section 107 of the CAA (42 U.S.C.A. §7407) in 40 CFR 81.339 (relating to Pennsylvania), that does not meet ambient air quality standards.

Non-heatset: Any operation where the printing inks are set without the use of heat. (For the purpose of this rule, ultraviolet-cured inks are considered non-heatset.)

NOx: Oxides of nitrogen or nitrogen oxides. All the oxides of nitrogen, except nitrous oxide (N_2O), which are the regulated pollutants for both the ozone and nitrogen dioxide NAAQS.

Offset: A printing process that transfers the printing image to an intermediary surface, which, in turn, transfers the image to the printing substrate.

Opacity: The degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

Open top vapor degreaser: A batch-loaded device used to clean metal parts through the condensation of organic solvent on colder metal parts.

Outlet concentration: Gas stream concentration at the outlet of a control device, usually expressed in grains per dry standard cubic foot (gr/dscf).

Overall efficiency: The percentage reduction in pollutant concentration between the inlet and outlet of the air cleaning device.

Particulate loading: The weight of solid particulate suspended in an air stream, usually expressed in terms of grains per dry standard cubic foot.

Periodic monitoring: The collection, recording and retaining of information that can be used by the source of an emission point, in conjunction with any other relevant information, to assess source's compliance with applicable requirements.

pH: pH is a measure of hydrogen ion concentration in water. It is also a measure of the acid and alkaline content. pH values range from 0 to 14, with 7 indicating neutral water; values less than 7 have increasing acidity; and values greater than 7 have increasing alkalinity.

PPM: Parts per million. A way of expressing concentration of pollutants in air, water and soil.

Prevention of significant deterioration (PSD): A pre-construction air-pollution permit program designed to ensure that air quality does not degrade beyond NAAQS levels or beyond specified incremental amounts above prescribed baseline levels. PSD also ensures application of BACT to major stationary sources and major modifications for regulated pollutants and consideration of soils, vegetation, and visibility impacts in the permitting process. (40 CFR Part 52)

Potential emission rate: The total weight rate at which a particular air contaminant, in the absence of air cleaning devices, would be emitted per unit of time from an air-contaminant source when the source is operated at its rated capacity.

Potential to emit: The maximum capacity of a source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air-pollution control equipment and limitations on hours of operation or on the type or amount of material combusted, stored or processed shall be treated as part of the design if the limitation or the effect it would have on emissions is federally enforceable.

Predictive emission monitoring system (PEMS): A system that uses process data and other parameters in a computer program or other data-reduction system to produce values in terms of the applicable emission limitation or standard.

Press: A printing-production assembly that can be made up of one or many units to produce a finished product.

Pressure drop: A resistance to the flow of gas across a system. It is determined by measuring the difference in total pressure at two points, usually the inlet and outlet of an air-cleaning device.

Primary condenser: A series of circumferential cooling coils on a vapor cleaning machine through which a chilled substance is circulated or recirculated to provide continuous condensation of rising solvent vapors and, thereby, create a concentrated solvent vapor zone.

Process: A method, reaction or operation in which materials are handled or whereby materials undergo physical change, that is, the size, shape, appearance, temperature, state or other physical property of the material is altered. Also, process is a method, etc., whereby materials are chemically changed, that is, a substance with different chemical composition or properties is formed or created. The term can be used to describe all of the equipment and facilities necessary for the completion of the transformation of the materials to produce a physical or chemical change. There may be several processes in a series or parallel that are necessary to the manufacturing of a product.

Radiation and convection cooling: The use of long, uninsulated ducts to allow the process gas stream to cool as heat is released by convection and radiation from the ducts.

Rated capacity: The operating limit of a source as stated by the manufacturer of the source or as determined by good engineering judgment.

Rectifier: A device used in an electrostatic precipitator for converting alternating current into direct current.

RDF stoker: A steam-generating unit that combusts refuse derived fuel (RDF) in a semi-suspension firing mode using air-fed distributors.

Refrigerated chillers: Condensing coils located peripherally along the freeboard (slightly above the primary coils), to condense the solvent vapor before it escapes from the degreaser. This creates a sharper temperature gradient than would otherwise exist. The resulting cold air blanket reduces diffusion losses and the stable inversion layer created by the increased temperature gradient decreases upward convection of solvent laden air.

Refuse derived fuel (RDF): Municipal waste that has been processed through shredding and size classification. All classes of RDF, from low density fluff RDF to densified RDF and RDF fuel pellets, are included.

Regeneration: Any process that accomplishes a partial or complete separation of either an adsorbed substance from an adsorbent or an absorbed substance from an absorbent.

Remote reservoir cold cleaning machine: A device in which liquid solvent is pumped to a sinklike work area that drains the solvent back into an enclosed container while parts are being cleaned, allowing no solvent to pool in the work area.

Retention time: The length of time that a gas stream remains at a given temperature.

SCFM (Standard Cubic Feet Per Minute): An air flow rate at standard pressure and temperature, (i.e., 1 atmosphere and 68 °F)

Settling chamber: An expansion chamber in which gas velocity is reduced, thus allowing the particle to settle down under the action of gravity.

Sewage sludge: Solid, semisolid or liquid residue generated during the treatment of domestic sewage in a treatment facility. Sewage sludge includes, but is not limited to domestic septage; scum or solids removed in primary, secondary or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated in a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment facility.

Sheet-fed: Any operation where paper is fed to a press in individual sheets.

Solid waste: Solid waste is garbage, refuse, and other discarded solid materials, including solid materials resulting from industrial, commercial and agricultural operations and from community activities. It includes both combustibles and noncombustible materials.

Solvent: A liquid used in a paint or coating to dissolve or disperse film-forming constituents and to adjust viscosity. It evaporates during drying and does not become a part of the dried film.

Solvent density: The weight per unit volume of a solvent or solvent mixture. This number is often used in calculating emissions of volatile organic compounds (VOCs) from coatings. Densities of common organic solvents range from 6.6 lb/gal to 9.5 lb/gal. The EPA has chosen 7.36 lb/gal as an average density of a coating solvent mixture to use in some calculations.

SOx: Sulfur oxides, sulfur dioxide and sulfur trioxide are the dominant oxides of sulfur that are present in the atmosphere. Sulfur dioxide is a heavy, pungent, colorless, gaseous air pollutant formed primarily by the industrial fossil fuel combustion process.

Specific gravity: The ratio of the density of a substance to that of water at 39.2 degrees F and to atmospheric pressure.

Spray nozzle: A device used for the controlled introduction of scrubbing liquid at predetermined rates, distribution patterns, pressures and droplet sizes.

Stack: A vertical duct or conduit that discharges exhaust gases into the atmosphere.

Substrate: The surface to which a coating is applied.

Thinner: A liquid used to reduce the viscosity of a coating and which will evaporate before or during the curing of a film.

Title V facility: A stationary air contamination source, or a group of stationary sources, located on one or more contiguous or adjacent properties, that are under the control of the same person (or persons) and belonging to a single major industrial grouping and that are described below. For the purposes of this definition, a stationary source or group of stationary sources will be considered part of a single industrial

grouping if the air-contaminant emitting activities at the source or group of sources on contiguous or adjacent properties belong to the same major group, that is, all have the same two-digit code, as described in the Standard Industrial Classification Manual, 1987.

1. A major stationary source under Section 112 of the CAA, which is defined as one of the following:

    a. For air contaminants other than radionuclides, a 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 metric tons per year (tpy) or more of any hazardous air pollutant, including any fugitive emissions of the pollutant, which has been listed under Section 112(b) of the CAA, 25 tpy or more of a combination of the hazardous air pollutants, including any fugitive emissions of the pollutants, or the lesser quantity as the Administrator of the EPA may establish by regulations promulgated under the CAA. Notwithstanding the preceding sentence, emissions from an oil or gas exploration or production well, with its associated equipment and emissions from a pipeline compressor or pump station, may not be aggregated with emissions from other similar units, whether or not the units are in a contiguous area or under common control, to determine whether the units or stations are a major source.

    b. For radionuclides, the meaning specified by the Administrator of the EPA in regulations promulgated under the CAA.

2. A major stationary source of air pollutants, as defined in Section 302 of the CAA (42 U.S.C.A. Section 7602), that directly emits or has the potential to emit, 100 tpy or more of any air contaminant, including a major source of fugitive emissions of the pollutant, as determined by regulations established under the CAA. The fugitive emissions of a stationary source may not be considered in determining whether it is a major stationary source for the purposes of Section 302(j) of the CAA, unless the source belongs to one or more of the following categories of stationary source:

    a. Coal cleaning plants, with thermal dryers
    b. Kraft pulp mills
    c. Portland cement plants
    d. Primary zinc smelters
    e. Iron and steel mills
    f. Primary aluminum ore reduction plants
    g. Primary copper smelters
    h. Municipal incinerators capable of charging more than 250 tons of refuse per day
    i. Hydrofluoric, sulfuric or nitric acid plants
    j. Petroleum refineries
    k. Lime plants
    l. Phosphate rock processing plants
    m. Coke oven batteries
    n. Sulfur recovery plants
    o. Carbon black plants, furnace process

p. Primary lead smelters
q. Fuel conversion plants
r. Sintering plants
s. Secondary metal production plants
t. Chemical process plants
u. Fossil-fuel boilers, or combination thereof, totaling more than 250 million Btus per hour heat input
v. Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels
w. Taconite ore processing plants
x. Glass fiber processing plants
y. Charcoal production plants
z. Fossil-fuel-fired steam electric plants of more than 250 million Btus per hour heat input

aa. Other stationary source categories regulated by a standard promulgated under Sections 111 or 112 of the CAA, but only with respect to air contaminants that have been regulated for that category, when required by the CAA or the regulations thereunder

3. A major stationary source as defined in Title I, Part D of the CAA (42 U.S.C.A. §§ 7501- 7515), including:

a. For ozone nonattainment areas, sources with the potential to emit 100 tpy or more of VOCs or NOx in areas classified as "marginal" or "moderate," 50 tpy or more in areas classified as "serious," 25 tpy or more in areas classified as "severe" and 10 tpy or more in areas classified as "extreme."

b. For ozone transport regions established under Section 184 of the CAA (42 U.S.C.A. § 7511c), sources with the potential to emit 50 tpy or more of VOCs or 100 tpy or more of NOx.

c. For carbon monoxide nonattainment areas that are classified as "serious," and in which stationary sources contribute significantly to carbon monoxide levels as determined under rules issued by the Administrator of the EPA, sources with the potential to emit 50 tpy or more of CO.

d. For particulate matter (PM-10) nonattainment areas classified as "serious," sources with the potential to emit 70 tpy or more of PM-10.

4. A source located at a facility that does not meet the requirements of Subparagraphs (i)-(iii) after the Administrator of the EPA completes a rulemaking requiring regulation of those sources under Title V of the CAA (42 U.S.C.A. §§ 7661-7661f).

Title V permit: An operating permit issued by DEP to a Title V facility.

Title V regulated air pollutant: For purposes of the requirements of Title V of the CAA, the term means one or more of the following:

1. NOx or VOCs.

2. An air contaminant for which a national ambient air quality standard has been promulgated.

3. An air contaminant that is subject to a standard promulgated under Section 111 of the CAA.

4. A Class I or II substance subject to a standard promulgated under or established by Title VI of the CAA (42 U.S.C.A. §§ 7671-7671g).

5. An air contaminant subject to a standard promulgated under Section 112 or other requirements established under Section 112 of the CAA, including Subsections (g), (j) and (r), including the following:

    a. An air contaminant subject to the requirements under Section 112(j) of the CAA. If the Administrator of EPA fails to promulgate a standard by the date established under Section 112(e) of the CAA, an air contaminant for which a subject source would be major shall be considered to be regulated on the date 18 months after the applicable date established under Section 112(e) of the CAA.

    b. An air contaminant for which the requirements of Section 112(g)(2) of the CAA have been met, but only with respect to the individual source subject to Section 112(g)(2) requirements.

Top coat: The last coat applied in a coating system.

Transfer efficiency: The ratio of the amount of coating solids deposited onto the surface of the coated parts to the total amount of coating solids used, multiplied by 100 to equal a percentage.

Unit: The smallest complete component of a printing press. Each unit can print only one color.

Velocity: The rate at which a fluid is flowing in a given direction. Gas velocity is normally stated in feet per minute or feet per second and is found by dividing volume by area.

Volatile Organic Compound (VOC): An organic compound which participates in atmospheric photochemical reactions; that is, an organic compound other than those which the Administrator of the EPA designates at 40 CFR 51.100 (s) as having negligible photochemical reactivity.

Water blanket: A layer of water in the dip tank on top of the solvent, providing a vapor barrier between the solvent and the atmosphere. The solvent must be heavier than and insoluble in water.

Water quenching: Also called evaporative cooling. It is accomplished by injecting fine water droplets into a gas stream. The water droplets absorb heat from the gas stream as they evaporate.

Waterwall incinerator: An incinerator whose furnace walls consist of vertically arranged metal tubes through which water passes and absorbs the radiant energy from burning solid waste.

Web: A continuous roll of paper used as the printing substrate.

Weight percent solids: The portion of a coating that remains as part of the cured film expressed as percent by weight. This contrasts with the convention of expressing content by volume percent.

Working capacity of absorbent: The actual adsorbing capacity of the bed under operating condition.

Woven fabric: Yarn that is woven over and under with a definite repeated pattern.

APPENDIX-B

Measurement Units	Abbreviation
Actual Cubic Feet per Minute	ACFM or acfm
British thermal units	Btu or BTU
Cubic foot per hour	cu ft/hr
Cubic Feet Per Minute	CFM or cfm
Dry standard cubic meters	dscm
Dry standard cubic feet	dscf
Feet per minute	ft/min
Feet per second	ft/sec
Gallons per hour	gph
Gallons per minute	gpm
Grains per dry standard cubic foot	gr/dscf
Gram	g
Grams per Brake Horsepower-Hour	g/bhp-h
Grams per year	g/yr
Kilo Volt	KV
Kilo Volt Ampere	KVA
Megagram	Mg
Megagram per year	Mg/yr
Megawatt	MW
Meter	m
Metric ton	t
Metric tons per day	t/d or tpd
Metric tons per year	t/yr or tpy
Microgram	mcg
Micrograms per dry standard cubic meter	µg/dscm
Million Btu per hour	mmBtu/hr
Million cubic meters	MMm^3
Millivolt	mv or mV
Nanogram	ng
Parts per million	ppm
Parts per million by volume	ppmv
Parts per million by weight	ppmwt
Pound	lb
Pounds per hour	lb/hr
Pounds per million Btu	lb/mmBtu
Pounds per million cubic foot	lb/mmcf
Pounds per square inch atmosphere	psia
Pounds per year	lb/yr
Standard Cubic Feet Per Minute	SCFM or scfm
Square feet	sq ft
Square inch	sq in
Square yard	sq yd

This related environmental information are available electronically via Internet. For more information, visit us through the Pennsylvania homepage at http://www.state.pa.us or visit DEP directly at http://www.dep.state.pa.us (choose directLINK "air quality").

www.GreenWorksChannel.org - A web space dedicated to helping you learn how to protect and improve the environment. The site features the largest collection of environmental videos available on the Internet and is produced by the nonprofit Environmental Fund for Pennsylvania, with financial support from the Pennsylvania Department of Environmental Protection, 800 334-3190.

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