



**TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY PERMIT No. 98848**

I. INTRODUCTION

This Class I air quality permit is issued to Printpack, Inc., the Permittee, for the continued operation of a flexographic printing and converting facility located at 6800 E. 2nd St., Prescott Valley, AZ, 86314. This permit renews and supersedes Permit No. 71374.

A Class I air quality permit is required because the facility's potential to emit (PTE) of volatile organic compounds (VOCs) is greater than 100 tons per year (tpy). However, a Prevention of Significant Deterioration (PSD) permit is not required as the facility's PTE of VOCs is less than 250 tpy. Permit No. 71374 had an expiration date of November 19, 2023, and the application for this permit renewal was submitted on May 16, 2023. This submission met the permit condition requiring that a complete and timely application be submitted by the facility at least six (6) months, but no earlier than eighteen (18) months, prior to the expiration date of the current permit.

A. Company Information

Facility Name: Prescott Valley
Mailing Address: 2800 Overlook Parkway, Atlanta, Georgia 30339
Facility Location: 6800 East 2nd Street, Prescott Valley, Arizona 83614

B. Attainment Classification

The facility is located in Yavapai County, which is currently designated as attainment or unclassifiable for all criteria pollutants.

II. PROCESS DESCRIPTION

A. Process Equipment

The facility utilizes flexographic printing presses, extrusion and adhesive lamination as well as slitting operations to produce rolls of paper and film packaging materials ready for fill operations.

B. Control Devices

1. Permanent Total Enclosures

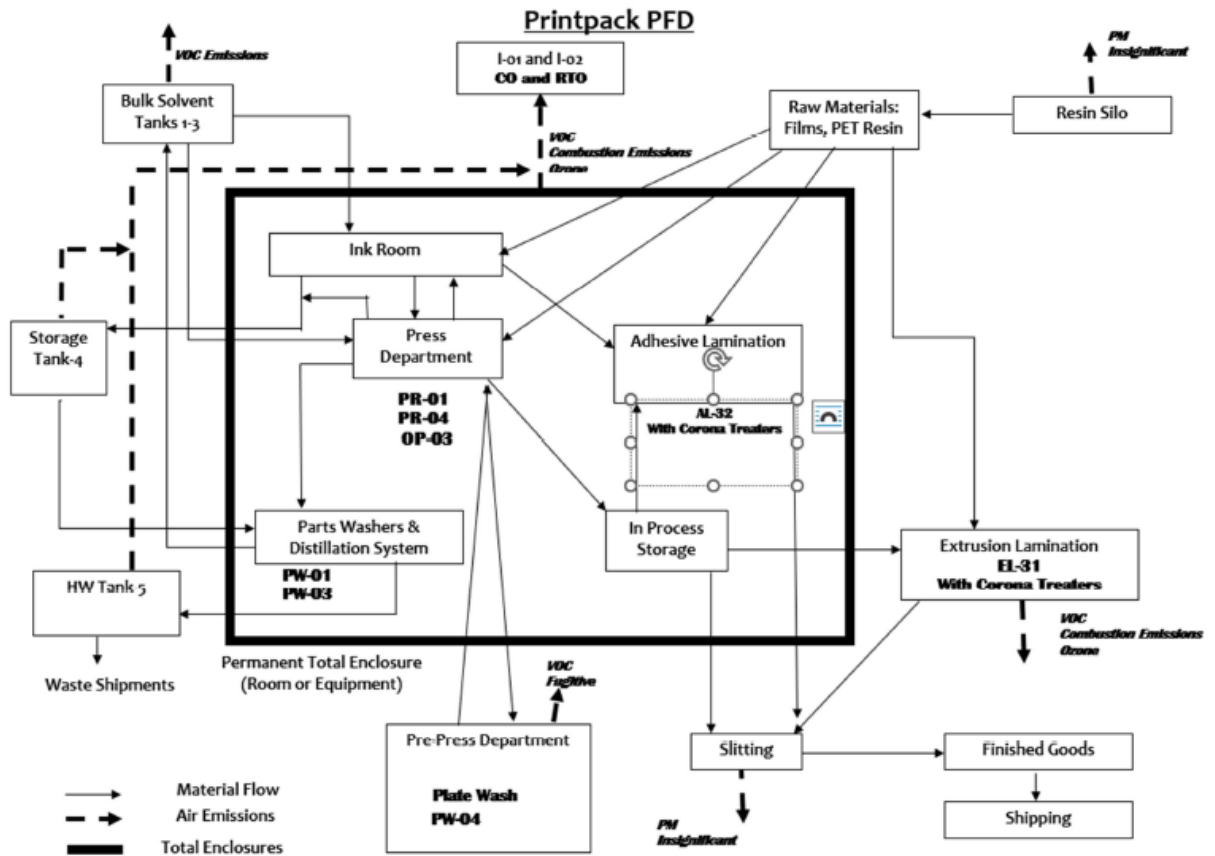
The facility utilizes permanent total enclosures (PTEn) to capture 100% of volatile organic compound (VOC) emissions from all the manufacturing operations with the exception of extrusion laminator (EL-31). All extrusion lamination (EL-31) emissions are ducted to atmosphere. A second laminator, an adhesive laminator (AL-32), is equipped with a PTEn, but has

an alternate operating scenario that allows a by-pass to atmosphere when it is operating with water-based or no more than 1% VOC content material.

2. Regenerative Thermal Oxidizer

The VOC emissions captured by the PTEs are routed to a Regenerative Thermal Oxidizer (RTO). RTOs use heat from the combustion of natural gas to decompose VOC to carbon dioxide and water vapor.

C. Process Flow Diagram



III. REQUESTED CHANGES

As part of this renewal, the facility is requesting the following changes:

1. Removal of Press 3, Press 5 and Catalytic Oxidizer I01 which are no longer in service;
2. Movement of some of the equipment inside the building (PW-04); and
3. Minor changes in stack locations (I-02) to ensure all records are complete and accurate for air permit compliance reporting efforts.

IV. COMPLIANCE HISTORY

There have been three (3) full facility inspection, three (3) partial facility inspection and eight (8) semiannual compliance certification report reviews conducted by ADEQ. No cases or alleged violations appear to be associated with this facility since the issuance of Permit No.71374.

V. EMISSIONS

Emissions estimates have been calculated using AP-42, *Compilation of Air Emissions Factors*, or emission factors developed by the facility. Printpack has removed equipment that was not installed as part of the previous plant expansion. The facility's potential to emit (PTE) is calculated based on 6,000 hours per year for press operations due to production changeover, equipment cleaning and maintenance downtime. All other emission sources are calculated based on 8,760 hours per year.

This renewal application involves the physical change in an emission unit which involves the relocation of plate washer (PW-04) emission unit that will result in an increase of 0.6 tons per year of VOCs. The facility's PTE is provided in Table 1 below:

Table 1: Potential to Emit (tpy)

Pollutant	Previous PTE	Change in PTE	Updated PTE	Permitting Exemption Threshold	Major/Minor NSR Triggered?
NO _x	28.63	-13.55	15.08	20	No
PM ₁₀	2.18	-1.03	1.15	7.5	No
PM _{2.5}	2.18	-1.03	1.15	5	No
CO	24.05	-11.39	12.66	50	No
SO ₂	0.17	-0.08	0.09	20	No
VOCs	225* (247.09)	-46.01	225* (201.08)	20	No
HAPs	0.58**	0.00	0.58**	N/A	No
GHG (CO ₂ e)	38,038	-11,649	26,389	--	No

* Printpack's facility-wide PTE of VOC emissions is 201.08 tons per year using federally enforceable permit conditions and control requirements. To ensure the facility remains a minor new source, a material permit condition limits the source to a facility-wide emission limit of 225 tpy of VOC emissions.

**A material permit condition limits the source to less than 9 tons per year of any individual federal HAP and less than 22.5 tpy of combined federal HAPs to maintain status as an area source of HAP emissions. The 0.58 tpy value includes the facility's PTE HAP emissions from the combustion of natural gas.

VI. MINOR NEW SOURCE REVIEW

Minor new source review (NSR) is required if the emissions of any physical change or change in the method of an operation of an emission unit or stationary source results in an increase in the emissions of any regulated minor NSR pollutant by an amount equal to or greater than its permitting exemption threshold (PET). The relocation of plate washer (PW-04) emission unit resulted in increase of 0.6 tpy of VOC emissions. As shown in Table 1 above, there is no net emissions increases resulting from this renewal due to the removal of emission units not constructed as approved in Permit No.71374 and thus, minor NSR is not triggered at this time.

VII. APPLICABLE REGULATIONS

Table 2 identifies applicable regulations and verification as to why that standard applies:

Table 2: Applicable Regulations

Unit	Control Device	Rule	Discussion
Facility-Wide Operations	N/A	A.A.C. R18-2-730.D A.A.C. R18-2-730.F A.A.C. R18-2-730.G	There are no applicable New Source Performance Standards (NSPS) for flexographic printing. This operation is subject to A.A.C R18-2-730 for Standards of Performance for Unclassified Sources.
Facility-Wide Operations	N/A	40 CFR Part 63 Subpart KK	Permit conditions restricting the usage of hazardous air pollutants allow the facility to meet the criteria of an area source. As an area source, the facility is subject to certain provisions of the National Emission Standards for the Printing and Publishing Industry..
Facility-Wide Operations	N/A	40 CFR Part 63 Subpart JJJJ	This rule is not applicable to because it the facility is not an area source of hazardous air pollutants.
Fuel Burning Sources	N/A	A.A.C. R18-2-702.B A.A.C. R18-2-730.A A.A.C. R18-2-730.B A.A.C. R18-2-730.C	These are direct fired combustors, and are therefore not subject to A.A.C R18-2-724. They are regulated under A.A.C. R18-2-730 for Standards of Performance for Unclassified Sources.

Unit	Control Device	Rule	Discussion
Presses 01, 02, and 04, and Laminator AL-32	Regenerative Thermal Oxidizer	40 CFR Part 64	These requirements apply to pollutant specific emission units which have pre-control device emissions equal to or greater than major source thresholds.
Fugitive Dust	Water Trucks, Dust Suppressants	A.A.C. R18-2 Article 6 A.A.C. R18-2-702	These standards are applicable to all fugitive dust sources at the facility.
Abrasive Blasting	Wet Blasting; Dust Collectors; Other Approved Methods	A.A.C. R-18-2-702 A.A.C. R-18-2-726	These standards are applicable to any abrasive blasting operation.
Spray Painting	Enclosures	A.A.C. R18-2-702 A.A.C. R-18-2-727	These standards are applicable to any spray painting operation.
Demolition/Renovation Operations	N/A	A.A.C. R18-2- 1101.A.12	This standard is applicable to any asbestos related demolition or renovation operations.

VIII. PREVIOUS PERMIT REVISIONS AND CONDITIONS

A. Previous Permit Revisions

Table 3 provides a description of the permit revisions made to Permit No. 71374:

Table 3: Permit Revisions to Permit No. 71374

Permit Revision No.	Permit Revision Type	Brief Description
96748	Facility Change Without Permit Revision	Rebuilt existing regenerative thermal oxidizer.
98849	Facility Change Without Permit Revision	9'x 11' expansion to Press-04 PTE.

Table 4 addresses the changes made to the sections and conditions from Permit No. 71374:

Table 4: Previous Permit Conditions

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "A"		X		General Provisions: Revised to represent the most recent template language.
Att. "B" Section I		X		Facility Wide Requirements: Revised to represent the most recent template language, operational limitations and standards as well as equipment.
Att. "B" Section III		X		Revised to reflect the most recent equipment applicability and its pollution control requirements, monitoring, recordkeeping and reporting requirements, and testing requirements.
Att. "B" Section V		X		Revised to reflect the most recent equipment applicability and its pollution control requirements, monitoring, recordkeeping and reporting requirements, and testing requirements.
Att. "C"		X		Equipment List: Revised to reflect the most recent equipment operating at the facility.

IX. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

Table 6 contains an inclusive but not an exhaustive list of the monitoring, recordkeeping and reporting requirements prescribed by the air quality permit. The table below is intended to provide insight to the public for how the facility is required to demonstrate compliance with the emission limits in the permit. Records are required be kept for a minimum of 5 years as outlined in Section XII of Attachment “A” of the permit.

Table 1: Permit No. 98848

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Presses 01 and 04, Laminator AL-32, Coaters associated with Press 01, Coater OP-03, the press room total enclosure, the equipment enclosures for Press 04, Parts Washers PW-01, PW-03, PW-04, the Solvent Distillation Tank, Solvent Storage Tanks ST-04 and ST-05 and the associated ink, solvent and adhesive material	VOCs	225 TPY RTO minimum VOC destruction efficiency of 97.5 %	Validate the combustion chamber temperature sensor as per the manufacturer’s guidelines, at a minimum frequency of once per year. Permanent Total Enclosures shall conform to the following criteria: (1) Any natural draft opening (NDO) shall be at least four equivalent opening diameters from each VOC emitting point unless otherwise	The Permittee shall keep records of purchase orders, invoices, and either certified product data sheets or manufacturer formulation data sheets for all VOC containing materials. The Permittee shall maintain a monthly log of all VOC containing ink, coating, adhesive and solvent materials used individually in each of the following: Presses 01 and 04, Outboard Coater OP-03, Extruder/Laminator EL-31,	The total monthly VOC emissions shall be added to the total monthly VOC emissions for each of the previous consecutive 11 calendar months to establish the 12-month rolling total emissions for the facility. This rolling 12-month VOC emissions total shall be used to determine compliance with the emission limit. At the end of each month, the Permittee shall calculate the rolling 12-month totals of all HAPs consumed to show compliance.

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
handling support operations.			<p>specified by the Administrator.</p> <p>(2) The total area of all NDO's shall not exceed 5 percent of the surface area of enclosure's four walls, floor, and ceiling.</p> <p>(3) The average facial velocity of air through all NDO's shall be at least 3,600 m/hr (200 fpm). The direction of airflow through all NDO's shall be into the enclosure.</p>	<p>Laminator/Coater AL-32, all Parts and Plate Washers, as well as ink preparation, cleanup and other associated support operations. Supporting records used to develop the log, including purchase orders, invoices, production usage logs and safety data sheets (SDS) necessary to verify the type and amount of each material used, shall be maintained on site and shall be readily available to ADEQ upon request.</p> <p>The Permittee shall process the monthly log of VOC containing material usage through a materials management database to convert the data to VOC total emissions, taking into account the</p>	<p>The Permittee shall submit reports of all monitoring activities required in Attachment "B" of the permit along with the semiannual compliance certifications required by Section VII of Attachment "A" of the permit.</p>

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
				<p>status of each emission unit, process or activity as uncaptured or captured, controlled or uncontrolled and the respective control efficiency for controlled emissions.</p> <p>The Permittee shall use 97.5% for the RTO or the control efficiency documented in the most recent performance test results approved by ADEQ.</p> <p>The Permittee shall include emissions from solvent storage tanks ST-01 through ST-05 in the monthly log of emissions.</p> <p>Each month, the Permittee shall record a total of VOC emissions, in tons per month.</p>	

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Combustion burners, Dryers for Presses 01 and 04, Laminator/Coater AL-32 and Extrusion Laminator EL-31, Space Heater Units #1 through #9 and Roof Top Units #1 through #12.	PM	20% opacity	Opacity monitoring on a quarterly basis.	Keep records of fuel supplier certifications, letters from fuel suppliers, or other documentation	
	SO ₂	600 ppm	Burn pipeline quality natural gas as fuel.	such as results of laboratory tests containing information regarding the name of the fuel supplier, lower heating value and sulfur content of the fuel.	Keep records of fuel supplier certifications, letters from fuel suppliers, or other documentation such as results of laboratory tests containing information regarding the name of the fuel supplier, lower heating value and sulfur content of the fuel.
	NO ₂	500ppm			

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Fugitive Dust	PM	40% Opacity	A Method 9 observer is required to conduct a quarterly survey of visible emissions.	Record of the dates and types of dust control measures employed, and if applicable, the results of any Method 9 observations, and any corrective action taken to lower the opacity of any excess emissions.	N/A
Abrasive Blasting	PM	20% Opacity	If abrasive blasting is conducted, monitor visible emissions.	Record the date, duration and pollution control measures of any abrasive blasting project.	N/A
Spray Painting	VOCs	20% Opacity Control 96% of the Overspray	If spray painting is conducted, monitor visible emissions.	Maintain records of the date, duration, quantity of paint used, any applicable MSDS, and pollution control measures of any spray painting project.	N/A

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Demolition/ Renovation	Asbestos	N/A	N/A	Maintain records of all asbestos related demolition or renovation projects including the “NESHAP Notification for Renovation and Demolition Activities” form and all supporting documents.	N/A

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X. COMPLIANCE ASSURANCE MONITORING (CAM)

The CAM rule applies to pollutant specific emission units (PSEU) at a major Title V source if the unit meets all of the following criteria:

- A. The unit is subject to an emission limit or standard for the applicable regulated air pollutant;
- B. The unit uses a control device to achieve compliance with the emission limit or standard; and
- C. The unit has "potential pre-control device emissions" of the applicable regulated air pollutant equal to or greater than 100% of the amount in tpy required for a source to be classified as a major source. "Potential pre-control device emissions" means potential to emit (PTE, as defined in Title V) except emissions reductions achieved by the applicable control device are not taken into account.

The CAM rule required monitoring to assure compliance with emission standards. This ensures that control devices meet and maintain the assumed control efficiencies. Compliance is verified by monitoring of the operation and maintenance of the control equipment and, if applicable, operating conditions of the PSEU. For the PSEUs that have post control potential to emit equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source, the facility shall collect four (4) or more data values equally spaced over each hour for each parameter monitored. Such units are defined as "large" PSEUs. For all "small" PSEUs, the monitoring shall include some data collection at least once per 24-hour period. Table 7 provides a list of the facility's PSEUs.

Table 7: CAM Applicable Units

No.	Equipment	Process No.	Control Device
1	Press 1	Flexographic printing press shall capture 100% emissions from operations and route to RTO.	IO2: Adwest RTO
2	OP-03	Outboard coating station shall capture 100% emissions from operations and route to RTO.	IO2: Adwest RTO
3	Press 4	Flexographic printing press using central impression drum and wet end enclosure shall capture 100% emissions from operations and route to RTO.	IO2: Adwest RTO
4	AL-32	Adhesive laminator using solvent based adhesives passing through coating decks and drying ovens to cure structure and volatize any emissions from the ink reservoir, solvent dispensing and ink container transfer operations shall capture 100% emissions from operations and route to RTO.	IO2: Adwest RTO

B. Monitoring Approach

The facility uses an RTO to capture and control VOC emissions. The monitoring approach for these devices is detailed below.

Table 2: Monitoring Approach

Indicator	Monitoring Approach
Emission Units Connected to Regenerative Thermal Oxidizer (I02)	<p>The Permittee shall monitor the combustion chamber temperature.</p> <p>The Permittee shall monitor the static pressure in the final trunk line inlet duct prior to the oxidizer blower.</p>
Measurement Approach	<p>At all times when at any unit is connected to the regenerative thermal oxidizer, VOC containing materials are not closed, and cleaning operations ceased, the Permittee shall monitor and record the combustion chamber temperature with a temperature thermocouple installed in or immediately downstream of the combustion chamber. The monitoring device shall be validated at a frequency in accordance with the manufacturer's specifications, or other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least annually, whichever is more frequent, and shall be accurate to within one of the following: $\pm 0.75\%$ of the temperature being measured expressed in degrees Celsius; or ± 2.5 degrees Celsius.</p> <p>The Permittee shall obtain a temperature reading once every 15 minutes and calculate a rolling 3-hour average.</p> <p>At all times when any emission unit is connected to the regenerative thermal oxidizer, VOC containing materials are not closed, and cleaning operations ceased, the Permittee shall continuously monitor as practicable, and record the static pressure in the final trunk line inlet duct prior to the oxidizer blower. The monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, or other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least annually, whichever is more frequent.</p> <p>The Permittee shall obtain a static pressure reading once every 15 minutes and calculate a rolling 3-hour average.</p>
QA/QC Practices and Criteria	<p>The Permittee shall obtain from the manufacturer, certifications which validate the RTO is capable of a minimum VOC destruction efficiency of 97.5%.</p> <p>The Permittee shall provide ADEQ a copy of the manufacturer's certification documents of the RTO.</p> <p>The Permittee shall complete performance tests to determine the VOC destruction efficiency of the RTO in accordance with EPA Reference Method 25A.</p> <p>The performance testing shall be conducted in the fourth year of the permit term or as requested by the ADEQ.</p>

Indicator	Monitoring Approach
Excursion Range	<p>Unless all emission units are properly shutdown, all VOC containing materials closed, and cleaning operations ceased, any 3-hour average below the combustion temperature reported in the most recent performance test results approved by ADEQ shall constitute an excursion. Prior to obtaining ADEQ approved results of the first performance test, any 3-hour average temperature below 1500 °F shall constitute an excursion.</p> <p>Unless all emission units are properly shutdown, all VOC containing materials closed, and cleaning operations ceased, any 3-hour average less negative than the static pressure reported in the most recent performance test results approved by ADEQ shall constitute an excursion. Prior to obtaining ADEQ approved results of the first performance test, any 3-hour average less negative than the static pressure specified by final system design shall constitute an excursion.</p>

XI. ENVIRONMENTAL JUSTICE ANALYSIS

The Environmental Protection Agency (EPA) defines Environmental Justice (EJ) to include the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and polices. The goal of completing an EJ assessment in permitting is to provide an opportunity for overburdened populations or communities to allow for meaningful participation in the permitting process. Overburdened is used to describe the minority, low-income, tribal and indigenous populations or communities that potentially experience disproportionate environmental harms and risks due to exposures or cumulative impacts or greater vulnerability to environmental hazards.

This renewal does not allow or permit an increase in emissions and thus, it will not result in any additional impacts.

XII. LIST OF ABBREVIATIONS

- A.A.C. Arizona Administrative Code
- ADEQ Arizona Department of Environmental Quality
- AERMOD AMS/EPA Regulatory Model
- AERMET AERMOD Meteorological Preprocessor
- AMS American Meteorological Society
- AQD Air Quality Division
- AQRV Air Quality Related Values
- ARM Ambient Ratio Method
- A.R.S. Arizona Revised Statutes
- BACT Best Available Control Technology
- Btu/ft³ British Thermal Units per Cubic Foot
- CAM Compliance Assurance Monitoring
- CEMS..... Continuous Emissions Monitoring System

CFR	Code of Federal Regulations
CH ₄	Methane
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO _{2e}	CO ₂ equivalent basis
EPA	Environmental Protection Agency
EJ	Environmental Justice
FERC	Federal Energy Regulatory Commission
FLM	Federal Land Manager
°F	degrees Fahrenheit
ft	Feet
g	Gram
GHG	Greenhouse Gases
HAP	Hazardous Air Pollutant
HHV	Higher Heating Value
hp	Horsepower
hr	Hour
IC	Internal Combustion
kW	Kilowatt
MW	Megawatts
NAAQS	National Ambient Air Quality Standard
NDO	Natural Draft Opening
NO _x	Nitrogen Oxides
NO ₂	Nitrogen Dioxide
N ₂ O	Nitrous Oxide
NSPS	New Source Performance Standards
O ₃	Ozone
Pb	Lead
PM	Particulate Matter
PM ₁₀	Particulate Matter less than 10 µm nominal aerodynamic diameter
PM _{2.5}	Particulate Matter less than 2.5 µm nominal aerodynamic diameter
PSEU	Pollutant Specific Emission Unit
PSD	Prevention of Significant Deterioration
psia	Pounds per square Inch (absolute)
PTE	Potential to Emit
sec	Seconds
SF ₆	Sulfur Hexafluoride
SIA	Significant Impact Area
SIL	Significant Impact Level
SO ₂	Sulfur Dioxide Significant Impact Levels
TPY	Tons per Year
VOC	Volatile Organic Compound
yr	Year