Term
Acid Rain Definition: Air pollution produced when acid chemicals are incorporated into rain, snow, fog, or mist. The "acid" in acid rain comes from sulfur oxides and nitrogen oxides, products of burning coal and other fuels from certain industrial processes. The sulfur oxides and nitrogen oxides are related to two strong acids: sulfuric acid and nitric acid. When sulfur dioxide and nitrogen oxides are released from power plants and other sources, winds blow them far from their source. If the acid chemicals in the air are blown into areas where the weather is wet, the acids can fall to the Earth in the rain, snow, fog, or mist. In areas where the weather is dry, the acid chemicals may become incorporated into dusts or smokes. Acid rain can damage the environment, human health, and property. EPA Website (http://www.epa.gov/acidrain/).
Applicable Requirements Definition: Title V permits must assure compliance with all of the requirements that apply to a source.Common sources of applicable requirements are: The state implementation plan (SIP); Authority to construct permits previously issued to the source (NSR and PSD); Standards promulgated by EPA, e.g., new source performance standards (NSPS, including NSPS general provisions) and national emissions standards for hazardous air pollutants (NESHAPs, including MACT standards, and general provisions for these).
Attainment Area Definition: A geographic area in which levels of a criteria air pollutant meet the health-based primary standard (national ambient air quality standard, or NAAQS) for the pollutant. An area may have an acceptable level for one criteria air pollutant, but may have unacceptable levels for others. Thus an area could be both attainment and nonattainment at the same time. Attainment areas are defined using federal pollutant limits set by EPA.
Best Available Control Technology

Term
Definition: Best Available Control Technology is the emission control level required for sources subject to PSD. From the regulation (reference 40 CFR 52.21(b)), BACT means "an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each pollutant subject to regulation under the Clean Air Act which would be emitted from any proposed major stationary source or major modification which the Administrator (EPA), on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. ...". Acronym: BACT
Carbon Monoxide Definition: A colorless, odorless, poisonous gas, produced by incomplete burning of carbon-based fuels, including gasoline, oil and wood. Carbon monoxide is also produced from incomplete combustion of many natural and synthetic products. For instance, cigarette smoke contains carbon monoxide. When carbon monoxide gets into the body, the carbon monoxide combines with chemicals in the blood and prevents the blood from bringing oxygen to cells, tissues and organs. The body's parts need oxygen for energy, so high-level exposures to carbon monoxide can cause serious health effects, with death possible from massive exposures. Symptoms of exposure to carbon monoxide can include vision problems, reduced alertness, and general reduction in mental and physical functions. Carbon monoxide exposures are especially harmful to people with heart, lung and circulatory system diseases. Acronym: CO
Clean Air Act Definition: The original Clean Air Act was passed in 1963; but our national air pollution control program is actually based on the 1970 version of the law. The 1990 Clean Air Act Amendments are the most far-reaching revisions of the 1970 law. EPA often refers to the

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1990 amendments as the 1990 Clean Air Act (http://www.epa.gov/caa/).
Credible Evidence Definition: EPA believes that any credible evidence can be used to show a violation of or demonstrate compliance with an emissions limit. Credible evidence may come from monitoring required by a permit, or from other sources. A permit may not be written in such a manner that it would interfere with the use of credible evidence. The permit should specify the source's obligations for monitoring, but it should do it in a way that does not establish an exclusive link between the test method and the emissions limit.Examples of unacceptable language include: Compliance with the emissions limit shall only be determined by test method X; The permittee shall be deemed in compliance with the emissions limit if the results of an emissions test done in accordance with test method X are less than Y. Example of acceptable language: The permittee shall monitor the emissions unit weekly in accordance with method X.
Criteria Air Pollutants Definition: A group of very common air pollutants regulated by EPA on the basis of criteria (information on health and/or environmental effects of air pollution). Criteria air pollutants are widely distributed all over the country.
Cross-referencing Definition: EPA guidance (White Paper 2) allows permits to incorporate applicable requirements into the permit by citation, instead of including the details of these requirements. This approach is limited to situations where the applicable requirement is readily accessible to the permittee and the public, and to where there is no ambiguity regarding how the requirement applies to the facility. For example, if a rule provides more than one option of how a source can comply, the citation should be specific enough that it is clear which option the source will be using. An example of acceptable permit language that incorporates a requirement by reference is: "The permittee shall comply with the notification and record keeping requirements of 40 CFR 60.7."

Term
Emissions Unit Definition: Emissions Units include all individual pieces of equipment that emit air pollutants at a stationary source. EPA regulations define an emissions unit as any part of a stationary source which emits or would have the potential to emit any pollutant subject to regulation under the Clean Air Act. Examples of common emissions units include Stationary Internal Combustion Engines, Boilers or Steam Generators, Combustion Turbines, Printing Presses, Solvent Degreasers, and Paint Spray Booths.
Excess Emissions Conditions Definition 1: Some sources are unable to comply with their emissions limits during startup and shutdown. Excess emissions may also result if process equipment or pollution control equipment breaks down. Some regulators have tried to address these situations through the adoption of rules that give special treatment to sources under such circumstances. These rules are usually called "excess emissions rules" or "startup/shutdown rules" and, if properly written, only apply in situations where it is technologically impossible for the source to comply, or where circumstances beyond the source's control cause it to exceed its emissions limits. Definition 2: In addition to the emergency provisions of Part 70, permits will sometimes contain excess emissions provisions. Where these provisions are based on federally promulgated standards or are derived from state standards approved by EPA (approved SIP rules), it is ok to include them in the Title V permit. If, however, the permit condition is based on a rule that has not been approved or promulgated by EPA, it should not be included in the permit.
Hazardous Air Pollutants Definition: Chemicals that cause serious health and environmental effects. Health effects include cancer, birth defects, nervous system problems and death due to massive accidental releases such as the one at the pesticide plant in Bhopal, India. Hazardous air pollutants are released by sources such as chemical plants, dry cleaners, printing plants, and motor vehicles (cars, trucks, buses etc.) Acronym: HAPs

Term
Insignificant Activities Definition: Part 70 allows states to establish a list of "insignificant activities." The items on this list, which is approved by EPA as part of the state's Title V program, generally do not need to be included in a source's permit application. This particular provision has often been misunderstood to allow the state to exclude applicable requirements that apply to insignificant activities from the Title V permit.
Lowest Achievable Emissions Rate Definition: Lowest Achievable Emissions Rate is the emissions control level required of a source seeking a permit in a nonattainment area. LAER is generally considered to be the most stringent level of control required under the Clean Air Act. Note that in California, many air pollution control agencies use the term BACT to refer to LAER. Acronym: LAER
Major Source Definition: Major is a term used to determine the applicability of permitting regulations to specific sources. What constitutes a major source varies according to what type of permit is involved, the pollutant(s) being emitted, and the attainment designation of the area where the source is located. In general, a source is major if its emissions exceed certain thresholds that are defined in terms of tons per year. For example, under Title V of the Clean Air Act, any source that emits or has the potential to emit 100 tons per year or more of any criteria air pollutant is a major source and must obtain a Title V operating permit.
Monitoring (monitor) Definition: Measurement of air pollution is referred to as monitoring. EPA, state, and local agencies measure the types and amounts of pollutants in community air. The 1990 Clean Air Act requires certain large polluters to perform enhanced monitoring to provide an

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accurate picture of their pollutant releases. Enhanced monitoring programs may include keeping records on materials used by the source, periodic inspections, and installation of continuous emissions monitoring systems (CEMS). Continuous emissions monitoring systems will measure, on a continuous basis, how much pollution is being released into the air. The 1990 Clean Air Act requires states to monitor community air in polluted areas to check on whether the areas are being cleaned up according to schedules set out in the law.
National Ambient Air Quality Standards Definition: National Ambient Air Quality Standards are federal standards for the minimum ambient air quality needed to protect public health and welfare. They have been set for six criteria pollutants: sulfur dioxide (S02), particulates (PM/PM10), nitrogen oxides (NOX), carbon monoxide (CO), ozone (O3), volatile organic compounds (VOC), and lead (Pb). Acronym: NAAQS
National Emission Standard for Hazardous Air Pollutants Definition: NESHAP, or 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 Clean Air Act. Acronym: NESHAP
New Source Performance Standard Definition: NSPS, or New Source Performance Standard, is an emission standard prescribed for criteria pollutants from certain stationary source categories under Section 111 of the Clean Air Act. Acronym: NSPS
New Source Review

Term
Definition: New major stationary sources of air pollution and major modifications to major stationary sources are required by the Clean Air Act to obtain an air pollution permit before commencing construction. This process is called new source review (NSR) and is required whether the major source or modification is planned for an area where the national ambient air quality standards (NAAQS) are exceeded (nonattainment areas) or an area where air quality is acceptable (attainment and unclassifiable areas). Permits for sources in attainment areas are referred to as prevention of significant air quality deterioration (PSD) permits; while permits for sources located in nonattainment areas are referred to as nonattainment (NAA) permits. The entire program, including both PSD and NAA permit reviews, is referred to as the NSR program. Acronym: NSR
Nitrogen Dioxide Definition: Oxides of nitrogen, mainly NO2 and NO. NO2 is a respiratory irritant, and also a precursor to ozone (or, smog) formation. The main source of NOx emissions into the atmosphere are combustion sources, such as cars, power plants, and industrial engines.
Nonattainment Area Definition: A geographic area in which the level of a criteria air pollutant is higher than the level allowed by the federal standards. A single geographic area may have acceptable levels of one criteria air pollutant but unacceptable levels for one or more other criteria air pollutants. Thus, an area could be both attainment and nonattainment at the same time. It has been estimated that 60% of Americans live in nonattainment areas.
Offset Definition: A method used in the 1990 Clean Air Act to give companies which own or operate large sources in nonattainment areas

Term
flexibility in meeting overall pollution reduction requirements when changing production processes. If the owner or operator of the source wishes to increase release of a criteria air pollutant, an offset (reduction of a somewhat greater amount of the same pollutant) must be obtained either at the same plant or by purchasing offsets from another company.
Origin and Authority Definition: Title V permits must specify the origin and authority for each term or condition. This consists of a citation to the section of the rule or construction permit upon which the condition is based.
Ozone Definition: A gas which is a variety of oxygen. The oxygen gas found in the air consists of two oxygen atoms stuck together; this is molecular oxygen. Ozone consists of three oxygen atoms stuck together into an ozone molecule. Ozone occurs in nature; it produces the sharp smell you notice near a lightning strike. High concentrations of ozone gas are found in a layer of the atmosphere -- the stratosphere -- high above the Earth. Stratospheric ozone shields the Earth against harmful rays from the sun, particularly ultraviolet B. Smog's main component is ozone; this ground-level ozone is a product of reactions among chemicals produced by burning coal, gasoline and other fuels, and chemicals found in products including solvents, paints, hair sprays, etc.
Particulate Matter Definition: A criteria air pollutant. Particulate matter includes dust, soot and other tiny bits of solid materials that are released into and move around in the air. Particulates are produced by many sources, including burning of diesel fuels by trucks and buses, incineration of garbage, mixing and application of fertilizers and pesticides, road construction, industrial processes such as steel making, mining operations, agricultural burning (field and slash burning), and operation of fireplaces and woodstoves. Particulate pollution can cause eye, nose and throat irritation and other health problems. Acronym: PM-10

Term
Acronym: PM-10
Periodic Monitoring Definition 1: Monitoring and record keeping are key elements for ensuring that permits are enforceable as a practical matter. Some applicable requirements do not contain adequate provisions for determining whether a source is in compliance with the emissions standard. For example, if a source meets an emissions limit by operating its incinerator at a specified temperature but is not required by the applicable requirement to monitor and record the temperature, it is not possible to determine whether the source has complied with the limit. Another example is that some applicable requirements will specify that the source must conduct a test when it initially begins operation, but do not require any ongoing monitoring. Definition 2: In writing the part 70 regulations, EPA recognized that some applicable requirements lack adequate monitoring. Under part 70, if the monitoring in the applicable requirement is not adequate, the permitting authority must add monitoring beyond what is required by the applicable requirement to the Title V permit. Types of monitoring include record keeping, periodic source testing, or use of continuous emissions monitoring systems (CEMS).
Permit Definition: A document that resembles a license, required by the Clean Air Act for big (major) sources of air pollution, such as power plants, chemical factories and, in some cases, smaller polluters. Usually permits are issued by state and local air agencies; but if EPA has disapproved all or part of a state or local permit program, EPA will issue the permits in that state or area. The 1990 Clean Air Act includes requirements for permit applications, including provisions for members of the public to participate in state and EPA reviews of permit applications. Permits will have, in one place, information on all the regulated pollutants at a source. Permits include information on which pollutants are being released, how much the source is allowed to release, and the program that will be used to meet pollutant release requirements. Permits are required both for the operation of plants (operating permits) and for the construction of new plants or modification of existing plants (new source review permits).
Permit Shield

Term
Definition: A permit shield can protect a source from enforcement of an applicable requirement under two circumstances: 1) where that applicable requirement has been included in the permit (and is therefore enforced through the permit); or 2) where it has been determined that the requirement does not apply to the source. Under no circumstances should a permit shield be used to exempt a source from a requirement to which it is subject.
Pollutants Definition: Unwanted chemicals or other materials found in the air. Pollutants can harm health, the environment and property. Many air pollutants occur as gases or vapors, but some are very tiny solid particles: dust, smoke, or soot.
Pollution Control Equipment Definition: Pollution control equipment includes a wide variety of devices that reduce, prevent, capture or destroy air pollutants before they are released into the atmosphere. Examples of common types of air pollution control equipment include the following: Scrubbers, which use water to remove SOx and particulates from exhaust gases; Incinerators (or thermal oxidizers), which use intense heat to destroy organic contaminants; Baghouses, which trap and remove particulates from an exhaust stream; Catalysts, which cause chemical reactions that break the pollutants down into less harmful by-products. For example, most cars today are equipped with catalytic converters which turn CO into CO2, NOx into plain nitrogen, and organic compounds into water and CO2.
Prevention of Significant Deterioration Definition: Prevention of Significant Deterioration is a construction air pollution permitting program designed to ensure that air quality does not degrade beyond the NAAQS levels or beyond specified incremental amounts above a prescribed baseline level. Acronym: PSD

Term
Smog Definition: A mixture of pollutants, principally ground-level ozone, produced by chemical reactions in the air involving smog-forming chemicals. A major portion of smog-formers comes from burning petroleum-based fuels such as gasoline. Other smog-formers, volatile organic compounds, are found in products such as paints and solvents. Smog can harm health, damage the environment and cause poor visibility. Major smog occurrences are often to heavy motor vehicle traffic, sunshine, high temperatures and calm winds or temperature inversion (weather condition in which warm air is trapped close to the ground instead of rising). Smog is often worse away from the source of the smog-forming chemicals, since the chemical reactions that result in smog occur in the sky, while the reacting chemicals are being blown away from their sources by winds.
State Implementation Plan Definition: A detailed descriptions of the programs a state will use to carry out its responsibilities under the Clean Air Act. State Implementation Plans are collections of the regulations used by a state to reduce air pollution. The Clean Air Act requires that EPA approve each State Implementation Plan. Members of the public are given opportunities to participate in review and approval of State Implementation Plans. Acronym: SIP
Stationary Source Definition: A place or object from which pollutants are released and which does not move around. Stationary sources include power plants, gas stations, incinerators, houses etc.
Streamlining

Term
Definition 1: In some cases, more than one emissions standard will apply to an emissions unit, e.g., a unit could be subject to a SIP rule, an NSPS standard, and BACT requirements from a construction permit. This situation existed long before Title V, but is now more difficult to ignore because of the requirement that the Title V permit assure compliance with all applicable requirements. This drove industry and regulators to look for a means to simplify permit writing and compliance when multiple standards apply. The basic concept behind streamlining is that, as long as the permit contains the most stringent of the overlapping requirements, the permit will assure compliance with all of the overlapping requirements. Definition 2: If a source wants to streamline overlapping requirements, it must put together a side-by-side comparison of the various requirements that demonstrates which is most stringent. The streamlined requirement will consist of the most stringent limit, the "most assuring" monitoring, and the record keeping and reporting associated with the chosen monitoring. Monitoring, record keeping, and reporting to determine compliance with less stringent limit(s) is not required.
Sulfur Dioxide Definition: A criteria air pollutant. Sulfur dioxide is a gas produced by burning coal, most notably in power plants. Some industrial processes, such as production of paper and smelting of metals, produce sulfur dioxide. Sulfur dioxide is closely related to sulfuric acid, a strong acid. Sulfur dioxide plays an important role in the production of acid rain.
Title V Definition: Title V of the 1990 Clean Air Act Amendments requires all major sources and some minor sources of air pollution to obtain an operating permit. A Title V permit grants a source permission to operate. The permit includes all air pollution requirements that apply to the source, including emissions limits and monitoring, record keeping, and reporting requirements. It also requires that the source report its compliance status with respect to permit conditions to the permitting authority.
Volatile Organic Compounds

Term
Definition: Organic chemicals all contain the element carbon (C); organic chemicals are the basic chemicals found in living things and in products derived from living things, such as coal, petroleum and refined petroleum products. Many of the organic chemicals we use do not occur in Nature, but were synthesized by chemists in laboratories. Volatile chemicals produce vapors readily; at room temperature and normal atmospheric pressure, vapors escape easily from volatile liquid chemicals. Volatile organic chemicals include gasoline, industrial chemicals such as benzene, solvents such as toluene and xylene, and tetrachloroethylene (perchloroethylene, the principal dry cleaning solvent). Many volatile organic chemicals are also hazardous air pollutants; for example, benzene causes cancer. Acronym: VOCs