



# Prevention of Significant Deterioration

The federal [Clean Air Act](#) establishes a program called Prevention of Significant Deterioration (PSD). The PSD program applies to new major stationary sources, and major modifications at existing major sources. In both cases, the source is a collection of stationary emission units at one plant, facility or site and not an individual emissions unit. In Illinois, the Illinois EPA administers the PSD permit program. The PSD permit program does not regulate cars, trucks, trains or other mobile sources.

PSD was established to reduce the emissions and impacts from a new source or modification at an existing source and, in attainment areas, ensure that such projects would not cause the surrounding air to violate the [National Ambient Air Quality Standards](#) (NAAQS). NAAQS are standards for ambient air quality set by U.S. EPA for certain pollutants to protect public health and welfare. NAAQS have been set for ozone, particulate (PM<sub>10</sub> and PM<sub>2.5</sub>), sulfur dioxide, nitrogen dioxide, carbon monoxide and lead. The PSD program does not apply to hazardous air pollutants which are subject to separate requirements under the Clean Air Act.

A related permit program, nonattainment new source review (NNSR), regulates major source construction permitting in those areas and pollutants that are designated nonattainment of the relevant NAAQS.

## How does PSD protect air quality?

Prior to beginning construction of a new major source or major modification to an existing major source, the company or other applicant must obtain a PSD construction permit. The application for a PSD permit must include specific details including the type of technology that will be used to control emissions, and modelling of the emissions to show that the new project will not cause the ambient air quality to violate the NAAQS. These requirements for a PSD permit application apply to regulated pollutants that would potentially be emitted in major or significant amounts.

The Illinois EPA must determine best available control technology (BACT) and concur with the applicant's analysis of air quality impacts and other impacts from a proposed project.

## Illinois' PSD Rulemaking

The Illinois EPA is currently developing proposed rules to establish an Illinois program for PSD. Once the [Illinois Pollution Control Board](#), adopts rules for a State PSD program, they will be submitted to U.S. EPA for approval. The rules being developed must be at least as stringent as the current federal program

For more information, see the [Contact](#) listed at the end of this document.



### Determining if a proposed source is subject to PSD Permitting

For certain categories of sources, PSD defines a major new source as one that have the potential to emit more than 100 tons per year for any one regulated pollutant. These listed categories include, among others, steam power plants, chemical process plants, steel mills and refineries. For all other sources, the major source level is 250 tons per year of any one regulated pollutant. Once a proposed source is major for one regulated pollutant other regulated pollutants emitted in significant amounts are also subject to PSD.

---

### Determining if a proposed major modification is subject to PSD Permitting

A major modification to an existing major source requires a physical or operational change and is based on whether the project will cause a significant emission increase of a regulated pollutant. Significant air pollutant emission rates are set for each regulated pollutant. For example, the significant emission rates for carbon monoxide, nitrogen oxides and PM<sub>2.5</sub> are set at 100, 40 and 10 tons per year, respectively.

Greenhouse gases are regulated only to the extent that the source or modification is already subject to PSD permitting and greenhouse gases would potentially be emitted in a significant amount, i.e., 75,000 tons per year as carbon dioxide equivalents.

---

### Requirements for PSD Application

An application for a PSD permit must show that the requirements for PSD would be met for the subject pollutants including the following requirements. Subject pollutants are those regulated pollutants that would be emitted in major or significant amounts.:

1. Demonstration that Best Available Control Technology (BACT) will be used.
  2. An air quality analysis
    - NAAQS analysis
    - Increment analysis
  3. Additional impact analysis to visibility, soils and vegetation
- 

## Attainment Areas

U.S. EPA designates areas as attainment or unclassifiable or as nonattainment relative to the NAAQS.

For **nonattainment** areas, States are required to develop plans to bring the areas into attainment with the NAAQS subject to review by U.S. EPA.

As air quality improves or new NAAQS are adopted USEPA updates its designations.

### Best Available Control Technology (BACT)

As provided by the Clean Air Act, BACT is an emissions limitation based on the maximum degree of reduction for a pollutant that is achievable for a particular project or emissions unit as determined by the permitting authority taking into account energy, environmental and economic impacts. BACT may reflect use of add-on pollution control equipment, production processes, or both. The purpose of the BACT requirement is to ensure that new and modified emissions units are constructed and operated with state-of-art emission control technology.

---

### Air Quality Analysis

All PSD permit applications require an air quality analysis to demonstrate that emissions of subject pollutants from a project will not cause or contribute to a violation of a NAAQS or applicable PSD increments. Increments are limits on degradation of air quality for certain pollutants set by the PSD program and may, in practice, be more restrictive than the NAAQS.

---

### Additional Impact Analysis

Additionally, an applicant must assess the impact of emissions on soils and vegetation in the vicinity of the proposed project.

---

### Public Involvement

After completing its review of the application, the Illinois EPA prepares a draft PSD permit for public review. During the public comment period, the Illinois EPA accepts comments on the draft permit and reviews those comments prior to making a final decision on the application.

When the Illinois EPA holds a public comment period on a draft PSD permit, the draft permit and accompanying project summary prepared by the Illinois EPA are posted on the following website <http://www.epa.illinois.gov/public-notices/boa-notices/index>. If you wish to be added to the Illinois EPA's mailing list or e-mail list, please contact the Office of Community Relations.

---

### Contacts

Brad Frost  
Illinois EPA  
Office of Community Relations  
Illinois EPA  
217/782-7027  
[brad.frost@illinois.gov](mailto:brad.frost@illinois.gov)

---