

# Regulating Our Air

Pinal County Air Quality Control

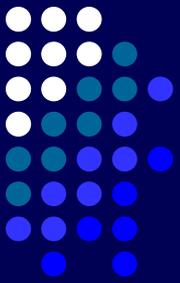
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# What is an Air Quality Permit?



Each year, through Pinal County's Air Quality permitting process, industrial and some commercial and institutional operations (sources) are limited in the amount of pollutants that are emitted into the air based on EPA's and local requirements. These pollutants, if not regulated, can make breathing difficult, form smog, impair visibility, cause cancer, and other serious health effects.

Sources can fall into one of the following categories:

(Major) Example: Power Plant – Potential to emit 100 tons or more of pollutants annually (Limitations are added to their Title V permit)

(Minor) Example: Sand & Gravel – Potential to emit a minimum of 1 ton and less than 100 tons annually

# How Does the Program Work?

All stationary sources with the potential to emit 1 tpy (tons per year) or 5.5 pounds per day of regulated air pollutants are required to obtain Air Quality permits.

Key provisions of the Air Quality Permitting program are as follows:

Sources are required to provide emission reports to Pinal County Air Quality Control District either semi-annually or annually.

Sources must renew their Air Quality permit every 5 years.

To fund the Air Quality program, Pinal County Air Quality is required to collect permit fees from sources that are subject to the Air Quality program. Annual fees are typically based on the source's potential emissions. Additionally, Major Sources are also required to pay annual fees based on the amount of pollution emitted.

Each local government can tailor its permit program to its individual needs, while meeting minimum federal requirements. It is important to note that Pinal County Air Quality also implements separate regulations that are appropriate for our local conditions.

# The Public

Members of the public benefit from improved air quality and enhanced opportunities for active participation in the permitting process.

Before a permit is issued, renewed, or revised, the public is provided an opportunity for review, comment and the opportunity to request a public hearing.



# Regulated Pollutants



Pollution

Some of the most commonly regulated pollutants are:  
Carbon Monoxide \* HAPS (Hazardous Air Pollutants)  
Nitrogen Dioxide \* Lead \* PM<sub>10</sub> (Coarse Particles)  
\*PM<sub>2.5</sub> (Fine Particles)  
Sulfur Dioxide \* VOC (Volatile Organic Compounds)

# Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless and tasteless gas which is emitted primarily from any form of combustion.

Sources of emissions are internal combustion engines (including vehicles, generators, lawn mowers, power washers, etc.), wood stoves, open burning and industrial combustion sources.



# Hazardous Air Pollutants (HAPs)

EPA has listed 189 chemicals or chemical categories as Hazardous Air Pollutants. These HAPs, or Air Toxics have a wide range of toxicities and can pose health risks.

Examples:

- Benzene – found in gasoline
- Perchloroethylene – used in dry cleaners
- Methylene Chloride – used as solvent and paint stripper
- Cadmium – found in coatings & plating solutions
- Asbestos – used as flame retardant mineral fiber



# NO<sub>2</sub> – Nitrogen Dioxide



Ozone is formed when NO<sub>2</sub> and volatile organic compounds react in the presence of heat and sunlight.

Some common sources of NO<sub>2</sub>(and ozone) are vehicle exhaust, power plants, and off-road equipment.

# Sulfur Dioxide



Sulfur dioxide is a gas. It is invisible and has a nasty, sharp smell.

About 99% of the sulfur dioxide in air comes from human sources. The main source of sulfur dioxide in the air is industrial activity that processes materials that contain sulfur, such as the generation of electricity from coal, oil or gas that contains sulfur. Some mineral ores also contain sulfur, and sulfur dioxide is released when they are processed. In addition, industrial activities that burn fossil fuels containing sulfur can be important sources of sulfur dioxide.

Sulfur dioxide is also present in motor vehicle emissions, as the result of fuel combustion.

# PM<sub>10</sub>/PM<sub>2.5</sub> – Particulate Matter

Particles less than 10 micrometers/2.5 micrometers in diameter



Particulate matter are the particles of dust, soot and unburned fuel suspended in the air.

PM<sub>10</sub> are the inhalable coarse particles, such as those found near roadways and dusty industries.

PM<sub>2.5</sub> are the fine particles produced any time fuels such as coal, oil, diesel or wood are burned. These particles can also be generated by construction equipment, agricultural burning and very fine and silty soils.

# Lead



Lead is the most abundant toxic heavy metal, which is found naturally in the environment as well as in manufactured products. Major industrial sources of lead emissions include:

- Waste oil and solid waste incineration
  - Iron and steel production
- Lead smelting (highest lead levels in the air are generally found near lead smelters)
  - Battery and lead alkyl manufacturing

# Volatile Organic Compounds (VOCs)

VOCs and  $\text{NO}_2$  create ground level ozone in the presence of sunlight.



VOCs are emitted from solvents, inks, alcohols, paints, coatings, and gasoline. Some VOCs can also be HAPS.

Examples: Xylene,  
Ethanol, Toluene,  
Benzene, Formaldehyde

# Compliance

**Compliance with regulations and permit terms is evaluated through inspections and review of reports and records.**



As required by local and federal regulations, a business is periodically required to report on compliance with conditions of its permit. At that time, a responsible official must either certify compliance or inform the Air Quality department of noncompliance and submit a schedule to bring the business into compliance.

# Enforcement

If certifications are falsified, or if sources are found to be non-compliant with any regulation or the terms of their permit, federal, state and local regulations provide for both civil and criminal enforcement actions.

# Pinal County Clean Air

**The Pinal County Air Quality program is responsible for permitting sources of air pollution to ensure they do not adversely affect air quality in Pinal County and surrounding areas.**

