



Air Pollution Control Division Small Business Assistance Program

Fact Sheet - Environmental Regulations for Hot Mix Asphalt Plants

In order to protect and preserve Colorado's public health and valuable resources, hot mix asphalt plants (or facilities) must adhere to strict air, water, and waste requirements administered by the Colorado Department of Public Health and Environment (CDPHE). As Colorado moves forward, so has the need for asphalt materials. Today, over 12 million tons of hot mix asphalt are produced by over 60 hot mix asphalt facilities in Colorado each year.

This fact sheet provides an overview of the asphalt production process and the environmental requirements that apply to hot mix asphalt facilities in Colorado.

The Asphalt Production Process

Hot mix asphalt paving materials are a mixture of aggregate, sand, asphalt binder, and may include recycled asphalt pavement. The hot mix asphalt process involves mixing the crushed aggregate with asphalt cement (a product of oil refining that acts to glue the aggregates together) to form a hot asphalt mixture that can be laid down as a smooth road surface.

Air Emissions

Controlling the emission of harmful pollutants into the air is the guiding principle behind the state's air quality standards. Stringent limits are set for a range of pollutants based on their known effects to human health and the environment. Technology and control systems are available to hot mix asphalt facilities so that they comply with the air quality standards of the State of Colorado. Operation and Maintenance Plans are submitted by the permittee to ensure and document that their controls are working in the most efficient manner. In addition, dust control plans are required to be in place to control fugitive dust from material storage and handling areas and from trucks traveling on haul roads.

Hot mix asphalt plants have the potential to emit: volatile organic compounds (VOCs), carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO₂ - if sulfur is present in the fuel), and particulate matter (PM). Asphalt plants are required to install controls or take other measures to reduce harmful air emissions. These measures and controls include counter-flow mixing equipment technology, baghouse systems to control particulate emissions, enclosed or partially enclosed conveyor systems, and top-of-silo emission recovery systems. In addition, best management practices to minimize emissions during hot mix asphalt production have been established by the asphalt industry. These best management practices include guidance on facility operation and maintenance to maximize efficiency and minimize emissions. Natural gas is a common fuel for asphalt plants. Therefore, the emissions from a plant fueled by natural gas are similar to a household furnace.

➤ *New Source Performance Standards (NSPS): CFR 40, Subpart I - Standards of Performance for Hot Mix Asphalt Facilities*

All Colorado hot mix asphalt plants are required to comply with federal requirements called *New Source Performance Standards* provided in Colorado Regulation No. 6, Part A, Subpart I, *Standards of Performance for Hot Mix Asphalt Facilities*. The performance standard limits the particulate emissions from the hot mix asphalt plant. To show that the hot mix asphalt plant can meet the air emission limits, the owner/operator must conduct a performance test for particulates, opacity, and sometimes CO emissions. Generally, the test is conducted within six months after the hot mix asphalt plant receives an initial approval to construct the plant.



➤ *Air Emission Reporting Requirements*

An Air Pollution Emission Notice (APEN) is a form used to report a facility's emissions. Operators of hot mix asphalt plants are required to submit an APEN to the Air Pollution Control Division if air emissions exceed the Reporting thresholds presented in Table 1. The APEN form is titled, "Hot Mix Asphalt - Specialty APEN" and is available through the APCD and online at: www.colorado.gov/pacific/cdphe/specialty-apens

Table 1
APEN Reporting Thresholds

	Attainment (Ton per year)	Nonattainment (Ton per year)
Criteria Pollutants (NOx, Ozone)	2	1
Other Criteria Pollutants (CO, SOx, PM, PM-10, etc.)	2	1
Non-Criteria Pollutant (HAPs & other reportable pollutants)	≥ 250 pounds per year of any individual non- criteria reportable pollutant	

Once submitted, the APEN is valid for five years. The APEN includes information on the location and ownership of the site and detailed information on the site-specific process equipment and air pollution control measures. The APCD uses the information provided on the APEN to write an air permit for the plant if it is needed.

➤ Air Permits

All hot mix asphalt plants must submit an APEN form and obtain an air permit if emissions are equal to or greater than reporting levels listed in Table 2.

Table 2
AIR PERMIT Reporting Thresholds

Pollutant	Uncontrolled Actual Emissions (tons per year)	
	Attainment Area	Non-attainment Area
VOC	5	2
PM 10, PM 2.5	5	1
TSP, CO, SOx, NOx	10	5
Non-Criteria Pollutant (HAP)	10 per each pollutant	

Your air permit defines the type of air pollution control measures that will be used, sets air pollutant emission limits, includes recordkeeping requirements, and requires you to mark the air permit number on each piece of equipment subject to the air permit. Take the time to review your air permit and be familiar with your regulatory requirements.

An Air Permit Includes...

- Limits on annual asphalt production
- Required air pollution controls
- Opacity (visual emissions) limitations
- Recordkeeping requirements
- Operating and maintenance requirements
- Other key areas that may need to be addressed e.g., methods for controlling fugitive dust at the site.

In Colorado, Construction Permits are issued in two phases: "Issuance 1" and "Final Approval to Operate".

- Issuance 1 of a permit allows the plant to be constructed and begin operation. The source must self-certify to Issuance 1 of the permit once in operation within 180 days of receiving the first issued permit.
- After the owner certifies that the operation is in compliance with the conditions of Issuance 1 of the permit, the Division issues a "Final Approval to Operate" letter to operate under the conditions of Construction Permit Issuance 1. This letter confirms the completion of the self-certification requirements of that permit. The source is issued an invoice for processing time for this letter, and must pay the invoice within 30 days of receipt. Please note that if the permit processing fee is not paid within 30 days of receipt, you will be in violation of your permit conditions and may result in revocation of the permit.
- If the source modifies an existing permit, the source will be issued Construction Permit Issuance 2 (Issuance number determined by modification sequence). The source may have to self-certify to the new Issuance if required by the permit.

The final approval air permit is valid for the life of the equipment. In the event of a change of ownership or equipment, a revised APEN form must be filed and will result in a new Issuance number.

Air Inspections and Enforcement

The APCD enforcement staff conducts routine inspections of Colorado HMA plants to ensure that plant operators are properly maintaining the required air pollution equipment, keeping records, and complying with all conditions of the air permit. Most hot mix asphalt plants are inspected every 3 to 5 years, while others are inspected annually. The APCD also responds to citizen complaints on dust, odor, or noise problems at HMA plants. When a permit violation or noncompliance issue leads to enforcement proceedings, corrective action is required and fines up to \$15,000 per day can be levied against plants.

Frequently Asked Question:

When I drive by an asphalt plant, what is it that I see coming from the plant?

Often this is steam produced from the moisture in the aggregate when dried. This steam may be mistaken for smoke, especially in cold weather. Visual emissions of smoke are regulated and restricted.

Stormwater/Colorado Discharge Permit System (CDPS)

Almost all Colorado hot mix asphalt plants are required to obtain a Stormwater General Permit for Light Industrial Activity or to be covered under a Stormwater General Permit for Construction Activities if the plant is dedicated to a specific construction site covered by this permit.

Stormwater refers to runoff resulting from rain or snowmelt events. When stormwater comes into contact with plant operations or storage piles, it can become contaminated with sediments, oil and grease, or other pollutants that could impact Colorado waterways. The Stormwater General Permit requires a hot mix asphalt plant to develop and implement a Stormwater Management Plan (SWMP) that includes best management practices to prevent the discharge of pollutants in stormwater runoff. In addition, spills of oil or fuel of greater than 25 gallons, or spills of any size that reach State waters, must be reported to CDPHE. Spill remediation and monitoring is required.

Stormwater and process water permits are issued under the Colorado Discharge Permit System (CDPS) administered by the CDPHE Water Quality Control Division (WQCD).

Solid and Universal Waste

A typical hot mix asphalt plant does not generate hazardous waste and generates very little solid and universal waste. Some wastes, such as petroleum-contaminated soils, may be reused in the asphalt production process. All wastes must be properly managed and disposed of.

Community Right to Know

On March 1 of each year, every hot mix asphalt production facility is required by state and federal law to report the storage of regulated onsite chemicals. This information is sent to emergency planning organizations. Concerned citizens can obtain this public information from state and federal agencies.

Questions?



The air, water, and waste environmental programs at CDPHE work together to answer questions and help businesses understand and comply with environmental regulations. If you have questions on the requirements for hot mix asphalt plants in Colorado, please contact the resources listed below:

- ❖ **Air Emission Reporting and Permitting:**
Small Business Assistance Program (SBAP)
(303) 692-3175 or (303) 692-3148
www.colorado.gov/pacific/cdphe/small-business-assistance-program-sbap
- ❖ **Wastewater and Stormwater Permitting:**
Water Quality Control Division
(303) 692-3500
www.colorado.gov/pacific/cdphe/clean-water
- ❖ **Solid and Universal Waste Management:**
Generator Assistance Program (GAP)
(303) 692-3415 or Hotline: (303) 692-3320
www.colorado.gov/pacific/cdphe/hm