



Air Pollution Control Division

Small Business Assistance Program

A Guide to Air Regulations for Gasoline Fuel Dispensing Stations

Fuel dispensing stations emit substances that are regulated as air pollutants by the Colorado Department of Public Health and Environment, Air Pollution Control Division (division). This document provides an overview of the air pollution reporting and permitting requirements for gasoline fuel dispensing stations with underground storage tanks.

➤ WHAT AREA IS MY BUSINESS IN?

Air emission reporting and permitting requirements in Colorado vary based on whether a business is located in an “attainment/attainment maintenance” area or a “nonattainment” area of Colorado. In general, air regulations are more stringent in “nonattainment” areas because these areas exceed the National Ambient Air Quality Standards (NAAQS) for regulated pollutants. To determine if your business is located in an attainment or nonattainment area, visit the divisions Ozone information page at: www.colorado.gov/pacific/cdphe/ozone-information

➤ ENVIRONMENTAL CONCERNS

Volatile Organic Compounds (VOCs)

One of the main air pollutants emitted from gasoline stations are Volatile Organic Compounds (VOCs) contained in gasoline vapor. With sunlight acting as a catalyst, VOCs readily combine with oxides of nitrogen to form ozone. Ozone is a regulated pollutant in Colorado. At ground level, ozone is a major ingredient of smog, aggravates heart and respiratory illnesses, and may contribute to the development of various diseases including bronchitis and emphysema.

Hazardous Air Pollutants (HAPs)

Some of the chemicals contained in fuel are classified as HAPs. These chemicals can have detrimental effects on humans and the environment. HAPs in gasoline vapor include, but are not limited to, benzene, methyl tert butyl ether (MTBE¹), hexane, toluene, 2,2,4-trimethyl pentane, and xylene. These substances have been known to cause headaches, dizziness, difficulty breathing, and an increased risk of cancer and birth defects. Highly concentrated vapor can be emitted when fuel is transferred from tank trucks to underground storage tanks at service stations. It can also be emitted directly into your breathing zone when you refuel your vehicle. The most immediate concern has been benzene because it is a known human carcinogen and is persistent

in the atmosphere.

At one time lead was added to gasoline as an anti-knock agent to increase the octane of the fuel. Lead was then found to be a developmental toxicant in humans and regulations were adopted to restrict its use. Most fuels now consist of more highly branched and aromatic compounds that may include a higher benzene content.

Note: The blending of MTBE is prohibited in Colorado after April 30, 2002 (Colorado Revised Statutes 25-7-139).

➤ **AIR EMISSION REPORTING AND PERMITTING REQUIREMENTS**

In Colorado, businesses are required to report emissions of air pollutants if those emissions are over reporting thresholds. Operators of gasoline fuel dispensing stations with underground storage tanks must calculate their emissions and determine if an Air Pollutant Emission Notice (APEN) and Permit are required. An APEN is a form used to report a facility’s air emissions. The APEN shall include an estimate of the annual actual emissions, including emission controls, during a calendar year. The APEN form, titled *Underground Storage Tank (UST) Fuel Dispensing Stations-, Air Pollutant Emission Notice (APEN) - and -Application for Construction Permit*, is downloadable under Fuel dispensing stations at: www.colorado.gov/pacific/cdphe/specialty-apens

Table 1 lists the current APEN reporting thresholds under Colorado Regulation No. 3:

Table 1

| <u>APEN</u> REPORTING THRESHOLDS | | |
|--|---|---|
| Pollutant Category | Uncontrolled Actual Emissions | |
| | Attainment Area | Non-attainment Area |
| Criteria Pollutants (CO,NOx,SOx,PM10,PM2.5,TSP, Ozone,VOC)* | 2 tons per year | 1 ton per year |
| Lead | 100 pounds per year | 100 pounds per year |
| Non-Criteria Pollutants (Hazardous Air Pollutants; i.e. Benzene) | ≥ 250 pounds per year of any individual non-criteria reportable pollutant | ≥ 250 pounds per year of any individual non-criteria reportable pollutant |

*For the purposes of Air Pollutant Emission Notice reporting, criteria pollutants shall also include nitrogen oxides, fluorides, sulfuric acid mist, hydrogen sulfide, total reduced sulfur, reduced sulfur compounds, municipal waste combustor organics, municipal waste combustor metals, and municipal waste combustor acid gases.

For businesses with emissions above permitting thresholds in the ozone nonattainment area, the second step involves obtaining an air permit prior to construction or operation of the facility. Table 2 lists the current permitting thresholds under Colorado Regulation No. 3:

Note: Gasoline stations located in ozone attainment areas are specifically exempt from having to obtain a permit. (Reg No. 3, Part B, II.D.1.f.)

Table 2

| AIR <u>PERMITTING</u> THRESHOLDS | |
|---|--|
| <i>Pollutant Category</i> | Uncontrolled Actual Emissions |
| | Non-attainment Area (tons per year) |
| PM-10 | 1 |
| Total suspended particulates | 5 |
| Volatile organic compounds | 2 |
| Carbon monoxide | 5 |
| Sulfur dioxide | 5 |
| Nitrogen oxides | 5 |
| Lead | 200 pounds per year |
| Other criteria pollutants: fluorides, sulfuric acid mist, hydrogen sulfide, total reduced sulfur, reduced sulfur compounds. | 2 |

The division will use the information provided on your APEN to determine whether your business requires an air permit (unless it is specifically exempt as noted above). If an air permit is required, the APEN will become part of your permit application package.

The air permit will include requirements that approved fittings for a vapor recovery system be installed on all gasoline storage tanks. The operator must ensure that the tanks are only filled with fuel from a certified delivery truck equipped with an

approved vapor recovery system and that the system is properly connected during the entire filling operation. The air permit defines the type of air pollution control measures that will be used, the kinds and amounts of materials used by the facility and any other operating limits that may apply. Fuel dispensing facilities are required to maintain records of gasoline dispensed from each tank and maintain vapor recovery equipment/fittings to minimize air emissions.

➤ CALCULATE YOUR EMISSIONS

If emissions of VOCs and HAPs are above reporting levels those emissions must be submitted on the APEN form. To calculate your own emissions, use the following steps:

1. Determine the *actual* throughput (in gallons of fuel per year) for each tank. The actual throughput is the quantity of fuel actually dispensed for the previous calendar year. If you are calculating emission for a brand new facility you will have to estimate your annual throughput.
2. Determine the *requested* throughput (in gallons of fuel per year) for each tank. **The requested throughput will become your permit limit, if a permit is required.** The requested amount generally should be higher than your actual throughput to allow room for your business to grow over the next five years.
3. Determine the type of vapor or emission control at your facility. Examples of emission controls include Stage I Vapor Recovery, Stage II Vapor Recovery, Submerged Pipe Fill, and Splash Fill.

❖ Calculate your emissions by clicking on the following link:

www.colorado.gov/pacific/sites/default/files/AP_Gasoline-Station-Emissions-Calculator.xlsx

➤ WHEN TO FILE A REVISED APEN?

A Revised APEN must be filed with the division anytime there is a **significant change** in emissions or a modification in equipment or controls.

- A significant change for **VOC** is an increase of one ton per year over the amount previously reported on an APEN or five percent, whichever is greater (Regulation No. 3, Part A.II.C.2 and .3).
- A significant change for **HAPs** is five tons per year over the amount previously reported, or 50 percent, whichever is less.
- A Revised APEN must be filed whenever a permit emission limit is exceeded.

An APEN must be filed (renewed) every five years (or sooner if any of the above situations trigger an APEN revision).

➤ WHAT FEES APPLY?

Filing Fee: A filing fee is required for each APEN submitted. This includes APENs submitted for administrative changes (e.g., change in ownership, change in location). Fees are subject to change by the legislature on an annual basis.

Annual Fee: All sources required to file APENs must pay annual fees for the air pollutants that are emitted. Sources subject to an APEN are billed for their actual *controlled* emissions of criteria pollutants and non-criteria (hazardous air pollutants) pollutants. The division mails invoices for these fees in late February, May or June of each year (these fees account for the emissions from the previous year's operation). Fees are subject to change by the legislature on an annual basis.

Permit Processing Fee: In addition to the APEN filing fee, if a permit is required permit-processing fees will be assessed at an hourly rate.

- ❖ Current fee information is available online at:
www.colorado.gov/pacific/cdphe/emissions-and-permitting-fees

➤ POLLUTION CONTROLS

Stage I Vapor Recovery refers to the process of reclaiming vapor that, in the past, was released into the air when loading fuel into transport vehicles (tankers) at terminals and the unloading of the fuel at the service station. The cargo tank retrieves the vapors displaced during product unloading and transports the vapors through a vapor recovery system (equipment installed to control the release of vapors) or back to the loading terminal (closed loop vapor balance system). A vapor balance system is approved in Colorado if its design and operation are in accordance with provisions in Colorado Regulation No. 7 Section VI.B.

Stage I control applies to gasoline stations in the nonattainment area. Stage I controls are normally not required in attainment areas in Colorado outside of the Denver Metro area; however, terminals, bulk stations, and service stations equipped to use Stage I controls are encouraged to use them state-wide to control emissions of VOCs and HAPs. **In areas where vapor recovery equipment is required, the equipment must be utilized at all times.** Failure to properly operate the equipment can result in violations being issued to both the transporter and the owner of the service station or gasoline terminal.

The responsibility for complying with Stage I requirements falls on both the transporter and the recipient of the gasoline. Transporters of gasoline must have their equipment pressure and vacuum tested annually (Regulation No. 7, Section VI.D) to ensure that there are no leaks in the lines or other parts of the tank. This includes

hoses, piping, and connections. In addition, the deliverer must ensure that the equipment is properly connected when transferring gasoline from the transport tank to the storage tank. The recipient of the gasoline (usually a service station) must also ensure that the proper equipment has been installed and is in working order. Regularly scheduled inspections and maintenance will help you to stay in compliance with the control requirements and avoid costly and time-consuming enforcement actions.

➤ HOUSEKEEPING

Gasoline must not be intentionally spilled, discarded in sewers, stored in open containers, or disposed of in any other manner that would result in evaporation (Regulation No. 7, Section V.B.). If a spill does occur, it should be cleaned up immediately. Spill reporting and clean up procedures must be conducted in accordance with applicable Colorado Regulations.

➤ RECORD KEEPING

Annual records of gasoline throughput (gallons per year) must be maintained by the owner/operator and made available to the division for inspection upon request. A copy of the most recent APEN and Permit (if required) should be maintained by the owner/operator. Records must be maintained by the owner/operator for at least two years.

➤ SMALL BUSINESS ASSISTANCE PROGRAM

The Small Business Assistance Program (SBAP) is available to answer questions you may have regarding environmental issues at your facility. The SBAP can help you understand the regulations, help you determine what your company has to do to be in compliance, help you file required forms, help you complete the APEN process (if required), help you calculate your emissions, or provide information by presenting a workshop for your company or for your industry. Our services are always free.

➤ RESOURCES

- ❖ Air Pollution Control Division (APCD): (303) 692-3100
- ❖ Small Business Assistance Program: (303) 692-3175 or 3148
- ❖ Small Business Ombudsman: (303) 692-2135