

## **Review of the Emissions Factor for Volatile Organic Compound (VOC) Emissions from Natural Gas Production Flares: Fact Sheet**

---

### **Review of emissions factor for natural gas production**

- On February 5, 2018, the U.S. Environmental Protection Agency (EPA) completed its review of the emissions factor for volatile organic compounds (VOC) for flares at natural gas production sites under section 130 of the Clean Air Act.
- EPA has evaluated test data available to the Agency for flares from natural gas production sites. Based on that data, and consideration of public comments on the June 2017 proposal related to the review, the agency is not revising the VOC factor. Available data pertain to total hydrocarbon emissions (THC) and, as such, did not indicate that the existing VOC factor is flawed or outdated.
- Emissions factors are used to estimate air pollution emissions, generally by relating the amount of a pollutant emitted to a measure of the activity associated with the release of that pollutant – such as the amount of a pollutant emitted per cubic feet of gas produced. EPA does not require emissions factor use, but makes factors available to assist industry and states in estimating emissions from industrial processes.
- The emissions test data currently available on flares used in natural gas production are data on total hydrocarbon emissions (THC) rather than VOCs. While these data did not allow EPA to conclude that revision to the VOC factor is necessary, they did provide information that the agency could use to develop new factors for THC emissions from enclosed ground flares. Those factors can, in turn, be used for estimating VOC emissions from enclosed ground flares.
- As part of the February 5, action, EPA established two new THC factors for enclosed ground flares at natural gas production sites. In addition, the agency is establishing four new THC factors for enclosed ground flares used in certain chemical processes.

### **New factors for enclosed ground flares at natural gas production sites**

- During the review of the existing emissions factor, EPA sought and obtained test data on emissions from flares at natural gas production sites. The available data on enclosed ground flares were for THC.
- Depending on the type of source, THC can include a number of compounds, such as methane, benzene, propylene, butane, styrene, and other compounds consisting of carbon

and hydrogen. Many types of sources, including enclosed ground flares, commonly measure THC.

- EPA is establishing two factors for THC emissions from enclosed ground flares at natural gas production sites: one factor based on the amount of gas fed to a flare, and one based on heat input to the flare.

#### **New factors for ethylene and propylene production**

- EPA is issuing four new factors for enclosed ground flares at chemical manufacturing processes used in ethylene and propylene production: two for flares operating under a low percent load, and two for a flare operating under a high percent load. Percent load refers to the amount of gas that is fed to a flare in relation the amount of gas that is capable of being fed to a flare.

#### **Clarification of Heating Value Basis**

- As part of the February 5 action, EPA is clarifying the heating value basis for certain emissions factors for industrial processes in order to allow users to generate more accurate emissions estimates. These factors are found in tables [13.5-1 through 13.5-3 in AP-42](#), EPA's compilation of emissions factors and process information. EPA also is clarifying that the emissions factors in the tables represent the emissions at the exit of a flare, not the uncontrolled VOC or THC emissions routed to the flare.

#### **Background**

- On June 5, 2017, based on its review of available data, EPA proposed not to revise the existing VOC emissions factor for flares at natural gas production sites. The agency also proposed a new THC factor for enclosed ground flares at natural gas production sites, and two new THC factors for enclosed ground flares at chemical manufacturing processes used in ethylene and propylene production. EPA took public comment on the proposal until August 18, 2017.

#### **For more information:**

- All of the new factors developed as a result of the review are available in "AP-42," EPA's compilation of emissions factors and process information for more than 200 air pollution source categories. The VOC factor for flares at natural gas production sites, which remains available for use in estimating emissions from elevated flares, is available in the WebFIRE online database.
- For additional information about the review of the VOC factor for flares at natural gas production sites, visit <https://www.epa.gov/air-emissions-factors-and-quantification/new-emissions-factors-enclosed-ground-flares>