



SLEIS GUIDANCE

How to Report Flares in SLEIS

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Control Device

- A control device should be created for each flare at the facility.
- Each pollutant controlled by the flare and its respective control efficiency should be listed at the flare control device.
 - A maximum of 98% capture efficiency and 98% control efficiency can be claimed for most flares. This is 96% overall control.
 - This document only addresses NO_x, CO, and VOC. If additional pollutants (e.g., PM-2.5, formaldehyde, etc.) are emitted in reportable quantities, those pollutants should be addressed in a similar manner. Please contact the Emissions Inventory staff for guidance.

Release Points

- The flare should report only one vertical release point. The pilot light NO_x, CO, and VOC emissions, uncombusted VOC emissions, and NO_x and CO emissions associated with combustion of the gas stream all release to the atmosphere at the same location.
 - The flare release point has a 100% release point apportionment.
- Each emission unit that routes to the flare should have a fugitive release point that represents the release of uncaptured emissions into the atmosphere. Note: this is a way of characterizing the release point (fugitive rather than vertical). The emission unit would still retain the appropriate Source Classification Code (e.g., SCC 31000212 for condensate storage tanks).
 - For example, if a flare has 98% capture efficiency, 2% of the emissions are uncaptured at the emission unit (i.e. do not make it to the flare) and should be reported at the emission unit.
 - The release point apportionment equals 100% because 100% of the uncaptured emissions are emitted at the emission unit.

Emission Unit

- If there is a flare at the facility it should be listed as both an emission unit and a control device.
- Each emission unit that uses the flare should be associated with the flare on the Unit Process page in SLEIS.

Unit Process

- The flare emission unit can report unit processes two different ways.
 - **Option One** includes two processes.
 - One process for combustion emissions associated with the pilot light.
 - NO_x, CO, and VOC are expected.
 - AP-42 factors are available in SLEIS to calculate all three of these pollutants.

- The other process is for un-combusted VOC emissions and NO_x and CO emissions associated with the combustion of the gas stream.
 - TCEQ flare emission factors for flares in the oil and gas industry or AP-42, Chapter 13.5 emission factors can be utilized to calculate NO_x and CO emissions from the combustion of the gas stream.
 - The un-combusted VOC emissions are the percentage of VOC emissions not destroyed by the flare. Many flares report a 98% control efficiency. This means 2% of the gas stream routed to the flare is not being destroyed.
 - Un-combusted VOC emissions can be estimated by taking a percentage (2% if the flare combustion destruction efficiency is 98%) of the ***captured*** emissions from the emission units that route to the flare.
 - US EPA Documents incl. AP-42 & WebFIRE (no EF) is the appropriate calculation method to choose.
- **Option 2** includes one process.
 - One process represents NO_x and CO emissions due to combustion of the captured gas stream, un-combusted VOC emissions, and pilot light emissions (NO_x, CO, and VOC).
 - Instead of using the actual throughput that enters the flare over the reporting year, multiply the maximum flare design capacity (maximum heat input in MMBtu/hr) by the hours of operation to get the yearly throughput for the flare. Multiply the heat input by the appropriate emission factors for NO_x and CO. This is a conservative estimate so pilot light emissions are assumed to be accounted for and do not need to be calculated and reported under a different process.
 - The NO_x and CO emissions are accounted for using either AP-42 or TCEQ emission factors for flares in the oil and gas industry and multiplying by the maximum annual heat input (MMBtu).
 - Un-combusted VOC emissions can be estimated by taking a percentage (2% if the flare combustion destruction efficiency is 98%) of the ***captured*** emissions from the emission units that route to the flare.