



SUBPART W

2016 Gathering & Boosting Segment



On October 22, 2015, the Environmental Protection Agency (EPA) revised Subpart W to add new industry segments for Reporting Year 2016. This change became effective January 1, 2016. This revision adds the emissions from the onshore petroleum and natural gas gathering and boosting segment.

The EPA is not changing the definition of natural gas processing; however, the new gathering and boosting source category will fill a data gap currently in Subpart W and minimize confusion over other segments. The gathering and boosting segment covers equipment not previously reported under the production or processing segments.

Companies are also required to prepare a Greenhouse Gas Management Plan to cover this new segment as required in Subpart A of 40 CFR Part 98 [§98.3(g)].

APPLICABILITY

This additional industry segment (§98.230(a)(10)) includes emissions from equipment that transfers petroleum and natural gas from the well site to one of the following: larger gathering pipeline systems, natural gas processing plants, natural gas transmission pipelines, or natural gas distribution pipelines. The EPA defines a gathering and boosting system as “a single network of pipelines, compressors, and process equipment, including equipment to perform natural gas compression, dehydration, and acid gas removal that has one or more well-defined connection points to gas and oil production and a well-defined downstream endpoint, typically a gas processing plant or transmission pipeline.”

Gathering pipelines operating under vacuum, with a gas to oil ratio (GOR) less than 300 scf/stock tank barrel (STB) of oil or condensate, and any equipment and pipelines that are reported under

any other industry segment defined in Subpart W, are not reported with the onshore petroleum and natural gas gathering and boosting segment.

The source types included in the gathering and boosting segment are very similar to the current source types reported under the oil and gas production segment. The gathering and boosting segment emissions are aggregated for the entire basin, but can also be reported by sub-basin. Sub-basins are the individual counties that make up each basin.

If a company's emissions from the gathering and boosting segment of the entire basin exceed 25,000 metric tons of CO₂ equivalent, then the company must report Under 40 CFR Part 98. The source types are listed below. Following the list, there is a table with a brief discussion of data needs. The table contains information that Trihydro has found useful to Subpart W reporting.

GHGS TO REPORT

CO₂, CH₄, and N₂O emissions must be reported from the source types listed below.

- Natural gas powered pneumatic devices & pumps
- Acid gas removal vents
- Dehydrators
- Blowdowns

- Storage tank emissions (flashing as well as standing and working losses)
- Flare stacks
- Centrifugal compressor venting
- Reciprocating compressor venting
- Equipment leaks
- Gathering pipeline leaks
- Combustion equipment

DATA NEEDS

Data needs and gathering methods must be outlined in a Greenhouse Gas Management Plan. This data should be available because it is used to comply with other air compliance requirements. This may include system throughputs and hydrocarbon analyses of produced gases, liquids, and natural gas products. The calculation methods used to determine emissions from each source type are standardized and listed in Subpart W. In some instances, the calculation methods may not be the same as currently used for air permitting and compliance with other air regulations. This subpart does not allow for use of an alternative calculation method.

EQUIPMENT EMISSIONS	INFORMATION TO COLLECT AND NOTES
Natural gas powered pneumatic devices and pumps	The number and types of pneumatic devices (hi, low, or intermittent bleed) and pumps.
Acid gas removal vents	Either measured emissions (CEMs or metered) or the data needed to run software simulation packages to estimate emissions. The software must use (and be run using) the Peng-Robinson equation of state and speciate CO ₂ . CH ₄ does not need to be reported for acid gas removal vents.
Dehydrators	A count of glycol dehydrators with a throughput of 0.4 MMscf/day. For glycol dehydration equipment with a throughput of greater than 0.4 MMscf/day, the data used to calculate emissions using Gly-Calc or other simulation software. The software must use the Peng-Robinson equation of state.
Blowdown vent stacks	Piping or equipment volumes over 50 cubic feet (the volume of the equipment that is blown down, not the volume of the gas). The blowdowns are grouped together by either event type or for a specific piece of equipment. To calculate the emissions additional information is needed, vessel temperature, volume and pressure, the number of blowdowns, and the CO ₂ and CH ₄ mole percentage of vented gas.
Storage tank emissions	Include flashing as well as standing and working losses. If oil or condensate enters a tank at ambient pressure for this industry segment, then only standing and working losses will need to be calculated. If the liquids are from an upstream, pressurized vessel, then a pressurized sample will need to be taken at the upstream equipment for extended hydrocarbon analysis. Depending on the simulation software, a sample might be required from the settled storage tank to determine RVP and API gravity.
Flare stacks	This category does not include emissions from the other equipment categories on this list. Those are generally reported with the equipment.
Centrifugal compressor venting	Only a physical count of compressors is needed. The calculation method calls for use of the equipment count multiplied by a published emission factor.
Reciprocating compressor venting	As with centrifugal compressors, only a physical count of compressors is needed.
Equipment leaks	Equipment leak emissions are based on counts of major equipment types – separators, meters/piping, compressors, in-line heaters, dehydrators, heater treaters and headers. The remaining calculations are determined by component counts per major equipment types and emission factors published in the rule.
Gathering pipeline equipment leak emissions	Emission factors published in the rule are based on the material of construction and the miles of pipeline for each type of material. No active leak detection methods are required to be conducted in the field for this regulation.
Combustion equipment	This can be a tricky category because it includes tracking both permanent and portable combustion equipment. It also includes emissions from equipment not owned by the reporting company. It does not include engines that power a drive shaft, but does include non-electric temporary heaters, engines and pumps used on the site.

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