



EPA’s Final Rule to Reduce Methane and Other Pollution from Oil and Natural Gas Operations

Summary of Standards¹

Covered Source	Final New Source Performance Standards for Methane and VOCs	Final Presumptive Standards for Methane for Existing Sources
Leaks Monitoring (Fugitive Emissions)		
Single Wellhead-Only Well Sites and Small Well Sites.	<ul style="list-style-type: none"> • Quarterly AVO surveys. AVO (audible, visual and olfactory) surveys are inspections where inspectors listen, look and smell for leaks. • First attempt at repair within 15 days after detecting fugitive emissions. Final repair within 15 days after first attempt. • Fugitive monitoring continues for all well sites until the site has been closed, including plugging the wells at the site and submitting a well closure report. 	<ul style="list-style-type: none"> • Same as NSPS
Fugitive Emissions: Multi-Wellhead Only Well Sites (two or more wellheads).	<ul style="list-style-type: none"> • Quarterly AVO surveys. First attempt at repair within 15 days after detecting fugitive emissions. Final repair within 15 days after first attempt. • Semiannual optical gas imaging (OGI) monitoring. (Optional semiannual EPA Method 21 monitoring with 500 ppm defined as a leak.) • First attempt at repair within 30 days after detecting fugitive emissions. Final repair within 30 days after first attempt. • Fugitive monitoring continues for all well sites until the site has been closed, including plugging the wells at the site and submitting a well 	<ul style="list-style-type: none"> • Same as NSPS

¹ This table is a summary. For the official tables of standards, including the final Best System of Emissions Reduction (BSER) please see Tables 3 and 4 in the final rule.

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	closure report.	
Fugitive Emissions: Well Sites with Major Production and Processing Equipment and Centralized Production Facilities.	<ul style="list-style-type: none"> • Bimonthly AVO surveys (i.e., every other month). First attempt at repair within 15 days after detecting fugitive emissions. Final repair within 15 days after first attempt. <p>AND</p> <ul style="list-style-type: none"> • Well sites with specified major production and processing equipment: Quarterly OGI monitoring. (Optional quarterly EPA Method 21 monitoring with 500 ppm defined as a leak). • First attempt at repair within 30 days after detecting fugitive emissions. Final repair within 30 days after first attempt. • Fugitive monitoring continues for all well sites until the site has been closed, including plugging the wells at the site and submitting a well closure report. 	<ul style="list-style-type: none"> • Same as NSPS
Fugitive Emissions: Compressor Stations.	<ul style="list-style-type: none"> • Monthly AVO surveys. First attempt at repair within 15 days after detecting fugitive emissions. Final repair within 15 days after first attempt. <p>AND</p> <ul style="list-style-type: none"> • Quarterly OGI monitoring. (Optional quarterly EPA Method 21 monitoring with 500 ppm defined as a leak). • First attempt at repair within 30 days after detecting fugitive emissions. Final repair within 30 days after first attempt. 	<ul style="list-style-type: none"> • Same as NSPS
Fugitive Emissions: Well Sites and Compressor Stations on Alaska North Slope.	<ul style="list-style-type: none"> • Annual OGI monitoring. (Optional annual EPA Method 21 monitoring with 500 ppm defined as a leak). • First attempt at repair within 30 days after detecting fugitive emissions. Final repair within 30 days after first attempt. 	<ul style="list-style-type: none"> • Same as NSPS
Storage Vessels: A Single Storage Vessel or Tank	<ul style="list-style-type: none"> • 95 percent reduction of VOC and methane. 	<ul style="list-style-type: none"> • 95 percent reduction of methane.

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Battery with PTE ⁴ of 6 tpy or more of VOC or PTE of 20 tpy or More of Methane.		
Process Controllers: Natural Gas-Driven.	<ul style="list-style-type: none"> VOC and GHG (methane) emission rate of zero. 	<ul style="list-style-type: none"> GHG (methane) emission rate of zero.
Process Controllers: Alaska (at sites where onsite power is not available—continuous bleed natural gas-driven).	<ul style="list-style-type: none"> Natural gas bleed rate no greater than 6 standard cubic feet per hour (scfh). 	<ul style="list-style-type: none"> Same as NSPS
Process Controllers: Alaska (at sites where onsite power is not available—intermittent natural gas-driven).	<ul style="list-style-type: none"> OGI monitoring and repair of emissions from controller malfunctions. 	<ul style="list-style-type: none"> Same as NSPS
Well Liquids Unloading.	<ul style="list-style-type: none"> Perform best management practices (BMP) to minimize or eliminate methane and VOC emissions to the maximum extent possible from liquids unloading events that vent emissions to the atmosphere. 	<ul style="list-style-type: none"> Perform BMP to minimize or eliminate methane emissions to the maximum extent possible from liquids unloading events that vent emissions to the atmosphere.
Wet Seal Centrifugal Compressors (except for those located at well sites).	<ul style="list-style-type: none"> 95 percent reduction of methane and VOC emissions. 	<ul style="list-style-type: none"> Monitoring and repair to maintain volumetric flow rate at or below 3 scfm per seal.
Wet Seal Centrifugal Compressors (except for those located at well sites): Self-contained centrifugal compressors and wet seal	<ul style="list-style-type: none"> Monitoring and repair to maintain volumetric flow rate at or below 3 scfm per compressor seal. 	<ul style="list-style-type: none"> Same as NSPS

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compressors equipped with a mechanical seal.		
Wet Seal Centrifugal Compressors (except for those located at well sites): Alaska North Slope Centrifugal Compressors Equipped with a Seal Oil Recovery System.	<ul style="list-style-type: none"> Monitoring and repair to maintain volumetric flow rate at or below 9 scfm per compressor seal. 	<ul style="list-style-type: none"> Same as NSPS
Dry Seal Centrifugal Compressors (except for those located at well sites).	<ul style="list-style-type: none"> Monitoring and repair of seal to maintain volumetric flow rate at or below 10 scfm per compressor seal. 	<ul style="list-style-type: none"> Same as NSPS
Reciprocating Compressors (except for those located at well sites).	<ul style="list-style-type: none"> Monitoring and repair or replacement of rod packing to maintain volumetric flow rate at or below 2 scfm per cylinder. 	<ul style="list-style-type: none"> Same as NSPS
Pumps: Natural Gas-Driven.	<ul style="list-style-type: none"> GHG (methane) and VOC emission rate of zero. 	<ul style="list-style-type: none"> Methane emission rate of zero.
Pumps: Natural Gas-driven (at sites where onsite power is not available and there are fewer than three diaphragm pumps).	<ul style="list-style-type: none"> Route pump emissions to a process if VRU is onsite, or to control device if onsite. 	<ul style="list-style-type: none"> Same as NSPS

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Well Completions: Subcategory 1 (non-wildcat and non-delineation wells).	<ul style="list-style-type: none"> • Applies to each well completion operation with hydraulic fracturing. • Reduced Emissions Completion (REC) in combination with a completion combustion device; venting in lieu of combustion where combustion would present demonstrable safety hazards. • Initial flowback stage: Route to a storage vessel or completion vessel (frac tank, lined pit, or other vessel) and separator. • Separation flowback stage: Route all salable gas from the separator to a flow line or collection system, reinject the gas into the well or another well, use the gas as an onsite fuel source or use for another useful purpose that a purchased fuel or raw material would serve. If technically infeasible to route recovered gas as specified, recovered gas must be combusted. All liquids must be routed to a storage vessel or well completion vessel, collection system, or be reinjected into the well or another well. • The operator is required to have (and use) a separator onsite during the entire flowback period. 	<ul style="list-style-type: none"> • Not covered in the Emissions Guidelines. Well completions are always considered new or modified sources
Well Completions: Subcategory 2 (exploratory, wildcat, and delineation wells and non-wildcat and non-delineation low-pressure wells).	<ul style="list-style-type: none"> • Applies to each well completion operation with hydraulic fracturing. • The operator is not required to have a separator onsite. Either: (1) Route all flowback to a completion combustion device with a continuous pilot flame; or (2) Route all flowback into one or more well completion vessels and commence operation of a separator unless it is technically infeasible for a separator to function. Any gas present in the flowback before the separator can function is not subject to control under this section. Capture and direct recovered gas to a completion combustion device with a continuous pilot flame. • For both options (1) and (2), combustion is not required in conditions that may result in a fire hazard or explosion, or where high heat emissions from a completion combustion device may negatively impact tundra, permafrost, or waterways. 	<ul style="list-style-type: none"> • Not covered in the Emissions Guidelines. Well completions are always considered new or modified sources

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Equipment Leaks at Natural Gas Processing Plants.	<ul style="list-style-type: none"> Leak detection and repair (LDAR) with OGI following procedures in appendix K. Alternatively, LDAR using EPA Method 21 (leak definition varies by component type). 	<ul style="list-style-type: none"> Same as NSPS
New Wells with Associated Gas that Commenced Construction after 790 Days after Date of Publication in the Federal Register.	<ul style="list-style-type: none"> Route associated gas to a sales line; or, the gas can be used for another useful purpose that a purchased fuel, chemical feedstock, or raw material would serve, or recovered from the separator and reinjected into the well or injected into another well. 	<ul style="list-style-type: none"> Not included in Emissions Guidelines: does not apply to existing sources
New Wells with Associated Gas that Commenced Construction Between 60 Days after Date of Publication in the Federal Register, and 790 days After Date of Publication in the Federal Register.	<ul style="list-style-type: none"> Route associated gas to a sales line; or, the gas can be used for another useful purpose that a purchased fuel, chemical feedstock, or raw material would serve, or recovered from the separator and reinjected into the well or injected into another well. If demonstrated, and documented annually, that routing to a sales line and the alternatives are not technically feasible, the associated gas can be routed to a flare or other control device that achieves at least 95 percent reduction in GHG (methane) and VOC emissions. A second infeasibility determination may not extend beyond 24 months from effective date. 	<ul style="list-style-type: none"> Not included in Emissions Guidelines: does not apply to existing sources
New Wells with Associated Gas that Commenced Construction after December 6, 2022, and Before 60 days After Date of Publication in the Federal Register.	<ul style="list-style-type: none"> Route associated gas to a sales line; or, the gas can be used for another useful purpose that a purchased fuel, chemical feedstock, or raw material would serve, or recovered from the separator and reinjected into the well or injected into another well. If demonstrated, and documented annually, that routing to a sales line and the alternatives are not technically feasible, the associated gas can be routed to a flare or other control device that achieves at least 95 percent reduction in GHG (methane) and VOC emissions. 	<ul style="list-style-type: none"> Not included in Emissions Guidelines: does not apply to existing sources

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Wells with Associated Gas Reconstructed or Modified after December 6, 2022.	<ul style="list-style-type: none"> Route associated gas to a sales line; or, the gas can be used for another useful purpose that a purchased fuel, chemical feedstock, or raw material would serve, or recovered from the separator and reinjected into the well or injected into another well. If demonstrated, and documented annually, that routing to a sales line and the alternatives are not technically feasible, the associated gas can be routed to a flare or other control device that achieves at least 95 percent reduction in GHG (methane) and VOC emissions. 	<ul style="list-style-type: none"> NSPS requirement – does not apply to existing sources
Existing Wells with Associated Gas Greater than 40 tpy Methane.	<ul style="list-style-type: none"> Does not apply 	<ul style="list-style-type: none"> Route associated gas to a sales line. Alternatively, the gas can be used as an onsite fuel source or used for another useful purpose that a purchased fuel or raw material would serve or be injected into the well or another well. If demonstrated, and annually documented, that a sales line and alternatives are not technically feasible, the gas can be routed to a flare or other control device that achieves at least 95 percent reduction in methane emissions.
Existing Wells with Associated Gas 40 tpy Methane or Less.	<ul style="list-style-type: none"> Does not apply 	<ul style="list-style-type: none"> Route associated gas to a sales line. Alternatively, the gas can be used as an onsite fuel source or used for another useful purpose that a purchased fuel or raw material would serve or be injected into the well or another well.

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		<ul style="list-style-type: none"> Alternatively, the gas can be routed to a flare or other control device that achieves at least 95 percent reduction in methane emissions.
Sweetening Units.	<ul style="list-style-type: none"> Achieve required minimum SO₂ emission reduction efficiency. 	<ul style="list-style-type: none"> Not covered in Emissions Guidelines