OMB Control No. 2060-0328 Expires 03/31/2019

Natural Gas STAR Annual Report - Production Segment

FORM VERSION: REPORTING SEASON 20XX

Partner Name	
Reporting Year	20 <mark>XX</mark>

Use the Table of Contents below to navigate to the different tabs of the form. You can use column B to indicate if you reported data on a specific tab.

Distribution Emission Sources	Data Reported	Information
<u>Dehydrator Vents</u>		Install flash tank separators on glycol dehydrator vents
Pneumatic Controllers		Convert high-bleed controllers to low-bleed; convert high-bleed or low-bleed controllers to zero-emitting controllers; remove controllers from service with no replacement
Additional Production Activities		Use this tab to report all other methane reductions in the Production segment. You will be able to select the technology/practice used from the list of Natural Gas STAR Partner Reported Opportunities. If the activity you are reporting is not included in the list, please contact EPA at GasSTAR@epa.gov

The public reporting and recordkeeping burden for this collection of information is estimated to average 51 hours for each new response and 25 hours for subsequent responses. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

Dehydrator Vents

Install Flash Tank Separators on Glycol Dehydrators

Start Year		ors on Glycol Deny Automatically	End Year	Calculation	
Juin Teal	Eligible Sunset Years for this Activity	Automatically calculate sunsets?	Liid ICal	Method: Default, Standard, or Other	Number of Flash Tank Separators Installed

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Calculat	e Using Default	
Average Gas Throughput (MMcf/yr)	Calculated Total Methane Emission Reduction Based on Default Values {[Number of Flash Tank Separators Installed]x[Average Gas Throughput]) x 170 scf/MMcf x 0.9] / 1000]}	TEG Circulation Rate (gal/hr)
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Calculate Using Standard Calculation		
Methane Entrainment Rate (scf/gal)	Hours of Operation (hrs/yr)	Calculated Total Methane Emission Reduction Based on Standard Calculation {[TEG Circulation Rate]x [Methane Entrainment Rate]x[Hours of Operation] x 0.9] / 1000}
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	Other Calculation
Total Methane Emission Reduction Based on Other Assumptions (Mcf/yr)	Explain Reduction Calculation Used

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Provide additional comments or detail about how your company implemented this BMP
implemented this BMP

	
	
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Convert high-bleed controllers to low-bleed; convert high-bleed or low-bleed controllers to zero-emitting controlle

				Convert high-ble	eed to low-bleed
Start Year	New or Ongoing?	Average Methane Content of Gas (enter as a decimal; leave blank to use default 82.1% methane)	Average annual operating hours (leave blank to use default 8760 hours)	Number of controllers converted	Calculated Total Methane Emission Reductions (Mcf/yr)

<u>Contents</u>

rs; remove controllers from service with no replacement

rs; remove controller				
Convert hig zero-bleed/remo	h-bleed to	Convert low-bleed to		
zero-bleed/remo	ve from service	zero-bleed/remove from service		
Number of controllers converted/removed from service	Calculated Total Methane Emission Reductions (Mcf/yr)	Number of controllers converted/removed from service	Calculated Total Methane Emission Reductions (Mcf/yr)	

Provide additional comments or detail about how your company implemented this BMP	Durvide additional comments or detail shout how your comment		
	Provide additional comments or detail about how your company implemented this RMP		
	implemented this divir		

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Additional Production Activities

Start Year	Select the Activity	Fligible	Automatically
Start Tear	Select tile Activity	Eligible Sunset	calculate sunsets
		Years	Automatically calculate sunsets (if Sunset Years >1)?
		Years for this Activity	>1)?
		Activity	
<u> </u>			

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End Year Total Methane Emission Explain Reduction Calculation Us Reduction (Mcf/yr)	
(Mcf/yr)	

Describe how your company implemented this activity (e.g., number of units installed or other activities conducted)

This sheet summarizes values used in calculations in this workbook. If you have

Install Flash Tank Separators on Glycol Dehydrators

Default Values

Emission Factor ¹	170
Efficiency ²	0.9

Pneumatic Controllers

Emission Factors Source: 40 CFR 98, Table

Low Continuous Bleed Pneumatic Device Vents	1.39
High Continuous Bleed Pneumatic Device Vents	37.3

Default Values

Operating hours	8760
Methane content of natural gas	82.1%

Notes:

- ¹ Derived from "Methane Emissions from the Natural Gas Industry," Volume 14, Glycol
- ² Derived from "Optimize Glycol Circulation And Install Flash Tank Separators In Glycol |

e questions on any of the values used, please contact EPA at GasSTAR@epa.gov

scf/MMcfd percent (expressed as decimal)

W-1A (Population Emission Factors, Gas Service) scf whole gas / hr / device scf whole gas / hr / device

Assumes 24/7 operation all year

Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016, Annex 3.6 (Table 3.6-3), https://www.epa.gov/sites/production/files/2018-04/2018_ghgi_natural_gas_systems_annex_tables.xlsx

Dehydrators, co-sponsored by the Gas Research Institute and EPA, June 1996. Dehydrators" Lessons Learned document, EPA, October 2006.