U.S. ENVIRONMENTAL PROTECTION AGENCY Washington, DC 20460

Natural Gas STAR Annual Report - Gathering & Processing Segment

FORM VERSION: REPORTING SEASON 20XX

Partner Name	
Reporting Year	20XX

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
Equipment Leaks		Directed inspection and maintenance at gas plants and booster stations
Pneumatic Controllers - Gathering & B		
		Convert high-bleed controllers to low-bleed; convert high-bleed or low-bleed controllers to zero-
Pneumatic Controllers - Processing		emitting controllers; remove controllers from service with no replacement.
Additional Gathering and Processing A		Use this tab to report all other methane reductions in the Gathering and Processing 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	
	Eligible Sunset Years for this Activity	Automatically calculate sunsets?	2.10 . 30.	Method: Default, Standard, or Other	Number of Flash Tank Separators Installed

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 0.90] / 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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Equipment Leaks

Directed inspection and maintenance at gas plants and booster stations

Year	Total Number of Surveys Conducted	Total Number of Leaks Found	Number of	Total Number of Facilities at Which Leaks Repaired	Basis for Emission Reduction Estimate

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Total Methane Emission Reductions (Mcf/yr)	Explain Reduction Calculation Used

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

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)

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2rs; remove controllers from service with no replacement

		no replacement		
Convert hig zero-bleed/remo	n-pleed to	Convert low-bleed to zero-bleed/remove from service		
zero-bieeu/remo	ve Iroin 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
implemented this bivir

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

				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)

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ers; remove controllers from service with no replacement

	rs from service with	•	11 17	
Convert hig	n-bleed to	Convert low-bleed to		
zero-bleed/remo	ive 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 bivil			

Additional Gathering & Processing Activities

Start Year	Select the Activity	Fligible	Automatically
Start (Cal	Sciect the Activity	Eligible Sunset	Automatically calculate sunsets (if Sunset Years >1)?
		Years for this Activity	(if Sunset Years
		for this	>1)?
		Activity	

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End Year	Total Methane Emission Reduction (Mcf/yr)	Basis for Emission Reduction Estimate

Explain Reduction Calculation Used	

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 questions on any o

Install Flash Tank Separators on Glycol Dehydrators Default Values

Emission Factor ¹	170 scf/MMcfd
Efficiency ²	0.9 percent (expressed as decin

Pneumatic Controllers

Emission Factors - Gathering and Boosting	Source: 40 CFR 98, Table W-1A (Population Emission	
Low Continuous Bleed Pneumatic Device Vents	1.39 scf whole gas / hour / devic	
High Continuous Bleed Pneumatic Device Vents	37.3 scf whole gas / hour / devic	

Emission Factors - Processing		Source: 40 CFR 98, Table W-3B [Transmission segme		
	Low Continuous Bleed Pneumatic Device Vents	1.37 scf whole gas / hour / devic		
	High Continuous Bleed Pneumatic Device Vents	18.2 scf whole gas / hour / devic		

Default Values

Operating hours	8760	Assumes 24/7 operation all
Methane content of natural gas	82.1%	Inventory of IIC Creenbour
		Inventory of U.S. Greenhous (Table 3.6-3), https://www.
		04/2018_ghgi_natural_gas

Notes:

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

of the values used, please contact EPA at GasSTAR@epa.gov

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se Gas Emissions and Sinks: 1990-2016, Annex 3.6

epa.gov/sites/production/files/2018-
_systems_annex_tables.xlsx

sored by the Gas Research Institute and EPA, June 1996
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Learned document, EPA, October 2006.