



Natural Gas STAR Methane Challenge Program Implementation Plan

Partner Name

Current as of (date)

Partner Implementation Manager

Name: _____

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Natural Gas STAR Methane Challenge Program Implementation Plan

Partner Methane Challenge Commitments¹

BMP Commitment Option

	Source	Start Date	Achievement Year
Onshore Production			
<input type="checkbox"/>	Pneumatic Controllers		
<input type="checkbox"/>	Fixed Roof, Atmospheric Pressure Hydrocarbon Liquid Storage Tanks		
Gathering and Boosting			
<input type="checkbox"/>	Pneumatic Controllers		
<input type="checkbox"/>	Fixed Roof, Atmospheric Pressure Hydrocarbon Liquid Storage Tanks		
<input type="checkbox"/>	Reciprocating Compressors - Rod Packing Vent		
<input type="checkbox"/>	Centrifugal Compressors - Venting		
Natural Gas (NG) Processing			
<input type="checkbox"/>	Reciprocating Compressors - Rod Packing Vent		
<input type="checkbox"/>	Centrifugal Compressors - Venting		
NG Transmission & Underground Storage			
<input type="checkbox"/>	Reciprocating Compressors - Rod Packing Vent		
<input type="checkbox"/>	Centrifugal Compressors - Venting		
<input type="checkbox"/>	Transmission Pipeline Blowdowns between Compressor Stations	01/2019	01/2024
<input type="checkbox"/>	Pneumatic Controllers		
NG Distribution			
<input type="checkbox"/>	Mains – Cast Iron and Unprotected Steel (<i>Commitment Rate:</i>)		
<input type="checkbox"/>	Services – Cast Iron and Unprotected Steel		
<input type="checkbox"/>	Distribution Pipeline Blowdowns (<i>Commitment Rate:</i>)		
<input type="checkbox"/>	Excavation Damages		

Partner Methane Challenge Commitments

ONE Future Emissions Intensity Commitment Option

Segment:		Intensity Target:		Target Year:	
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¹ Partners may delete unused rows within the table, and may duplicate rows and add relevant details as needed (e.g., a corporate parent partner that has different commitments for each LDC can duplicate relevant rows to list the commitments for each LDC).

Dominion Energy Questar Pipeline (DEQP)
Natural Gas STAR Methane Challenge Program
Implementation Plan – Transmission and Storage

Company Background

Nearly 7.5 million customers in 18 states energize their homes and businesses with electricity or natural gas from Dominion Energy, headquartered in Richmond, Virginia. The company is committed to sustainable, reliable, affordable and safe energy and is one of the nation's largest producers and transporters of energy with about \$100 billion of assets providing electric generation, transmission and distribution, as well as natural gas storage, transmission, distribution and import/export services.

Dominion Energy Questar Pipeline (DEQP) is an interstate gas transmission subsidiary of Dominion Energy. DEQP is primarily a provider of gas transportation and storage services and maintains 2,172 miles of pipeline in three states – Utah, Wyoming, and Colorado. DEQP stores and transports large quantities of natural gas to other major pipeline systems for delivery to markets in the West and Midwest, including Dominion Energy Utah, Wyoming, Idaho, a local distribution system serving natural gas utility customers in Utah, southwest Wyoming and southern Idaho. Additionally, DEQP owns and operates the largest underground storage reservoir in the Rocky Mountain Region, located on the Wyoming-Utah border, and also owns and operates a small processing plant in Colorado. DEQP owns three other storage facilities and a processing plant in Utah. DEQP also owns the 261 mile Dominion Energy Overthrust Pipeline in Wyoming, and is the operator of the White River Hub in northwest Colorado. Each of these transmission and storage assets will be covered under this Implementation Plan.

Commitments and Projected Timeframe

On November 30, 2018, DEQP submitted a “Partnership Agreement” to EPA in which DEQP voluntarily commits to reducing pipeline blowdowns between compressor stations by 50% of total potential emissions for planned maintenance activities by calendar year 2024 (CY2024). A copy of the signed agreement is provided in Appendix A.

DEQP’s natural gas transmission pipelines typically operate under a normal operating pressure in the range of 500-1400 psig. The pipeline systems periodically require maintenance, which could be minor

repairs (Class 1, non-emergency repairs that do not involve complete service interruption) to major repairs (Class 4, large-scale projects where new pipe is being run parallel to existing pipe and require service interruption)¹. Prior to repair, the natural gas in the pipe will need to be released either at the operating pressure of the pipe or under reduced pressure. Methane, being the predominant component of natural gas (>93%), is released during the pipeline blowdown. As part of the commitment under the Methane Challenge program, DEQP will reduce the methane emissions released during planned blowdown activities. The emissions from pipeline blowdown from unplanned or emergency events are not covered by the commitment, but DEQP will implement best management practices, as feasible, to reduce emissions during such events.

By Calendar Year 2024, DEQP will establish procedures, data tracking systems, and implement measures to reduce emissions from planned blowdown from pipes by 50%, from the emissions that would have been emitted had the blowdown reductions not been implemented.

Dominion Energy will mainly target reduction through pressure pull downs prior to planned maintenance events; however, DEQP may utilize a combination of mitigation options to achieve the blowdown reductions, including:

- Routing gas to a customer, compressor or capture system of beneficial use;
- Routing gas to a flare (when necessary or when practical on a risk and economic basis);
- Routing gas to a low-pressure system, temporary resetting or bypassing pressure regulators to reduce system pressure prior to maintenance, or installing temporary connections between high and low pressure systems; and
- Utilizing hot tapping for new pipeline connections (avoiding blowdowns by keeping the pipeline in service and under pressure during the connection).

Milestones and Associated Timeframes

Annually, DEQP will develop a plan for scheduled capital maintenance line work projects. Within the plan, Operations, Engineering, and Gas Control will indicate mitigation methods to reduce methane emissions and estimated emissions savings. The plan will be reviewed by DEQP leadership and maintained quarterly each year through 2024. The emissions associated with pipeline blowdowns will be tracked using engineering software. Data will be updated on an on-going basis and reported monthly to determine progress toward DEQPs commitment. A preliminary schedule for implementing measures under this program is shown in Table 1.

Table 1

Measure to be Implemented	Preliminary Schedule
Develop Line Work Management Plan	Completed March 2019
List of planned blowdown events	1 st Quarter annually (2019-2023); updated quarterly
Collect blowdown emissions data and perform emissions reductions calculations	Ongoing through the year; commitment tracked monthly
Summary of blowdown emissions and reductions, report to EPA	1 st Half of following years (2020-2024)

¹ Using Pipeline Pump-Down Techniques to Lower Gas Line Pressure Before Maintenance (https://www.epa.gov/sites/production/files/2016-06/documents/ll_pipeline.pdf)

Recordkeeping and Reporting

The reductions from the reduced blowdowns will be tracked and entered into a commitment tracking system. For pressure reduction events, reductions are calculated in thousands of cubic feet (mcf) and are the difference between the gas loss at estimated, actual, or normal operating pressure and the release of gas at final pressure after pull down.

DEQP will track and report progress on a calendar year (CY) basis, which coincides with the EPA Greenhouse Gas Reporting Program (GHGRP) and other corporate disclosures. Two data elements will already be reported annually under the GHGRP, 1st Quarter in 2020 for CY2019 data. The below table illustrates how DEQP will voluntarily record and report supplemental data annually to EPA under the Methane Challenge Program.

Table 2

Emissions Source	Quantification Method	Data Elements Collected via Facility-Level GHGRP Reporting	GHGRP
Pipeline blowdowns between compressor stations	Subpart W Method 1, based on volume, temperature, and pressure	1. Total number of blowdowns per equipment or event type	X
		2. Total CH ₄ emissions (mt CH ₄) per equipment or event type	X
Voluntary action to reduce methane emissions during the reporting year	Difference in potential and actual emissions	3. Total number of blowdowns to which a BMP was applied	
		4. Number of blowdowns that routed gas to a:	
		a. Compressor or capture system for beneficial use	
		b. Flare	
		c. Low-pressure system	
		5. Number of hot taps utilized that avoided the need to blowdown gas to the atmosphere	
		6. Total potential emissions (mt CH ₄)	
		7. Emission reductions from voluntary action (mt CH ₄) (6 minus 2)	
8. <i>Percent Annual Reduction (7 divided by 6)</i>			

Plans for Future Expansion of Methane Challenge Commitments

Dominion Energy is evaluating plans for additional participation under the Methane Challenge Program and will update the implementation plan if and when those decisions are made. Dominion Energy continues to participate, and has recently expanded participation, in the Natural Gas STAR program for other voluntary methane reduction efforts outside the Methane Challenge Program. Best Management Practices (BMPs) and Partner Reported Opportunities (PROs) to be implemented by DEQP under the NgSTAR program include:

- Directed Inspection and Maintenance at Compressor Stations
- Identifying and Replacing High Bleed Pneumatic Devices
- Using Composite Wrap Repair
- Replacing Orifice Meters with Ultrasonic Meters

Historic Methane Emissions Reductions

DEQP joined the Natural Gas STAR Program in 2018. DEQP will evaluate past reductions from savings related to capital maintenance line work projects, the replacement of high-bleed pneumatic devices, and conversion of orifice meters to ultrasonic meters. DEQP will report these reductions in the first annual NgSTAR report.