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Natural Gas STAR Methane Challenge Program
Implementation Plan

Partner Name

Pacific Gas & Electric Company

Current as of (date)

Apr 19, 2019

Partner Implementation Manager

Name: _____

Title: _____

Address: _____

City/State/Zip: _____

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Partner Methane Challenge Commitments[1]

BMP Commitment Option

	Source	Start Date	Achievement Year
	Onshore Production		
☐	Pneumatic Controllers		
☐	Fixed Roof, Atmospheric Pressure Hydrocarbon Liquid Storage Tanks		
	Gathering and Boosting		
☐	Pneumatic Controllers		
☐	Fixed Roof, Atmospheric Pressure Hydrocarbon Liquid Storage Tanks		
☐	Reciprocating Compressors - Rod Packing Vent		
☐	Centrifugal Compressors - Venting		
	Natural Gas (NG) Processing		
☐	Reciprocating Compressors - Rod Packing Vent		
☐	Centrifugal Compressors - Venting		
	NG Transmission & Underground Storage		
■	Reciprocating Compressors - Rod Packing Vent	Mar 23, 2016	2020
■	Centrifugal Compressors - Venting	Mar 23, 2016	2020
■	Transmission Pipeline Blowdowns between Compressor Stations	Mar 23, 2016	2020
■	Pneumatic Controllers	Mar 23, 2016	2020
	NG Distribution		
☐	Mains – Cast Iron and Unprotected Steel *(Commitment Rate:)*		
☐	Services – Cast Iron and Unprotected Steel		
☐	Distribution Pipeline Blowdowns *(Commitment Rate:)*		
■	Excavation Damages	Mar 23, 2016	2020

Partner Methane Challenge Commitments

ONE Future Emissions Intensity Commitment Option

Segment:		Intensity Target:		Target Year:	

[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).

Pneumatic Controllers

This measure looks at reducing emissions from pneumatic controllers on automated instruments that are actuated by natural gas. EPA proposes replacing these devices or reducing the bleed rate to less than or equal to 6 scfh.

Commitment	PG&E will replace or modify the bleed rate on its pneumatic controls to align with EPA's proposal of 6 scfh.
Implementation Plan*	**2016: Job Identification** PG&E will begin reviewing its existing pneumatic controllers at its storage and compressor stations facilities to identify pneumatic controllers for replacement or retrofit. **2017: Job Identification, Prioritization and Planning** PG&E will complete its review of existing pneumatic controllers at its storage and compressor stations facilities to identify pneumatic controllers for replacement or retrofit. PG&E's team of Subject Matter Experts will prioritize this work, and identify ways to bundle projects with planned outages. Additionally, PG&E will request funding for engineering design work, and to purchase items with longer lead times. **2018: Engineering and Procurement** PG&E plans to begin engineering design and scheduling of its replacement and retrofit projects. Additionally, PG&E will procure materials with long lead times. **2019: Construction, Engineering and Procurement.** PG&E plans to begin construction on the replacement and retrofit projects identified in 2018. PG&E will continue engineering design of its remaining pneumatic controllers and to purchase any materials with long than average lead times. **2020: Construction** PG&E plans to complete all replacement and retrofits of its pneumatic controllers that meet the criteria for this commitment.
Exceptions	-
Historic Work	PG&E has made significant progress over the last 10 years replacing pneumatic gas controllers with low bleed controls or conversion to pressurized air vs. natural gas for actuation.
Progress	-

*The implementation plan for this best practice was developed based on PG&E's interpretation of this measure only applying to pneumatic controllers that meet the mandatory reporting criteria per Subpart W, per 40 CFR §98.232. PG&E is awaiting clarification from the EPA and this implementation plan may be subject to change.

Reciprocating Compressors – Rod Packing Vent
This measure looks at increasing the replacement rate for reciprocating rod packing, or routing the methane from this control device

Commitment	PG&E will be modifying its rod packing replacement guidelines to align with the EPA's proposal (every 26,000hrs).
Implementation Plan	**2016: Evaluate Reciprocating Compressors** PG&E will develop a database to track operating hours on each set of in-service compressor packing. PG&E will review maintenance records and determine the current amount of operating hours on each packing set, if this data is available. **2017: Scheduling and Construction** PG&E will begin replacing any rod packing with over 26,000 hours of operation. **2018: Construction** PG&E will complete replacing any packing with over 26,000 hours of operation, and begin replacing any packing with an undetermined number of operating hours. **2019: Construction** PG&E will replace any packing that will exceed 26,000 hours of operation in 2019, and will complete replacement of any packing with an undetermined number of operating hours. **2020: Complete Construction** PG&E plans complete its initial rod packing replacements, and will continue to replace rod packing in intervals not exceeding 26,000 hours.
Exceptions	A draft Oil and Gas regulation is proposed by the California Air Resources Board (CARB) for 2017 adoption. The current draft regulates packing replacement based on leakage flowrate, not operating hours. If this regulation is adopted, PG&E will discontinue tracking hours, and comply with the CARB regulation. The EPA may consider this exception once the CARB regulation is adopted
Historic Work	PG&E has replaced rod packing, but will develop a formalized process to track and monitor this work as part of this best practice.
Progress	-

Centrifugal Compressors – Venting

This measure looks at replacing wet seals or routing gas from wet seals within the centrifugal compressors

Commitment	Convert all centrifugal compressors to dry seals
Implementation Plan	None – Work Complete
Exceptions	None
Historic Work	PG&E phased out the use of wet seals in its centrifugal compressors in the early 1990's. PG&E currently has 6 centrifugal compressor stations that utilize dry gas seals and uses its current design practice for the installation of any new centrifugal compressors to be a dry gas seal design.
Progress	Complete

Excavation Damage

This measure looks at conducting incident analysis or undertaking programs to reduce excavation damages - more focused around increasing transparency into damage prevention activities.

Commitment	Continue to gather and refine data to reduce excavation damage.
Implementation Plan	**2016: Standardize Reporting** As noted below, PG&E already collects incident data for tracking and monitoring purposes. PG&E will utilize the guidance of the EPA to organize and format its data for the EPA's reporting. **2017: Standardize Data Collection** PG&E plans to develop a process to pull or refine data, which may not be currently tracked, but is required within the EPA's Methane Challenge reporting framework. Additionally, PG&E plans to participate in any benchmarking workshops the EPA will host for gathering or reporting data of this best practice. **2018: Track and Measure** PG&E plans to implement or develop implementation strategies for any feasible recommendations identified as part of the EPA's proposed workshops, and update its implementation plan as needed. Additionally, PG&E anticipates being able to start providing the EPA with a comprehensive data set for the 2018 reporting.
Exceptions	None
Historic Work	PG&E already conducts incident analysis and collects most of the data required by the EPA, and will also highlight our voluntary activities such as the Gold Shovel Standard Program and an 811 Ambassador Program within this BMP.
Progress	Please see historic work.

Transmission Pipeline Blowdowns

This measure looks at reducing emissions for pipelines through the use of drafting, cross compression, flaring, or some combination of these.

Commitment	PG&E has committed to reducing blowdowns by 50% from anticipated emissions each year starting in 2020.
Implementation Plan	**2017: Standardize Reporting, Develop Procedures, Research Technologies** While PG&E has reported emission reductions as part of the EPA's Natural Gas STAR Reporting Program, additional work is required to improve the capture of planned and actual emissions through drafting, cross compression, and flaring. PG&E also plans on releasing a procedure to provide guidelines for using technologies such as cross compression and flaring. PG&E will purchase several cross compression units to supplement our current cross compression rental strategy. Additionally, PG&E will conduct research for larger flare stacks and equipment to increase the volume of gas through flaring to reduce flaring time duration. Finally, PG&E will work to develop a repeatable and traceable means of bundling project work to reduce the need for multiple blowdowns on the same line, and if necessary, identify if funding is needed for new tracking systems to help capture the emission reductions from this work. **2018: Automate Data Gathering and Deploy Procedures** PG&E anticipates automating data collection for drafting, cross compression, and flaring. Additionally PG&E will continue to refine its calculations for gathering data on anticipated emissions. PG&E also plans to formalize and pilot its process for bundling work. **2019: Continue to Reduce Emissions** PG&E anticipates completing its pilot and implementing its bundling and comprehensive tracking process **2020: Continue to Reduce Emissions** PG&E is targeting to reduce emissions by 50% of anticipated emissions from Transmission Pipeline Blowdowns
Exceptions	PG&E is reviewing the CFR definition to identify if stations are included within this best practice, and will align its commitment once a consensus is reached between PG&E and the EPA.
Historic Work	PG&E has been utilizing methods such as drafting and cross compression on its backbone system for many years, and has reported these emission reductions to the EPA since 2010.
Progress	Please see historic work