OMB Control No. 2060-0722
Approval expires 08/31/2021

Natural Gas STAR Methane Challenge Program
Implementation Plan

Partner Name

San Diego Gas & Electric

Current as of (date)

Apr 19, 2019

Partner Implementation Manager

Name: _____

Title: _____

Address: _____

City/State/Zip: _____

Telephone/Fax: _____ E-mail: _____

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	Aug 25, 2016	2021
☐	Centrifugal Compressors - Venting		
☐	Transmission Pipeline Blowdowns between Compressor Stations		
☐	Pneumatic Controllers		
	NG Distribution		
☐	Mains – Cast Iron and Unprotected Steel *(Commitment Rate:)*		
☐	Services – Cast Iron and Unprotected Steel		
☐	Distribution Pipeline Blowdowns *(Commitment Rate:)*		
■	Excavation Damages	Aug 25, 2016	2021

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).

Reciprocating Compressors - Milestones/Timeframes for Meeting Commitments:

San Diego Gas & Electric has elected to replace compressor rod packings on stationary natural gas fired reciprocating engines based on the 26,000 hours operating time rather than the "every 3 years" cycle. This allows the company to manage replacement activities based on actual use rather than an artificially imposed timeframe. Given the variation in compressor operations from its facilities due to seasonal or other industry driven factors, many of the most frequently used compressors may operate lest than 50% of a calendar year.

Upon communication with SDGE operations after making the Methane Challenge Partner commitment in March 2016, it was determined that the company has limited near term opportunities to replace rod packings during the 5-year compliance period. This is due to the following factors:

1) SDGE has historically operated only 2 compressor stations and – both with relatively low run hours;
2) Certain compressors are slated to be decommissioned in 2017; hence, ceased operations will not contribute methane emissions from stationary natural gas fired reciprocating compressor engines;
3) Several candidate compressors have replaced rod packings as recently as early-mid 2016 in advance of the Methane Challenge Implementation period;
4) Given historical operating scenarios, and pending state and local methane regulations, opportunities to replace rod packings are expected to occur later in the program compliance period (years 3- 5).

As such, an annual review will be conducted to identify replacement opportunities at the end of 2017. EPA will be advised of any operational and regulatory changes that may influence future replacement schedules

Steps to achieving the commitment to replace rod packing every 26,000 hours of operation include:

- Identification of all candidate compressors;
- Identification of run hours since the last rod packing replacement
- Forecast or projection of how many replacements are expected to take place over the following time periods based on run time:
    - August 25, 2016 – December 31, 2017;
    - January 1 – December 31, 2018;
    - January 1 – December 31, 2019;
    - January 1 – December 31, 2020;
    - January 1 – August 2021
- Communication and Coordination with operations on planned shutdown periods to accommodate replacement activities;
- Identification of any operational or regulatory challenges to timely replacements;
- Annual reporting and communication with EPA regarding achievement of Methane Challenge goals/ milestones, or challenges with meeting milestones.

Time period	Projected # of Replacements (based on 26,000 run hours)	Actual # of Replacements	Replacement Dates	Notes
8/25/16 – 12/31 2017	N/A*			
1/1 – 12/31 2018	TBD**			
1/1 – 12/31 2019	TBD**			
1/1 – 12/31 2020	TBD**			
1/1 – 12/31 2021	TBD**			

**Rod packing replacements made on all candidate engines during early 2016 prior to program implementation combined with historic low operating hours precludes replacements during first full year of program.*

*** Pending California-only methane regulations are expected to impact rod packing replacement projections.*

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Additional Information/Context (optional):

San Diego Gas & Electric's Partner Commitment to the EPA Methane Challenge is its first participation in a voluntary methane reduction program. It has not historically participated in the voluntary EPA Gas STAR program. It has historically operated 2 transmission compressor stations in California that move gas through intrastate pipelines into the Los Angeles area. The voluntary rod packing replacement activity under the Methane Challenge Program is expected to provide a foundation for regular rod packing replacement and methane emission reductions over the 5-year program period from August 25, 2016 to 2021.

Due to pending development California-based methane regulations, the company anticipates it will modify this Implementation Plan in 2017 or 2018 to reflect and incorporate more stringent or prescriptive methane reduction requirements from state and local agencies.

[i] Commitments should be listed per the Partner's most recent Partnership Agreement. 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).

Excavation Damages - Milestones/Timeframes for Meeting Commitments:

As part of its commitment to the Methane Challenge Program, **San Diego Gas and Electric** will implement practices to reduce methane emissions related to Excavation Damages. In accordance with the guidance provided in the Distribution Segment Supplementary Technical Information (dated June 17, 2016), the company has elected to implement the following option:

Conduct incident analyses (e.g. by identifying whether excavation, locating, or One-Call practices were not sufficient) to inform process improvements and reduce excavation damages.

Implementation of this mitigation option includes the following:

- Formation of a Damage Prevention Team consisting of key stakeholders including but not limited to: District Operations Managers, Area Managers, Claims Department and Gas Operations Staff;
- Conducting monthly meetings with internal stakeholders to address damages by reviewing analytics, identifying excavators operating without tickets, etc.
- Driving training and education programs;
- Providing monthly written communications related to incidents and proposed solutions related to the company Damage Prevention Program (DPP).

The company will also report data annually beginning in 2018 until the program sunset in 2021 in accordance with EPA Methane Challenge Guidance for excavation damages. Reported information will enable the company to set Company-specific goals for future reduction efforts. Reported information will include the following:

- Total number of excavation damages;
- Total numbers of excavation damages per thousand locate calls;
- Total number of excavation damages by pipe material (steel, cast iron, copper, plastic etc.) and part of system involved (main, service, inside meter/regulator set, etc.);
- Total number of excavation damages which resulted in a release of natural gas;
- Total number of excavation damages on pipelines or facilities with supervisory control and data acquisition-based systems in place on Transmission lines.
- Total number of excavation damages where the operator was given prior notification of excavation activity;
- Total number of excavation damages by type that caused excavation damage incidents;
- Total number of excavation damages by apparent root cause.