

SDG&E
Attachment Q1

No.	Mandatory Best Practice(s)	Title	Emission Source	Question 1: A summary of changes to utility leak and emission management practices from January 1st, 2017 to December 31st, 2017.
1	N/A	Refinement of Emission Factors	Various Sources (e.g. Customer Meters and Meter and Regulator Stations etc.)	<ul style="list-style-type: none"> • This work is being done in collaboration with California Air Resources Board (CARB) and the California Public Utilities Commission. SDG&E cooperated and participated in studies and supported CARB to revise emission factors. SDG&E is hopeful CARB will provide a report with revised factors as discussed in the Workshop on January 19th, 2018, and SDG&E will be supporting technical review with CARB going forward.
2	23	Reduce Venting During Blowdowns and Improve Data Collection	Transmission Pipeline Blowdowns	<ul style="list-style-type: none"> • SDG&E Transmission Pipelines routinely require maintenance to maintain system integrity and safety. The gas must be evacuated from the pipelines to a safe level prior to maintenance work. As a best practice in 2017, SDG&E lowered the pipeline pressure where feasible to reduce the potential volume of methane emissions. In 2017, SDG&E avoided 81 MCF of methane emissions by reducing line pressure prior to blowdowns.
3	24 - 26	Excavation Damage Prevention	Distribution and Transmission Pipeline Damages	<ul style="list-style-type: none"> • SDG&E continues to conduct damage prevention programs that address the nine damage prevention elements found within the PIPES Act listed in legislation, Title 49 U.S.C. (United States Code) §60134(b). Reduction of damages to the system can support public safety, integrity of the system as well as environmental methane reduction goals. • SDG&E continues to promote other damage prevention measures such as protection of gas facilities from outside force damage, monitoring of third party excavation activities near high pressure lines, and proactive monitoring of Company facilities. • SDG&E achieved an increase in the number of USA tickets in 2017 compared to 2016. Increased awareness of the 811 process correlates with reduced excavation damages, resulting in decreased occurrences of uncontrolled gas release. • SDG&E committed to participate in the EPA Methane Challenge Program and implement the options for the Excavation Damages Best

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				<p>Management Practice. A report of the company's 2017 Excavation Damages Best Management Practices activities will be submitted in 2018 pending Program Approval by the Office of Management & Budget.</p> <ul style="list-style-type: none"> As of 2017, SDG&E is now a member of the Gold Shovel Standard and all Company Prime Contractors are enrolled in the Gold Shovel Standard.
4	17	Mobile Methane Mapping Assessment of Pipelines Identified for Replacement by Distribution Integrity Management Program	Distribution Pipelines	<ul style="list-style-type: none"> SDG&E evaluated the feasibility of using existing mobile methane mapping technologies to model atmospheric methane levels near pipeline Main segments or Services identified through the Distribution Integrity Management Program (DIMP) risk model for replacement. This practice supports methane reduction as well as DIMP. In 2017, the SDG&E DIMP Segment emissions assessment project performed mobile methane mapping assessments on 33 Main replacement projects totaling approximately 21 miles. From this work, there were 2 leaks identified.
5	16	Distribution Integrity Management Program Replacement of Bare Steel and Vintage Plastic Pipe	Underground Distribution Pipe	<ul style="list-style-type: none"> In 2017, SDG&E replaced approximately 41 miles of poor performing early vintage plastic pipe. These replacements are estimated to provide a reduction of 50 MCF of annual emissions. SDG&E has a GRC-funded Vintage Integrity Plastic Plan (VIPP) that focuses on the replacement of poor performing early vintage plastic for all pre-1986 plastic pipe. SDG&E plans to target 27 miles of mains and associated services annually above and beyond routine replacements in accordance with DIMP regulations.
6	20	Electronically Track	Transmission and Distribution	<ul style="list-style-type: none"> In 2017, SDG&E's started adding Bluetooth adapters to their leak detection equipment used for walking leak survey so that leak levels can be recorded via software placed on a smart device and matched with the

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		Verified Gas Leaks	Pipelines - Leak Survey	<p>GPS location. This will allow the electronic tracking of verified gas leaks. Complete integration is expected to be completed by the end of 2019. Once fully integrated with enterprise GIS and work management systems, this enhancement should:</p> <ul style="list-style-type: none"> • Improve recordkeeping of survey activities • Provide means of validating proper equipment operation during survey operation • Capture equipment readings that could be missed by operators • Reduce paperwork & data entry labor • Reduce data entry errors and missed records
7	16	Leverage eGIS to Prioritize Non-State-of-the-Art Pipeline Replacement Programs	Distribution Pipelines	<ul style="list-style-type: none"> • SDG&E continues to leverage eGIS to enhance prioritization and optimization of non-state-of-the-art pipeline replacement programs. Leveraging eGIS to more efficiently address the leakiest portions of the system increases the effectiveness of modernization programs and supports greater natural gas reductions.
8		Replacement of High Bleed Pneumatic Devices	High Bleed Pneumatics	<ul style="list-style-type: none"> • 2 high-bleed pneumatic devices have been identified on the SDG&E system. No high bleed pneumatic devices were replaced in 2017, but the remaining devices are scheduled for replacement in 2018.
9	16	Move Pre-1986 Aldyl-A Mains and Associated Services on 5-Year Leak Survey Cycle	Distribution Pipelines	<ul style="list-style-type: none"> • In 2017, SDG&E began transitioning the leak survey cycle on pre-1986 Aldyl-A mains and associated services on 5-year to annual leaks survey cycles. The emissions reductions expected for this activity are detailed in the 2018-2019 Leak Abatement Compliance Plan.

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		to Annual Leak Survey		
10	18	Synergies with Pipeline Safety Enhancement Plan (PSEP) Technology Plan	Distribution and Transmission Pipeline Leaks	<ul style="list-style-type: none"> • SDG&E plans to install methane sensors that link to the Advanced Meter network. These sensors support early warning of a leak for schools, hospitals or hard to evacuate facilities (e.g. nursing homes). SDG&E installed about a half dozen as a pilot to integrate with the network, back office systems, and associated processes. • SDG&E plans to begin installing fiber optic cables along the route of high pressure pipelines that can sense leaks and potential encroachments near the pipeline when there is greater than a mile of continuous open trench on more than 12” or greater pipeline diameter.
11	21	Increased Compressor Rod Packing Replacements	Transmission and Storage Compressors	N/A
12	All	Mandatory Best Practices		<ul style="list-style-type: none"> • SDG&E submitted its Leak Abatement Compliance Plan on March 15, 2018, detailing the proposed activities for each of the 26 Best Practices, milestones for implementation, and emissions reduction expectations for the years 2018 and 2019.