

# San Diego Gas & Electric

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## Natural Gas Leakage Abatement Report

In partial fulfillment of

Rulemaking (R.) 15-01-008 to Adopt Rules and Procedures Governing  
Commission Regulated Natural Gas Pipelines and Facilities to Reduce Natural Gas  
Leaks Consistent with Senate Bill 1371, Leno.

And in Response to Data Request San Diego Gas & Electric R15-01-008 2020  
Annual Report

**By: San Diego Gas & Electric**

**Date: 06/15/21**

Related Proposed Mandatory Best Practice(s)	Title	Emission Source	Question 1: A summary of changes to utility leak and emission management practices from January 1st, 2020 to December 31st, 2020.
1	2018 – 2020 Compliance Plan Implementation	All	<input type="checkbox"/> SDG&E continues to implement its 2018-2020 Compliance Plan.
3 -7	Pressure Reduction Policy; Project Scheduling Policy; Methane Evacuation Procedures; Methane Evacuation Work Orders Policy; Bundling Work Policy	Blowdown from high pressure Transmission, Distribution, and Storage Pipelines	<input type="checkbox"/> No new policies were published for SDG&E in 2020.
9	Recordkeeping	All	<input type="checkbox"/> SDG&E worked on developing a centralized database to incorporate Natural Gas Leak Abatement Program records to enable automation of reporting. System plan, architecture and requirements were completed in 2019. The implementation of the initial phase of the project was completed in 2020.

11	Methane Emissions Minimization Training	All	<input type="checkbox"/> SDG&E completed a training module that provides employees with an overview of what GHGs are, how they impact the environment, the impacts of methane, and how employees can help reduce methane emissions. This training became a mandatory requirement for all SDG&E employees in 2020.
12	Knowledge Continuity Training Programs	All	<input type="checkbox"/> SDG&E continues to provide training on the importance of methane emissions to all employees.
15	Gas Distribution Leak Surveys	Distribution Pipelines	<input type="checkbox"/> In 2020, SDG&E successfully transitioned state of the art plastic pipe and protected steel to a three-year interval survey. No additional crews or vehicles were needed because the work has been completed under normal base business operations.
16	Increased Survey on Vintage Steel	Vintage Steel Pipe	<input type="checkbox"/> In 2020, SDG&E successfully transitioned vintage steel pipe from a five-year interval to an annual survey. No additional crews or vehicles are needed because the work has been completed and under normal business operations. Currently, SDG&E surveys all distribution pipelines at 1& 3-year intervals.

16	Distribution Integrity Management Program Replacement of Vintage Plastic Pipe	Underground Distribution Pipelines	<ul style="list-style-type: none"> <li><input type="checkbox"/> In 2020, SDG&amp;E replaced approximately 51 miles of non-state of the art early vintage plastic pipe. These replacements are estimated to provide a reduction of 30.34 MCF of annual emissions.</li> <li><input type="checkbox"/> SDG&amp;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&amp;E plans to target 27 miles of mains and associated services annually above and beyond routine replacements in accordance with Distribution Integrity Management Program (DIMP) regulations.</li> </ul>
16	Leverage eGIS to Prioritize Non-State-of-the-Art Pipeline Replacement Programs	Distribution Pipelines	<ul style="list-style-type: none"> <li><input type="checkbox"/> SDG&amp;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.</li> </ul>
16	Move Pre-1986 Aldyl-A Mains and Associated Services on 5-Year Leak Survey Cycle to Annual Leak Survey	Distribution Pipelines	<ul style="list-style-type: none"> <li><input type="checkbox"/> SDG&amp;E began performing annual leak surveys on pre-1986 Aldyl-A mains and associated services, compared with the previous 5-year leak survey cycles. In 2020, SDG&amp;E continued performing annual survey on pre-1986 Aldyl-A mains and services.</li> </ul>
17	Enhanced Methane Detection	Transmission and Distribution Pipelines	<ul style="list-style-type: none"> <li><input type="checkbox"/> SDG&amp;E expanded their methane speciation program to a mobile format to respond to requests from Operations for leak speciation where a methane source is in question. SDG&amp;E began the procurement of a new speciation van and gas speciation equipment and began the hiring process for a technician. This incremental effort became operational in 2020.</li> </ul>

18	High Consequence Area (HCA) Methane Monitoring	Distribution and Transmission Pipeline Leaks	<ul style="list-style-type: none"> <li>□ SDG&amp;E requested funding in the GRC Application 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&amp;E installed fifteen sensors as a pilot to integrate with the network, back-office systems, and associated processes. In 2019, SDG&amp;E worked on project plan development, site selection criteria, and remote methane sensor enhancements. SDG&amp;E has worked on project plan development, refining site selection criteria, and remote methane sensor system design enhancements. In 2020, a 3<sup>rd</sup> party Methane Sensor evaluation was initiated and is in progress.</li> <li>□ SDG&amp;E requested in the GRC application to begin installing underground fiber optics above high-pressure lines that can sense leaks and potential encroachments near the pipeline. To further this effort, SDG&amp;E changed its procedures to require any Transmission pipeline projects 12” or greater in diameter for a mile or longer to install a fiber optic sensing line. SDG&amp;E also started the scoping process of installing a fiber optic cable for a high-pressure pipeline.</li> </ul>
18	Stationary Methane Detector Pilot	Above Ground High Pressure Facilities	<ul style="list-style-type: none"> <li>□ SDG&amp;E proposed piloting stationary methane sensors for high pressure regulator stations to determine emission reduction capabilities and cost effectiveness of these systems. SDG&amp;E, in partnership with SoCalGas, began developing the pilot scope, determining data needs, evaluating technologies to be piloted, and evaluating various locations to install pilot sensors to have a diverse and statistically significant data set. This pilot was completed in 2020. SDG&amp;E is currently evaluating the results to inform a decision on system-wide implementation feasibility.</li> </ul>

19	Above Ground Leak Surveys	Above Ground Transmission and High Pressure Distribution Facilities	<ul style="list-style-type: none"> <li>□ In 2020, SDG&amp;E Measurement and Regulation (M&amp;R) Technicians were trained and provided with Remote Methane Leak Detectors (RMLD) to begin evaluating above ground high pressure M&amp;R facilities.</li> </ul>
20b	Electronically Track Verified Gas Leaks	Transmission and Distribution Pipelines - Leak Survey	<ul style="list-style-type: none"> <li>□ SDG&amp;E worked on development of an IT system to replace existing leak survey/patrol processes involving paper maps with a mobile application that provides electronic maps and captures breadcrumb data. Deployment is expected to begin in 2022. Once fully integrated with eGIS and work management systems, this enhancement is expected to: <ul style="list-style-type: none"> <li>○ Provide electronic maps in the field and collect breadcrumb data along survey path</li> <li>○ Improve geographic evaluation and tracking of leaks with auto population of GIS coordinates for leak locations</li> <li>○ Ensure all pipeline assets have been leak-surveyed and all leak indications are captured</li> <li>○ Improve recordkeeping of survey activities</li> <li>○ Reduce paperwork and data entry labor</li> <li>○ Reduce data entry errors and missed records</li> </ul> </li> </ul>
22	Pipe Fitting Specifications	Threaded Fittings	<ul style="list-style-type: none"> <li>□ SDG&amp;E engaged in a research project on the quality of threaded fittings on our system. SDG&amp;E also brought in a third-party consultant to perform an evaluation of quality control processes and provide recommendations to reduce emissions through threaded fittings. In 2020, the BP 22 final report was reviewed and a development of a statistical test plan scope to further examine threaded connections was initiated.</li> </ul>
23	Replacement of High Bleed Pneumatic Devices	High Bleed Pneumatics	<ul style="list-style-type: none"> <li>□ A 2018 field verification confirmed there are no high-bleed pneumatic devices on the SDG&amp;E system; they have all been proactively replaced.</li> </ul>

23	Reduce Venting During Blowdowns and Improve Data Collection	Transmission Pipeline Blowdowns	<ul style="list-style-type: none"> <li>□ SDG&amp;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, SDG&amp;E lowers the pipeline pressure where feasible to reduce the potential volume of methane emissions.</li>   <li>□ In 2020, SDG&amp;E continued implementing a methane capture system which compressed pipeline gas into a compressed natural gas tube trailer and then re-introduced the gas into the pipeline. SDG&amp;E estimates this further reduced methane emissions by an additional 1,630 MCF.</li> </ul>
24 - 26	Excavation Damage Prevention	Distribution and Transmission Pipeline Damages	<ul style="list-style-type: none"> <li>□ SDG&amp;E continues to conduct damage prevention programs that address the nine damage prevention elements found within the federal PIPES Act, 49 U.S.C. § 60134(b). Reduction of damages to the system can support public safety, integrity of the system as well as environmental methane reduction goals.</li> <li>□ SDG&amp;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.</li> </ul> <p style="margin-left: 40px;">SDG&amp;E is a member of the EPA Methane Challenge Program and has been implementing the Excavation Damages Best Management Practices. In 2020, SDG&amp;E invested over \$341,080 in safe digging media campaigns to promote safe excavation practices and contacting 811 before digging. These funds were used to augment SDG&amp;E’s safety media campaign with additional radio, tv, events, and print message ads about contacting 811 before digging.</p>

25	Dig Ins and Company Standby Monitors	Underground Pipes	<input type="checkbox"/> SDG&E completed the development of an algorithm that allows prioritization of Underground Service Alert (USA) tickets to identify high risks excavation projects and perform proactive intervention. This allows company personnel to effectively address a larger number of excavation projects rather than just performing standby.
26	Dig Ins and Repeat Offenders	Underground Pipes	<input type="checkbox"/> In 2020, the project implementation & deployment were completed.
N/A	Refinement of Emission Factors	Various Sources (e.g. Customer Meters and Meter and Regulator Stations etc.)	<input type="checkbox"/> Refinement of emission factors 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 in January 2020, and SDG&E will be supporting technical review with CARB going forward. SDG&E is planning on sharing its proposals on the refinement of emission factors in the upcoming 2021 Winter Workshop.