

PROJECT PROFILE / PIPELINE REPLACEMENT PROGRAM

EXPERIENCE PRODUCES DESIGNS AND LAYOUTS RAPIDLY

Replacing pipelines and equipment deemed outdated and vulnerable to hazardous leaks can be challenging without proper groundwork. Partnering with specialists is helping a utility study, plan and meet regulatory requirements to successfully execute projects.



PIPELINE REPLACEMENT ACCELERATED THROUGH STRONG DESIGN AND PLANNING PROCESSES

A collaborative effort is giving birth to new ideas, which improve flexibility and save time.

PROJECT STATS

CLIENT

Southern California Gas Co.

LOCATION

Southern California

100

**MILES OF PIPES
REPLACED IN 2019**

21.8M

CUSTOMERS SERVED

20%

**OF DISTRIBUTION PIPING
BEING MONITORED FOR
POTENTIAL REPLACEMENT**

REPLACING OLD PIPELINES

Southern California Gas Co. (SoCalGas) is the largest natural gas provider in the United States. Its service area is spread across 24,000 square miles throughout Central and Southern California. It provides safe, reliable energy to 21.8 million consumers.

To manage the risk of hazardous leaks throughout the buried gas distribution infrastructure, the Pipeline and Hazardous Materials Safety Administration (PHMSA) and California Public Utilities Commission (CPUC) directed utilities to identify main and service pipe segments that require replacement, then to report on their findings, and start replacing the old infrastructure.

SoCalGas aims to meet these regulations by leveraging its Distribution Integrity Management Program (DIMP) and Distribution Risk Evaluation and Monitoring System (DREAMS) programs to replace the non-state-of-the-art mains and service pipes in its distribution system.

The company was already performing this work with the help of its in-house planners. But based on the projected effort and time needed to execute these projects, SoCalGas sought assistance from external engineering and design firms, whose personnel would need

to meet the same mandatory training standards as internal staff. SoCalGas selected Burns & McDonnell as one of its planning and designing coordinators based on past successful engagements.

PLANNING AND DESIGNING

Building on what SoCalGas started, we developed design guidelines and process checklists to improve efficiency and minimize changes as the overall program evolved. To provide better guidance for planners and to aid in quality control, we developed several tools to keep everyone on the same page and following the same guidelines.

DIMP DREAMS planners begin with background research on items including substructures, permitting issues and paving prohibitions. They evaluate any issues that could hinder planning or construction activities. They also perform field visits and use geographic information systems (GIS), service records, Google Earth and other tools to identify what is in the field and determine what direction planning must take. Planners apply SoCalGas standards and procedures, along with federal and state requirements.

After fact-finding and analysis, planners create a detailed project design in SoCalGas'



SAP system, identifying and quantifying the necessary labor, vehicles, material, tools and more. Planners simultaneously work with the utility's resources to resolve issues related to rights-of-way, cathodic protection, leakage history, and environmental and CPUC compliance.

We are helping the utility plan and track the replacement of main pipelines and service pipelines throughout the distribution system. This includes unprotected steel and polyethylene pipes made from early generation

resins that are vulnerable to slow crack growth. These two materials make as much as 20% of the client's buried gas distribution infrastructure.

FINISHING THE PROJECT

The collaboration between Burns & McDonnell and SoCalGas culminates in a completed design, permits and an approved work package that is issued to maintenance supervisors for field execution. SoCalGas or contract construction crews then perform the installations under the direction of the utility's

inspectors and supervisors. After the field work is complete, we reconcile the packages so that SoCalGas can close them out and so the CPUC can be updated about the progress.

Our collaboration is currently scheduled to run through January 2021. SoCalGas has approximately 17,000 miles of non-state-of-the-art pipes that eventually may need replacement in its network. In 2019, Burns & McDonnell helped the utility replace 100 miles of pipes while establishing procedures that should benefit the project over the long term.



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