Southern California Gas Company

A Sempra Energy utility®

# PIPELINESAFETY

## PIPELINE VALVE REPLACEMENT AND RETROFITTING

Southern California Gas Company (SoCalGas®) is the nation's largest distributor of natural gas, delivering safe and reliable service to nearly 21 million customers through almost 6 million meters. To reach those customers, natural gas is transported over 4,000 miles of gas transmission pipelines, 48,000 miles of distribution pipelines and 49,000 miles of service lines.

At SoCalGas, the safety of our employees, our customers and the communities we serve has been and will continue to be our highest priority. Reflecting that commitment to safety, we construct, operate, and maintain our pipeline system to meet or exceed all applicable federal and state regulations and requirements.

SoCalGas routinely performs various pipeline maintenance and safety tasks, including patrolling, inspecting, testing, repairing and replacing pipelines. Testing activities are designed to measure that a pipeline segment is sound, often referred to as its "integrity". Among the key safety components in testing, maintenance, and everyday operational activities are pipeline valves.

Valves are mechanical devices that control the flow of natural gas through the pipelines. An open valve allows the flow of natural gas to move freely. A closed valve shuts off the flow of natural gas to a pipeline segment to allow for maintenance, testing, repair, or replacement of that segment.

SoCalGas' transmission pipelines are equipped with valves that separate our pipelines into sections. These valves are called mainline valves and there are around 800 of them in the SoCalGas transmission pipeline system. Situated inside underground pipelines, a mainline valve usually has a stem extension that reaches through to the surface and connects to either a hand wheel or an actuator.

*A valve in a pipeline section with an actuator on an extension stem in the process of being installed.*

A hand wheel is a device that must be turned by hand by qualified field personnel to open or close the valve. An actuator is a device that can open or close the valve manually by qualified field personnel, or be triggered automatically when equipped with power and specialized communication systems technology.

One type of technology allows valves to be opened or closed remotely by system operators from a central control location. These are called Remote Control Valves (RCVs). Other valves are equipped with a control device that automatically triggers the actuator and shuts off the flow of natural gas in the event of a large pressure drop. These are called Automatic Shut-off Valves (ASVs). Additionally, many of these valves provide routine pressure control to safeguard against exceeding the pipeline's maximum pressure.

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Upgrading or retrofitting valves on the pipeline system with RCV and ASV technology provides gas control operators with greater flexibility and shorter response times if it becomes necessary to close a valve or valves quickly in the event of an emergency, such as an earthquake.

Safety always comes first when replacing or retrofitting a valve with RCV or ASV technology. Before work begins on the valve, the flow of natural gas into the pipeline segment is turned off at the nearest valve on each side and the natural gas is safely removed by venting. The new valve or retrofitted equipment is installed and then tested to affirm it is functioning properly. Then natural gas is safely reintroduced into the pipeline segment and it is brought back into service. Expanding the number of remote-controlled and automatic shut-off valves is one of the ways SoCalGas maintains the safety and integrity of our natural gas pipeline system.

Whenever SoCalGas implements a valve replacement or retrofit project in a community, we make every effort to minimize and mitigate any impacts. Potential community impacts may include seeing trucks and equipment on the streets, excavation sites, temporary "No Parking" signs on streets, possible lane reductions or closures, detours and temporary delays on surface streets.

The community also may hear some work-related noise and notice an occasional natural gas odor. We strive to provide continuous natural gas service for our customers while valve improvements are being made, but in some instances there may be temporary natural gas service interruptions.

Construction time varies for each project, from a week or less for minor retrofits, to several weeks for more significant work such as valve replacements, relocation and retrofits. The timing ultimately depends on a number of factors such as the length of the process for obtaining necessary permits, permissible working hours as determined by the local jurisdiction, traffic control issues, location of the valve, ease of access to the valve, amount of excavation necessary to install the valve, and even the weather.

SoCalGas appreciates the co-operation and patience of our customers and the communities we serve as we work to enhance the safety of our natural gas pipeline system.

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