

PIPELINE SAFETY

PIPELINE SAFETY ENHANCEMENT PLAN (PSEP)



A  Sempra Energy utility

Our Commitment to Safety



Enhancing Pipeline Safety

Natural gas transmission operators in the State of California are regulated by the California Public Utilities Commission (CPUC), and in 2011 the CPUC ordered the operators to each develop an Implementation Plan to achieve the goal of orderly and cost effectively testing or replacing all natural gas transmission pipelines in their system that have not been pressure-tested.

SoCalGas supports this extra added measure of pipeline safety ordered by the CPUC, and submitted a proposed Pipeline

Safety Enhancement Plan to implement the directives of the commission which was approved in June of 2014.

The approved plan identifies various pipeline sections throughout our system that have not been pressure-tested, or for which there is an insufficient record of a pressure test, and slates them to be either pressure-tested or replaced.

SoCalGas will be notifying customers, and the public, when pressure-testing or replacement activity is coming to their neighborhood.

The plan also includes provisions to upgrade, replace, or retrofit hundreds of mainline valves in the system with technology that allows them to be opened or closed remotely by system operators from a central control location, or that automatically shuts off the flow of natural gas in the event of a large pressure drop.

At SoCalGas®, the safety of our customers, our employees, 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 applicable federal and state regulations and requirements.

SoCalGas routinely performs various pipeline safety and maintenance tasks, including patrolling, inspecting, testing, repairing and replacing pipelines.



PSEP and You

We believe that all customers will benefit from the added testing and safety validation of our transmission system.



The SoCalGas Pipeline Safety Enhancement Plan (PSEP) is designed to meet the following four objectives:

- Enhance public safety
- Comply with the CPUC's directives
- Minimize customer impacts
- Maximize cost-effectiveness.

While SoCalGas is proud of our safety and reliability achievements thus far, we will not become complacent and will challenge ourselves to be even more diligent in maintaining the overall safety of our pipeline system and infrastructure.

Whenever SoCalGas conducts a hydrostatic pressure test, a pipeline replacement or a valve upgrade in a community, we make every

effort to minimize and mitigate any impacts. Potential community impacts may include seeing trucks and equipment, 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 these activities are being performed. Any customers who will experience a temporary natural gas service interruption will be notified by SoCalGas directly.

For more information, visit socialgas.com (search "SAFETY").

Hydrostatic Pressure Testing

Hydrostatic pressure testing is a process that uses water to exert pressure on a pipeline at levels greater than its usual operating pressure.

The segment of pipeline that is being tested is temporarily removed from service and excavations are dug at both ends of the segment to expose the pipeline. Then, the natural gas inside is safely vented.

Short sections of pipeline are removed from both ends of the segment to be tested and the ends are sealed with test caps.

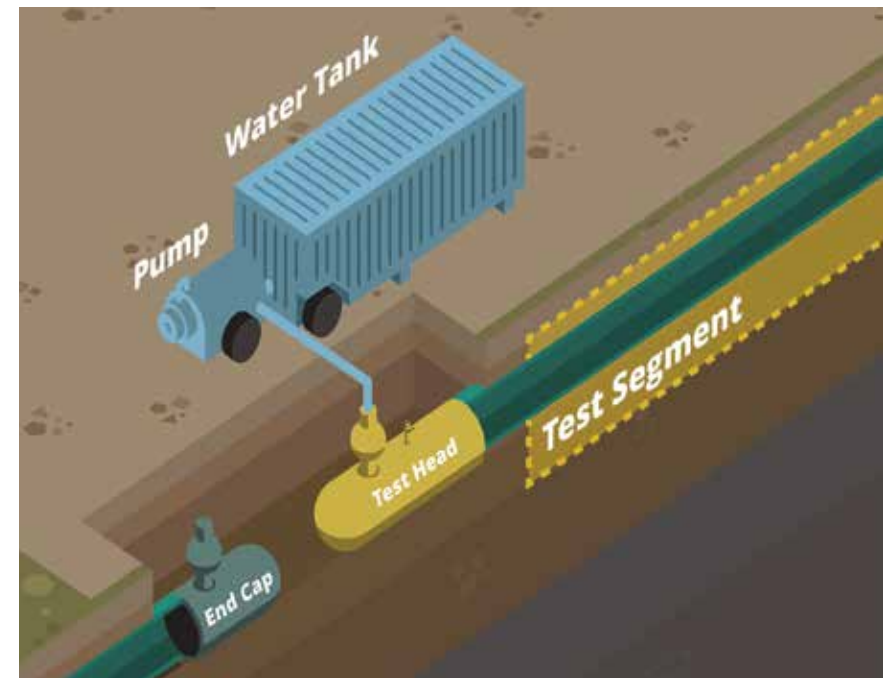
Next, the sealed test segment is filled with water using a pump. The water pressure is increased to a

point higher than the pipeline will normally operate to see if it has any leaks. After holding the increased pressure for eight hours or more, the test is complete. If the pressure test results in a leak or a rupture, the pipeline is repaired or replaced.

After a successful test, the water is drained from the pipeline test segment and reused, recycled or disposed of in accordance with applicable regulations and local requirements. Then, the test caps are removed from the segment.

Next, the pipeline test segment is thoroughly dried and new replacement pipe is installed at both ends to reconnect the pipeline segment into the system.

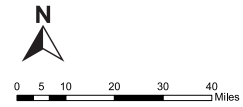
Natural gas is safely reintroduced into the pipeline and it is brought back into service.





Pipeline Safety Enhancement Plan Proposed Phase 1A & 1B Pipeline Replacement & Hydrotest Scope

- Abandon
- Replace
- Hydrotest
- ⊗ Valves
- Transmission
- Distribution



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Pipeline Replacement

A pipeline replacement is generally a significant construction operation. Typically, the new pipeline segment is installed adjacent to the existing pipeline, which allows the construction work to proceed without stopping the flow of natural gas through the original pipeline.

A trench is carefully excavated alongside the path of the original pipeline into which the replacement pipeline will be laid.

New pipeline is made of steel and comes with a coating on the outside that prevents moisture from coming into direct contact with the steel and causing corrosion.

The new replacement pipeline sections, usually 40 to 60 feet long, are carefully welded together to create a continuous length of pipeline that is then lowered into the trench using cranes.

Then the replacement pipeline is given a final safety check with a hydrostatic pressure test which pumps water into the pipeline segment and increases the pressure to a level higher than which it will operate. If the pressure test reveals no leaks, the pipeline is ready for use.

The natural gas remaining in the existing pipeline segment is safely vented and it is disconnected from the main pipeline. Next, the replacement section is connected to the main pipeline and it is safely brought into service.

Valve Upgrades and Replacements

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.

Valves that separate our pipelines into sections are called mainline valves. There are around 800 of them in the SoCalGas transmission pipeline system.

Typically 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 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 automatically when equipped with power and specialized communication systems technology.

Remote Control technology allows valves to be opened or closed remotely by system operators from a central control location by activating the actuator.

Automatic Shut-off technology uses a control device that automatically triggers the actuator and shuts off the flow of natural gas in the event of a large pressure drop.



Environmental Awareness

At SoCalGas, we believe in treating the Earth's resources with respect, and strive to serve our customers' energy needs in a manner that protects and conserves the environment of the diverse communities in which we operate and provide service.

Our pipeline operations and/or maintenance activities occasionally take us into environmentally-sensitive areas within our service territory.

We comply with applicable environmental regulations and requirements, secure necessary permits, and implement established operational protocols designed to help protect air quality, waterways, natural resources, cultural resources, critical habitat, and endangered plant and animal species.

We also make every effort to leave a project site in as good or better condition than when we arrived.

Our commitment to environmental stewardship includes attempting to lessen our impact on the environment. For example, after conducting a hydrostatic pressure test, the water used for the test will be drained into water tanks and recycled, reused, or disposed of in accordance with applicable regulations and local requirements.



14,000 jobs

directly and indirectly generated from the work defined in the plan

\$1.9 billion

in economic activity in Southern California

35% DBE

spending with diverse businesses enterprises

Investing in Our Communities

SoCalGas commissioned a report to provide information about how the plan will affect the economies of the 12 counties that comprise the SoCalGas service territory: Los Angeles, Orange, San Bernardino, Riverside, Imperial, Ventura, Santa Barbara, San Luis Obispo, Kern, Tulare, Kings and Fresno.

The report determined that the work associated with our Pipeline Safety Enhancement Plan is expected to generate more than \$1.9 billion in economic activity in Southern California based on direct, indirect and supporting services.

This economic infusion is also expected to directly create or retain more than 1,800 jobs in Southern

California and the number may grow to more than 14,000 when including jobs that are indirectly generated or stimulated from the work defined in the plan.

Plus, SoCalGas has committed that 35 percent of spending for the plan will be invested in diverse businesses enterprises (DBE), and the report showed we are on track to meet this goal.

Expanding economic opportunity by enhancing the safety of our natural gas transmission systems not only benefits SoCalGas and our customers, but also the security and prosperity of all the communities we serve.

