California Energy Commission
Public Interest Energy Research (PIER) Program
Energy Systems Research Office

Natural Gas Pipeline Research: Best Practices in Monitoring Technology

Research Powers the Future
Energy Technology Systems Integration
http://www.energy.ca.gov/research/integration/index.html

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Fact Sheet

The Issue

California is the second-largest natural gas consuming state in the United States, just behind Texas. About 85% of the natural gas consumed in California is delivered on interstate pipelines from out-of-state supply basins located in the southwestern United States, the Rocky Mountains, and Canada.

These pipelines run throughout the state, including underneath high population areas. The safety and security of the natural gas system infrastructure are important priorities for California, especially the prevention of catastrophic events on the natural gas pipeline. In the interest of enhancing the safety, operation, and management of the overall natural gas pipeline infrastructure, public interest research is needed to explore opportunities and apply new and emerging technologies related to natural gas pipeline integrity, operation, and safety.

Project Description

This research will develop a baseline assessment of technology currently used in California to manage pipeline integrity and safety. It will include what is being done to prevent, detect, and react to incidents such as leaks and ruptures. It will assess all the available technology that could be used in California, but is not currently used because it is either: (a) ready for use but not widely used on a commercial basis, (b) unknown, or (c) unproven.

Natural Gas Pipeline being worked on
Photo credit: GTI Website

It will identify immediate opportunities to improve the assessment, monitoring, and integrity management program of the California pipeline network. The product of this research will be an assessment of currently available technologies, and a set of recommendations for the further development of existing emerging technologies, including the development of new technologies that address existing technological gaps.

PIER Program Objectives and Anticipated Benefits for California

The project's objectives are to:

- Define the current state of technology in California related to underground natural

gas pipeline assessment, monitoring, and integrity management.

- Assess currently available technologies that are not in use, which could be implemented to improve pipeline system integrity and status monitoring.
- Evaluate new and emerging technologies that could address the identified gaps that are not being addressed by current available technologies.
- Generate a testing, deployment, and implementation plan for available or near-commercial technologies that address the identified gaps.

This research will benefit California citizens by increasing the safety and reliability of the state's natural gas pipeline system.

Project Specifics

Contract Number: 500-10-050
Contractor: Gas Technology Institute
Application: Statewide
Amount: $480,000

For more information, please contact:

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