CALIFORNIA ENERGY COMMISSION
1516 Ninth Street
Sacramento, California 95814

Main website: www.energy.ca.gov

Staff Workshop
Potential Pipeline Inspection Technologies for Upcoming Natural Gas Pipeline Research Solicitation

Staff of the California Energy Commission's Public Interest Energy Research (PIER) program will conduct a public workshop to discuss pipeline inspection technologies that will provide significant benefits to state natural gas pipeline integrity management practices.

TUESDAY, AUGUST 7, 2012
Beginning at 9 a.m.
CALIFORNIA ENERGY COMMISSION
1516 Ninth Street
First Floor, Hearing Room B
Sacramento, California
(Wheelchair Accessible)

Remote Access Available by Computer or Phone via WebEx™
(Instructions below)

Purpose

The Energy Technology Systems Integration staff of the PIER program will be preparing a solicitation to demonstrate natural gas pipeline inspection technologies that will benefit state pipeline integrity management practices. The purpose of this workshop is to seek input from experts, stakeholders, utilities, and the general public on pipeline inspection technologies to determine those that will provide the maximum benefits to California's natural gas pipeline infrastructure. These technologies will directly address heightened public concern on the safety of the state natural gas pipeline network. Demonstrations of technologies resulting from the solicitation will provide tools that utilities can use to enhance integrity management practices required by the PIPES Act of 2006, the National Pipeline Safety Act of 2011, and California's AB 2559.

The workshop will address:

- Current PIER funded natural gas pipeline research conducted by the Gas Technology Institute (GTI) and the Center for Information Technology in the Interest of Society (CITRIS).
- Suggestions from GTI and CITRIS on technologies to pursue in the upcoming solicitation.
- Discussion of inspection technologies to establish the abilities each must exhibit to provide the most benefits to pipeline integrity management practices.

Members of the public will be provided an opportunity to comment at the workshop.

Background

As a result of the San Bruno incident, there was a desire to review technologies available to inspect natural gas pipelines. In 2010, in consultation with the California Public Utilities Commission, the PIER program selected GTI and CITRIS to complete this research. It is the responsibility of GTI to assess natural gas pipeline inspection and monitoring technologies used throughout the world. The CITRIS team is researching innovative technologies that are not yet commercial. The interim results of these two efforts will be a major part of the workshop. The PIER program plans to complete a competitive award in 2013 to demonstrate the most promising technologies.

Researchers at GTI are assessing currently available, as well as emerging, pipeline inspection technologies resulting in a catalogue of available technologies for use by pipeline operators. A gap analysis is also being performed to identify sensor technologies that are desired by operators, but are not commercially available. The final deliverable of the GTI contract is an implementation plan to establish the best way to address the identified gaps, and move forward with demonstration projects of new sensor technologies.

The CITRIS researchers are developing innovative monitoring technologies using micro electro-mechanical systems (MEMS) and Laser Ultrasonic Testing (LUT). The MEMS sensors aim to provide two-way communications regarding pipeline operating conditions, giving pipeline operators a more accurate picture of the overall system status. Use of MEMS technology will keep the costs of sensors low, while integrating multiple sensing technologies to measure pipeline operating characteristics such as pressure, flow rate, and water content. LUT technology will be mounted on preexisting pipeline inspection crawlers to provide a non-destructive, non-contact method for evaluating multiple pipeline properties. Characteristics of the pipeline that can be evaluated using LUT include: detection and measurement of stress corrosion cracks, thickness changes due to internal and external corrosion, weld quality, and mechanical properties such as fracture toughness.

Public Participation

The Energy Commission's Public Adviser's Office provides the public assistance in participating in Energy Commission activities. If you want information on how to participate in this workshop, please contact the Public Adviser's Office at (916) 654-4489 or toll free at (800) 822-6228, by FAX at (916) 654-4493, or by e-mail at PublicAdviser@energy.ca.gov. If you have a disability and require assistance to participate, please contact Lou Quiroz at (916) 654-5146 at least five days in advance.

Please direct all news media inquiries to the Media and Public Communications Office at (916) 654-4989, or by e-mail at mediaoffice@energy.ca.gov. If you have questions on the technical subject matter of this meeting, please contact Johann Karkheck at 916-327-2457, or by e-mail at Johann.Karkheck@energy.ca.gov.

Remote Attendance

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VIA COMPUTER: Go to https://energy.webex.com and enter the unique meeting number: 929 777 613. When prompted, enter your name and the following meeting password: **meeting@9**

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Availability of Documents

It is anticipated that the workshop presentation materials will be posted on the following website by July 23: www.energy.ca.gov/research/notices/.

Mail Lists: Naturalgas, Research

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August 7, 2012
DRAFT AGENDA

Time	Topic
9:00 a.m.	Introductions and Overview
9:15 a.m.	Purpose of the Workshop
9:30 a.m.	Presentation on current research conducted by Gas Technology Institute • Baseline Technology Assessment • Catalogue of Available Technologies and Gap Analysis • Developing Emerging Technologies Report • Developing Implementation Plan
10:30 a.m.	Presentation on current research conducted by Center for Information Technology in the Interest of Society • Micro Electro-Mechanical Systems Sensors • System Implementation • Laser Ultrasonic Testing
11:30 a.m.	Break/Lunch
1:00 p.m.	Recommended Areas of Emphasis for Solicitation • Methods to reduce operating costs and optimize field data collection • Enhanced operational awareness using low cost/low power sensors • Enhanced integrity management practices through risk analysis, prediction, and decision based methodology • NDE tools integrating multiple crack inspection devices on a single deployable unit • Request input from attendees on technologies not identified.
3:30 p.m.	Workshop Conclusion and Next Steps
3:50 p.m.	Questions and Comments