the Energy to Lead

CALIFORNIA NATURAL GAS PIPELINE ASSESSMENT
CEC #500-10-050

Joint PAC Meeting – GTI Project Status

January 9, 2012

AGENDA

> REVIEW OF TASKS, DELIVERABLES AND CURRENT APPROACH

> TECHNOLOGY CATEGORIES

> FEATURES COLLECTED

> GLOSSARY

> ACRONYMS

> TECHNOLOGY REVIEW STATUS

> PAC INPUT ON APPROACH

> QUESTIONS

> NEXT MEETING

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REVIEW OF TASKS, DELIVERABLES AND CURRENT APPROACH

> Baseline Technology Assessment for Pipeline Integrity and Monitoring Technology in the State of California
  - Deliverables – Review of current state of technologies being used

> Assessment of Currently Available Pipeline Integrity Assessment and Monitoring Technology
  - Deliverables – Catalogue of available technologies and gap analysis

> Evaluate Emerging Pipeline Integrity Assessment and Monitoring Technology
  - Deliverables – identification of technologies that could be developed or enhanced in the next 2-4 years with emphasis on integration with the AMI communications backbone

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TECHNOLOGY CATEGORIES

> 1   Internal and external assessment and inspection methods,

> 2   Long-term condition monitoring techniques,

> 3   Risk-modeling and incident prediction tools,

> 4   ROW encroachment and excavation damage prevention,

> 5   Detection of pipeline leaks and ruptures,

> 6   Remote stress/strain analysis of pipelines,

> 7   Tools, techniques, and data analysis methods utilized in integrity management programs,

> 8   Nondestructive examination and analysis methods,

> 9   Automated, semi-automated, and manual methods for system shutdown,

> 10   System modeling of incident responses and shutdown, and

> 11   Data collection and communication technologies.

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FEATURES COLLECTED

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> NAME OF TECHNOLOGY

> DESCRIPTION

> DETAILS/PICTURES

> STRENGTHS

> WEAKNESSES, LIMITS OR GAPS

> REFERENCE

> MANUFACTURER

> COMMUNICATIONS CAPABILITY

> SEARCHABLE TERMS

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GLOSSARY

> **Dummy Tool Run:**

> **Swept Frequency Acoustic Interferometry (SFAI):**

GLOSSARY

> **Dummy Tool Run:** Preliminary run of an un-instrumented pig to verify safe passage of a fully instrumented tool through a section of pipeline. Dummy runs can also be used to remove debris from the inside of the pipeline.

> **Swept Frequency Acoustic Interferometry (SFAI):** When shear waves and longitudinal waves are superimposed onto each other they generate interference. This combination of waves creates a lamb wave, and when confined to plate surface becomes guided – hence the term 'guided wave'. Guided waves reflect back towards their origin if they encounter an inconsistency during their propagation in the medium. SFAI utilizes such guided waves at the transducer to find local anomalies in the plate (or wall of a pipe).

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ACRONYMS

> AGM –

> ALPIS –

> ECOL –

> EGS –

> FRASTA –

> NDE –

> NDI –

> NDT –

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ACRONYMS

> AGM – Above Ground Markers

> ALPIS – Airborne LIDAR Pipeline Inspection System

> ECOL – Electrical Conductivity Object Locator

> EGS – Excavation Guidance System

> FRASTA – FRActure Surface Topography Analysis

> NDE – Non-Destructive Evaluation

> NDI – Non-Destructive Inspection

> NDT – Non-Destructive Testing

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TECHNOLOGY REVIEW STATUS

> Total technologies = 64
>   − Commercially Available = 58
>   − Used in California = 21 (expected to increase)
>   − Emerging technologies = 6

> Commercial technologies by category = 63*
>   2.1 Assessment and inspection methods = 16
>   Internal = 12
>   External = 4
>   2.2 Long-term condition monitoring techniques = 5
>   2.3 Risk-modeling and incident prediction tools,= 3
>   2.4 ROW encroachment and excavation damage prevention,= 7
>   2.5 Detection of pipeline leaks and ruptures,= 8
>   2.6 Remote stress/strain analysis of pipelines 3
>   2.7 Tools, techniques, and data analysis methods utilized in IMP = 2
>   2.8 Nondestructive examination and analysis methods = 4
>   2.9 Automated, semi-automated, and manual methods for system shutdown = 3
>   2.10 System modeling of incident responses and shutdown = 5
>   2.11 Data collection and communication technologies = 7
>
>   **A single technology may fit in more than one category

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PAC INPUT, QUESTIONS, NEXT MEETING

>INPUT

>QUESTIONS

>NEXT MEETING

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