Safe & Sustainable Interstate Pipeline Operations

Paul Doucette
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produces equipment from drill bit to the pump island ... The “all-stream company”
Pipeline Safety ... the goal has to be zero incidents!
Safety depends on:

- A strong safety culture
- Sound business practices
- Reasonable, well enforced regulations
- Use of advancing technology

Safety by the numbers:

- 100% of lines monitored routinely
- 73% of interstate gas lines use “smart pigs”
- Leaks down 94% from (1984-2012)
- Material and weld leaks down 20% (2002-14)
- Excavation damage down 34% (2002-14)
The Intelligent Pipeline Solution

The ability to organize and analyze multiple sets of data spatially along the gas transmission system improves the quality and speed of decision making.

**GIS** – Attributes, Leaks, Valves, Taps, ILI

**One Call** – Dig tickets

**Risk Model** – Risk scores from internal model

**SCADA** – Pressures, flow, temp, btu

**Commercial Management System** – Scheduled volumes

**Work Mgmt.** – Leak (grade, repair), CIS

**NOAA** – Temperature, Precipitation

**USGS** – Fault lines, Stream flow

**Geohazards** – Areas prone to slips
**Functional Highlight: Active Risk Analytics**

Near real-time data driving daily assessment of the transmission network

- Enhances company risk model with near real-time data
- Uses direct data sources to calculate risk
- Active monitoring of risk across all threat categories
- Supports predictive modeling
- Daily indicator of asset health

Increased Resolution: Risk 1x to Risk 365x
Integrity programs using smart pigs
Geoff Foreman - Senior ILI technology Advisor

1 million measurements a second … “healthcare for the pipeline network”
ILI’s mission: “to achieve zero failures”

Find these...

... pipelines are exposed to a number of threats having the potential to cause severe damage

... technology tools detect & quantify defects such as cracks, corrosion & dents

and engineering IP

... assessment & software tools identify pipeline threats and determine condition

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Natural Gas Sustainability
... good now and getting better every day!
Data from the EIA shows that natural gas is the prime power source in 11 of the 22 states with below average emission rates.
Key technologies to reduce emissions … what industry is already doing.

Leak detection and repair
- Regular Inspection
- Smart Pigs
- Aircraft, drones
- Direct assessment & Hydro test

Compression changes
- ICL
- Wet seals rather than dry
- Replacing rod packing
- Actuators

Natural Gas Production 37%  
Greenhouse gas emissions 17%  
The Digital Thread
Some sources of emissions … a One Future study by ICF – Released June 2, 2016