INGAA’s Commitment to Pipeline Safety

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INGAA Foundation Annual Meeting – November 8, 2013
2010 – The Start to IMCI

- Recognized that baseline assessment period for HCAs was nearly complete
  - Reflect on past 8 years
  - Define where improvements could be made to IM
- High profile incidents heightened need
- Define path forward/improvements
- Board level task force formed
- In two months defined guiding principles and identified nine initiatives
- Goal of zero – What changes need to be made to get there?
Guiding Principles of Pipeline Safety

• Our goal is ZERO incidents

• We are committed to safety culture

• We will be relentless in our pursuit of improving

• We are committed to applying integrity management principles on a system-wide basis

• We will engage our stakeholders
1. Apply Risk Management Beyond High Consequence Areas (HCAs)
2. Raise the Standards for Corrosion Anomaly Management
3. Demonstrate Fitness for Service on Pre-Regulation Pipelines
4. Shorten Pipeline Isolation & Response Time to 1 Hour in Populated Areas
5. Improve Integrity Management Communication and Data
6. Implement the Pipeline and Informed Planning Alliance (PIPA) Guidance
7. Evaluate, Refine and Improve Threat Assessment and Mitigation
8. Implement Management Systems Across INGAA Members
9. Provide Forums for Stakeholder Engagement and Emergency Officials
2011 and 2012 Outreach

- Informed other stakeholders of INGAA’s positions
- Engaged stakeholders to provide a focal point for stakeholder feedback
  - PHMSA
  - NTSB
  - PST
  - NAPSR
  - Many others (FAA, Congress, etc...)
- Enhanced the inputs and considerations into the nine initiatives

Continued outreach in 2013
Demonstrate Fitness for Service on Pre-Regulation Pipelines

- Systematically validate records & maximum allowable operating pressure for pipelines in HCAs pre-dating regulation
- If records are inadequate, apply fitness for service and remediate as necessary
- Incorporate NTSB recommendations issued following the San Bruno pipeline accident
- Use a rigorous evaluation process focusing on material and construction threats
- Parallel effort to develop technology that is pressure test equivalent (ITD)

Incorporated into INGAA’s IVP
ITD results to be used in IVP
INGAA’s Integrity Verification Process

ONE-TIME PROCESS to Re-confirm Maximum Allowable Operating Pressure

1. Identify pertinent state-specific rules that exceed Part 192 & impact IVP
2. Highlight/adjust screening criteria

Start IVP

- Risk and Technical Prioritizations
  - Is segment in HCA? (Note 1)
  - Does segment exceed MAOP >50% SMYS? (See Note 2)
  - Susceptible Seam Type? (See Note 3)

- Testing History
  - Prior test ≥ 1.25xMAOP w/ pressure records (See note 4)
  - Prior test ≥ 1.1xMAOP w/ pressure records (See note 4)

- Assessment, Analysis, and Implementation
  - Perform Subpart J Pressure Test (Supplemented with Spike Test if needed for IM purposes)
  - Derate Pipeline OR Replace Pipeline

- Select sensors to detect pipe body, long seam, and girth weld anomalies just surviving 1.25xMAOP test.
  - Examine Anomalies per design factors (x1.25 or x1.5) respectively, and mitigate.

- Test Failures?
  - Define cause and feed into IM Risk Assessment

PROPOSED DEADLINES

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Note 1: See table titled "proposed deadlines." For Intrastate natural gas transmission pipelines actual thing to be implemented by order of state utility commissions.

Note 2: If Moderate Consequence Area (MCA) INGAA supports the concept of MCA to address population within the PIP.

Note 3: Susceptible Seam Type per LEMT, SWAG, ASME, and/or other. Susceptible Seam Type (susceptible: H1, H2, or H3.)

Note 4: For the purposes of MAOP reconfirmation there is no limitation on allowable hydrostatic test dates (e.g. 65 tests acceptable) or test durations. MTR tests acceptable for use in box 6 screening.
Extend and Improve Integrity Management

Apply integrity management principles to the entire transmission system operated by INGAA members

Expansion focused on population near the pipeline and continuing development of technology

Will extend and consistently apply the program to:

- 90% of the population nearby pipelines using integrity management principles by 2012
- 90% of the population nearby pipelines using ASME B31.8S by 2020,
- 100% of the population nearby pipelines using integrity management principles by 2030
- The remaining 20% of mileage with no population using integrity management principles beyond 2030

Incorporated into INGAA’s IVP
Improving Risk Assessment & Data Integration

Evaluate, Refine and Improve Threat Assessment and Mitigation

• Initiate research to review interaction of multiple threats at one site; (GTI Project)

• Improve practices for assessing threats, how they interact and should be mitigated; (GTI Project)

• Review adequacy of consensus standards for threats and mitigation; (ASME)

• Seek best practice for data integration to support integrity mitigation decisions (INGAA Foundation/GTI/PRCI Project).

Incorporated into INGAA’s IVP
INGAA’s Integrity Verification Process

**Reoccurring Process for Integrity Management Purposes**

1. Identify pertinent state-specific rules that exceed Part 192 Subpart O
2. Assess IM Records Needs
3. Schedule Record Additions
4. Construction & Material Records
5. Data Validation (Exposed Pipe Inspections)
6. Material Strength Validation
7. ILI as Built

**Expanded view of Gather and Integrate Data**

**Gather and Integrate Data**

1. Know Your Pipe
   - Diameter, Wall Thickness, Grade
   - Long span (IF)
2. Improved Data Integration - IMI
3. Data Validation
4. Material Strength Validation
5. ILI As Built

**Assessment Planning and Assessment Execution**

1. Include assessment method referred to as Continued Monitoring

**Risk Assessment**

1. Inclusion of learning from hydrostatic test and in-service failures
2. Improved vigilance with natural hazards and particularly ground movement.

**Response to Assessments**

1. Apply the same criteria inside and outside of HCA (approved by OSE in 2007)
2. Apply more conservative criteria accounting for consequence and specifically population (should the approach be based on FER rather than design factor)
3. Need 619(1)(1) data to know SMS to calculate FPRs; use excavations to validate data

**Integrate and Evaluate Data (Post Assessment)**

1. Increased use of risk assessment in consideration and selection of prevention and mitigation measures

**Prevention and Mitigation Measures**

1. Commitment to one-hour response time
2. Development of guidance on incident mitigation management

**Management System Elements**

1. Development of industry-wide pipeline safety management system to build on QA/QC, MOC, PM and Communication

**Lessons Learned – broaden from Incident Investigations**

1. Lessons Learned Workshops – annually each fall
2. Conduct root cause analyses
3. Segments having gone through IM process, i.e., having been assessed mitigated and had prevention and mitigation measures applied are no longer subject to requirements of 49 CFR 192.611.
INGAA member commitments:

• Improve data collection and analysis, convert this data into meaningful industry information and communicate it to stakeholders
Next few years....

• INGAA members will be working on commitments and continuing to engage stakeholders and receive feedback
  ▪ Reporting on progress

• Commitments will drive future activity, while continuing to do IMP
THANK YOU