



# INGAA's Commitment to Pipeline Safety

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# 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



# INGAA Members 9 Step Action Plan – Early 2011



- 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

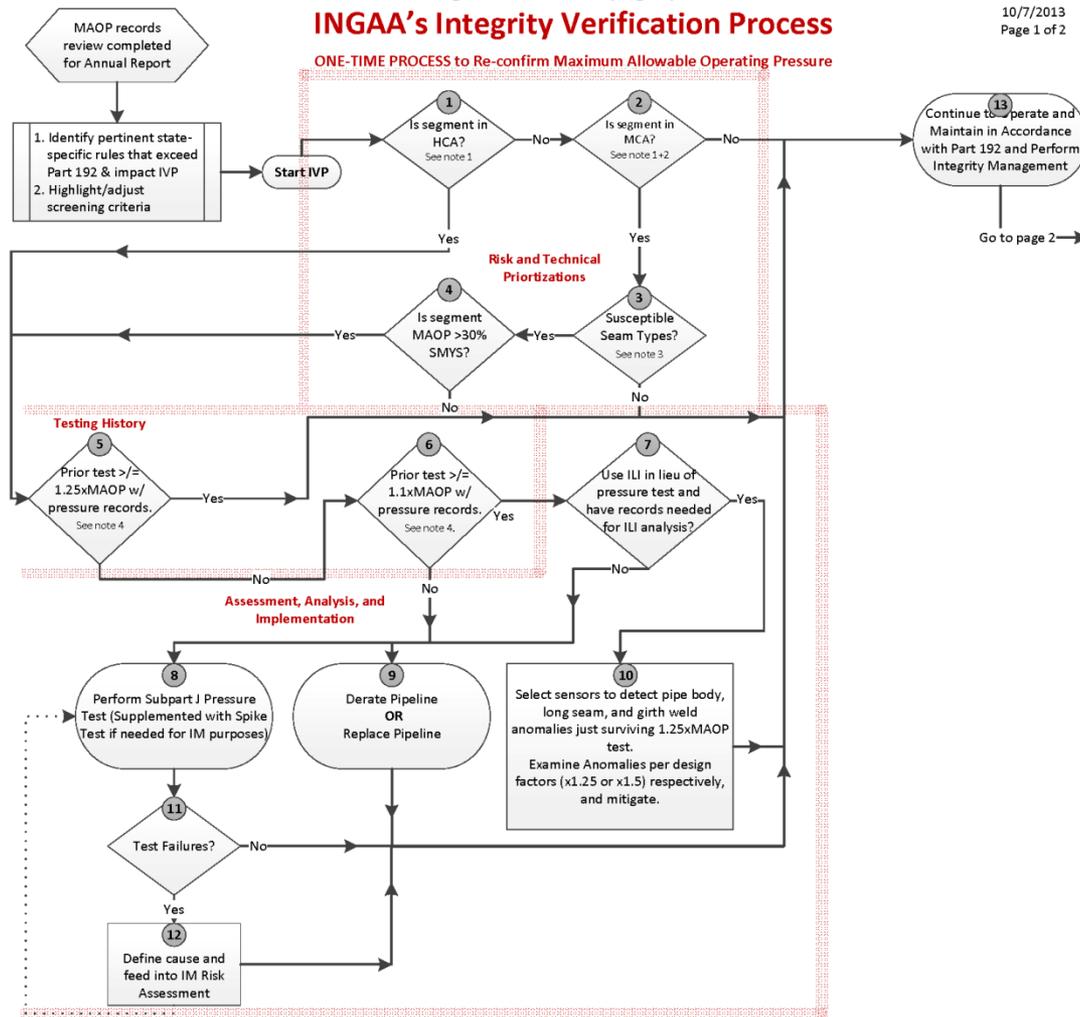
# Fitness for Service for Material and Construction Anomalies



## 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



PROPOSED DEADLINES			
Mileage	HCA	50%	Date (Final Regulation) + 4 yrs
		100%	Date (Final Regulation) + 8 yrs
	MCA	50%	Date (Final Regulation) + 13 yrs
		100%	Date (Final Regulation) + 18 yrs

**Notes:**

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

Note 2: **Moderate Consequence Area (MCA):** INGAA supports the concept of MCAs to address population within the PIR.

Note 3: **Susceptible Seam Types** mean LFERW, SSAW, Flash Weld (AO Smith), or pipe w/ joint factor < 1 (e.g., lap welded pipe) regardless of date of manufacture with known history of long seam issues.

**Non-susceptible Seam Types** mean DSAW, HF-ERW, and Seamless

Note 4: For the purposes of MAOP re-confirmation there is no limitation on allowable hydrostatic test dates (pre-65 tests acceptable) or test durations. Mill tests acceptable for use in box 6 screening.

# Extend and Improve Integrity Management



## Apply Risk Management beyond High Consequence Areas (HCAs)

- 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

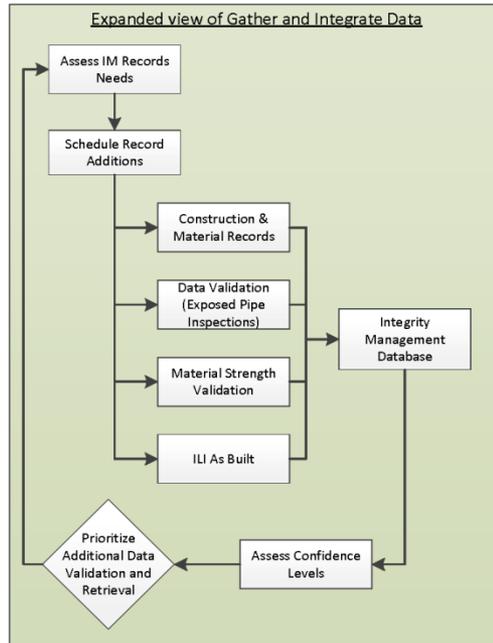
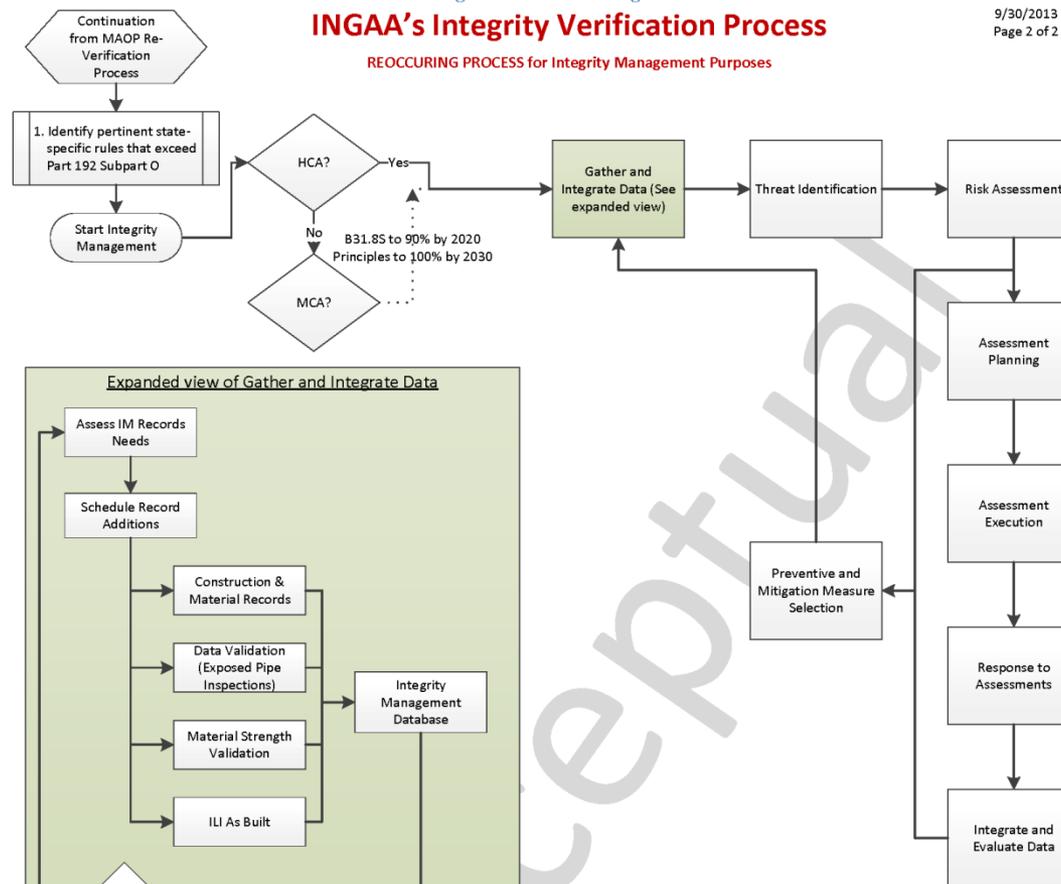
## Evaluate, Refine and Improve Threat Assessment and Mitigation

- 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



### Gather and Integrate Data

- Know Your Pipe
  - Diameter, Wall thickness/Grade
  - Long seam (JF)

Validated thru IM assessment excavations, or through sampling program, based on quality of records and likelihood of "unknowns". Under some circumstances, may be factor-based, statistical, or yield testing [619(a)(1)(i)].

- Improved Data Integration - IMCI

### Threat Identification

- Improved consideration of interactive threats
- Clarification of "stable" and re-designation as "resident" and included consideration of "acted upon" by external forces or hoop stress.

### Risk Assessment

- Inclusion of learnings from hydrostatic test and in-service failures
- Increased vigilance with natural hazards and particularly, ground movement.

### Assessment Planning and Assessment Execution

- Include assessment method referred to as Continued Monitoring

### Response to Assessments

- Apply the same criteria inside and outside of HCAs (approved by OS&E in 2009)
- Apply more conservative criteria accounting for consequence and specifically population (should the approach be based on PIR rather than design factor)
- Need 619(a)(1) data to know SMYS to calculate FPRs; use excavations to validate data

### Integrate and Evaluate Data (Post Assessment)

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

### Prevention and Mitigation Measures

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

### Management System Elements

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

### Lessons Learned - broaden from Incident Investigations

- Lessons Learned Workshops - annually each Fall
  - Conduct root cause analyses
- 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.

# Collect & Use Pipeline Data

## Improve Integrity Management Communication and Data

### *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

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**THANK YOU**