

Session 3

Direct Assessment

Leader: Chris Bullock
Leader: Keith Leewis
Facilitator: Rudy Reid

Session 3 – Direct Assessment

Attendance Breakdown

Approximate total attendance	35 persons
Regulators	1 person
Pipeline Industry	20 persons
Standard Organizations	1 persons
Researchers	7 persons
Academics	1 persons
Suppliers	5 persons

Session 3 – Direct Assessment

Top 4 Identified R&D Gaps

Gap #1 – Determining real corrosion/crack growth rates (External, Internal, and SCC) and understanding influencing factors associated with growth – ***New or Improved Technology and General Knowledge/Guidance***

Gap #2 – Development of consensus standards or guidelines for Confirmatory Direct Assessment, Guided Wave Ultrasonic Testing, assessment of cased pipelines, WG-ICDA, and LP-ICDA – ***New or Revised Consensus Standards***

Gap #3 – Development of a tool for rapid detection of the presence of SCC at excavations – ***New or Improved Technology***

Gap #4 – Improvements in the understanding, interpretation and collection of LRGW-UT results – ***New or Improved Technology***

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Associated Details (Gap #1)

Corrosion/Crack Growth Rates Determination

New or Improved Technology

- a. What pipeline type(s) does the technology target? - **Gas Transmission, Gas Distribution, Gathering, Liquid Pipelines**
- b. What operating environment(s) would the technology operate? - **Onshore**
- c. What are any functionality and or performance requirements? – **Understanding of uncertainties; pitting and general corrosion rates**
- d. What road blocks or barriers prevent the technology deployment? – **Critical Input Data particularly internal corrosion and cracks**
- e. What are anticipated targets or timeframes to complete this research? - **Short Term – 1-3 Years**

Session 3 – Direct Assessment

Associated Details (Gap #2)

Development of Consensus Standards and Procedures for CDA, GWUT, Assessment of Casings, WG-ICDA, LP-ICDA

New or Revised Consensus Standards (standards, guidelines or recommend practices)

- a. Does the need address safety or specification related consensus standards? - **Yes.**
Current standards refer to the processes and tasks but no clear standard exists or are limited for how to perform the tasks
- b. Which standard developing organization and which consensus standard name and number is affected? – **NACE, ASNT, ASME; CDA-ASME AI-0311242, Casings-NACE TG 041, WG-ICDA - NACE TG 305, LP-ICDA - NACE TG 315**
- c. What pipeline type(s) does the consensus standard target? - **Gas Transmission, Gas Distribution, Gathering, and Liquid Pipeline**
- d. What operating environment(s) does the consensus standard target? – **Onshore**
- e. What technical details are necessary and recommended? - **Additional resources to accelerate the standard development process and perform any needed R&D or obtain existing data from industry**
- f. Can any targets or timeframes be identified to complete this research? – **Reduce typical time frame from 3-5 years to 1-3 Years**

Government/Industry Pipeline R&D Forum - New Orleans, Louisiana, February 7-8, 2007

Session 3 – Direct Assessment

Associated Details (Gap #3)

**Development of a tool for rapid detection of
the presence of SCC at excavations**

New or Improved Technology

- a. What pipeline type(s) does the technology target? - **Gas Transmission, Liquid Pipelines**
- b. What operating environment(s) would the technology operate? – **Onshore**
- c. What are any functionality and or performance requirements? – **New methods for screening the presence of cracks, preferably without coating removal**
- d. What road blocks or barriers prevent the technology deployment? – **Lack of knowledge of potential cross industry solutions**
- e. What are anticipated targets or timeframes to complete this research? – **Short term feasibility, long term commercialization**

Session 3 – Direct Assessment

Associated Details (Gap #4)

Improvements in the understanding, interpretation and collection of LRGW-UT results

New or Improved Technology

- a. What pipeline type(s) does the technology target? - **Gas Transmission, Gas Distribution, Gathering, Liquid Pipelines**
- b. What operating environment(s) would the technology operate? – **Onshore**
- c. What are any functionality and or performance requirements? – **Equivalent confidence in pipeline integrity as provided by pressure test**
- d. What road blocks or barriers prevent the technology deployment? – **Lack of data and experience for data evaluation and interpretation**
- e. What are anticipated targets or timeframes to complete this research? – **Long Term (3-5 years)**

Session 3 – Direct Assessment

Appendix

Session 3 – Direct Assessment

AGENDA DAY 1:

Phase 1 (Feb 7th 1:00PM – 5:00PM)

➤ Convey session objectives to audience	5min	(Ground Rules, Parking Lot)
➤ ECDA		
➤ Presentation 1	15 min	(start approx 1:05)
➤ Presentation 2	15 min	(start approx. 1:15)
➤ Presentation 3	15 min	(start approx 1:35)
➤ Presentation Q&A (ID Gap's)	45min	(start approx. 2:30)
➤ BREAK	10 min	(@ approx. 2:35?)
➤ ICDA		
➤ Presentation 4	15min	(start approx 2:40?)
➤ Presentation 5	15min	(start approx 2:55)
➤ Presentation 6	15 min	(start approx. 3:10)
➤ Presentation 7	15 min	(start approx 3:35)
Presentation Q&A (ID Gap's)	50 min	(start approx ?) ? till 5:00PM

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AGENDA DAY 2:

Phase 2 (Feb 8th 9:00AM – 11:30AM)

- Presentation 8 15 min (start approx 9:00)
- Presentation 9 15 min (start approx 9:15)
- Presentation 9 Q&A (ID Gap's) 15 min
- Final Roll up of Gaps. 45 min (start approx 9:35)

- Review list of challenges 10min (start approx 10:20)

- **Break**

- Prioritize (ID top 3) 30min (start approx 11:00)
 - ID if challenge is short term (1-3 years), long term (>3 years)
 - ID the impacted pipeline type (liquid or gas transmission, gas distribution metallic and non-metallic)
 - ID operating area (offshore, onshore or artic)
- Road Map* till 11:30

Phase 2 (Feb 8th 1:00PM – 2:30PM)

- Wrap up discussion on road mapping 30min
- Report out preparation
- Closing Statement till 2:15

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Ground Rules

- No Cell phone
- Don't interrupt
- No fighting, no confrontations
- Use parking lot – items not covered
 - No off-track
- No computers – computers down
- Every idea is good
- Open dialog
- Stay on time and on agenda

Session 3 – Direct Assessment

DETAILS on ROAD MAP (phase 2)

Categorize top 3 challenges on

1. New or Improved Technology

- a. What pipeline type(s) does the technology target?
- b. What operating environment(s) would the technology operate?
- c. What are any functionality and or performance requirements?
- d. What road blocks or barriers prevent the technology deployment?
- e. What are anticipated targets or timeframes to complete this research?

2. New or Revised Consensus Standards (standards, guidelines or recommend practices)

- a. Does the need address safety or specification related consensus standards?
- b. Which standard developing organization and which consensus standard name and number is affected?
- c. What pipeline type(s) does the consensus standard target?
- d. What operating environment(s) does the consensus standard target?
- e. What technical details are necessary and recommended?
- f. Can any targets or timeframes be identified to complete this research?

3. Creation and Dissemination of General Knowledge

- a. What pipeline type(s) does the new knowledge target?
- b. What operating environment(s) does the new knowledge target?
- c. What technical details are necessary and recommended?
- d. Can any targets or timeframes be identified to complete this research?

New and Improved Tool Development
Assessing Difficult Situations
Determining the true risk associated with
difficult to assess situations
Understanding and Interpreting Data Results
Consensus Standard and Procedure
Development
Approval of GWUT for Assessment Other
Technology
DG/WG Validation for Unique Situations
Detection of Internal Corrosion Flaws
Construction Practices
Real Time Detection of Corrosive Environment
Conditions

Corrosion Growth Rate Determinations
Flow Model Improvements
Integration of Different DA Methods for
synergies
Determination of number of dig requirements
Feasibility Assessment Guidance
Validation of "System Analysis" Approach
Identification of Monitoring Tool Placement
Consistency of Survey Practices, Results,
Methods
Rapid detection tool for presence of SCC in
Ditch