Working Group # 1

Improving Assessment Methods for Dents & Cracks

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Attendance Breakdown

Approximate total attendance	48 persons
Federal Regulators	2 persons
State Regulators	1 persons
International Regulators	0 persons
Pipeline Industry/Service Providers	17 persons
Standard Developing Organizations	2 persons
Researchers	6 persons
Academics	9 persons
Pipeline Operators	10 persons
Other	1 persons

Top 3 Identified R&D Gaps

Gap #1 – Validation of ILI capabilities with respect to the various types of mechanical damage (e.g. plain shallow dent, dent with gouge, plain dent with gouge etc.) and essential operating parameters (Technology)

Gap #2 – Bringing together various research performed related to mechanical damage along with a state of the art compendium of current ILI capabilities, risk prioritization processes and assessment methods. Deliverables would include: 1)Reporting specification for ILI, 2) Classification scheme for mechanical damage, 3) tying the identified classifications to applicable screening/assessment models/processes, 4)Guidance on response criteria and appropriate response schedule. (General Knowledge)

Gap #3 – Examine pipeline construction and materials standards and field practices with respect to impact on long term management of mechanical damage (API 5L, 1104; ASME B31.4, B31.8, CFR 192/195) (Consensus Standard)

Gap #4 - Comparison and validation of available assessment methods (critical strain (DFDI)/Fatigue based) and practical guidance for implementation (Consensus Standard)

NOTE: Identify gaps with* that may be addressed with University Partnerships

Associated Details
(Gap #1)
Insert Gap Title or Subject

Validation of ILI capabilities with respect to the various types of mechanical damage (e.g. plain shallow dent, dent with gouge, plain dent with gouge etc.) and essential operating parameters

1. New or Improved Technology

a. What pipeline type(s) or part of LNG operations does the technology target? – Gas and Liquids

b. What pipeline operating environment(s) must the technology operate in? – Piggable Pipelines

c. What are any functionality and or performance requirements? N/A

d. What technical or regulatory roadblocks or barriers prevent the technology deployment? – Prescriptive regulations impede continuous improvement in the industry

e. What are anticipated targets or timeframes to complete this research? – 1-2 years

Associated Details
(Gap #2)

Bringing together various research performed related to mechanical damage along with a state of the art compendium of current ILI capabilities, risk prioritization processes and assessment methods. Deliverables would include: 1)Reporting specification for ILI, 2) Classification scheme for mechanical damage, 3) tying the identified classifications to applicable screening/assessment models/processes, 4)Guidance on response criteria and appropriate response schedule.

3. Creation and Dissemination of General Knowledge

a. What pipeline type(s) or part of LNG operations does the new knowledge target? Both Gas and Liquids

b. What operating environment(s) does the new knowledge target? N/A

c. What technical details or scope items are necessary and recommended? See above

d. Can any targets or timeframes be identified to complete this research? 2-3 years

Associated Details
(Gap #3)

Examine pipeline construction and materials standards and field practices with respect to impact on long term management of mechanical damage (API 5L, 1104; ASME B31.4, B31.8, CFR 192/195)

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

a. Does the need address safety or specification related consensus standards? Yes

b. Which standard developing organization and which consensus standard name and number is affected? API 5L, 1104; ASME B31.4, B31.8, CFR 192/195

c. What scope items should be completed to help improve the standard? Critical review and comparison of existing standards identifying items relevant to long-term reliability with respect to mechanical damage

d. What pipeline type(s) or LNG issue does the need or consensus standard target? Both Gas and Liquids

e. What operating environment(s) does the consensus standard target? All

f. Can any targets or timeframes be identified to complete this research? 1 year

Associated Details
(Gap #4)

Comparison and validation of available assessment methods (critical strain (DFDI)/Fatigue based) and practical guidance for implementation

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

a. Does the need address safety or specification related consensus standards? Specification

b. Which standard developing organization and which consensus standard name and number is affected? API RP 1183

c. What scope items should be completed to help improve the standard? See above

d. What pipeline type(s) or LNG issue does the need or consensus standard target? Both Gas and Liquids

e. What operating environment(s) does the consensus standard target? All

f. Can any targets or timeframes be identified to complete this research? 1-2 years