

Design, Construction, Materials & Welding

Strain Based Design

Issue

- Industry does not have a comprehensive set of design tools for strain based design

Action Required

- Develop reliable predictive methodologies, including
 - Material characterization, inspection, construction methods and standards

Codes & Standards

Issue

- Existing code and standards are not up to date with the state of technology in the industry – design criteria, inspection, etc.

Action Required

- Fund a comprehensive review of existing standards for gaps and opportunities. The desired outcome of this review is an action plan for incorporating research results into codes and standards

Design & Construction

Issue

- Current methodologies for predicting loads on pipelines is not sufficient, particularly with regard to large scale movements.
- Many limit state methodologies are not sufficiently developed, particularly for ground movement and environmentally imposed loads. Further, there is insufficient material and site property data to support application of

Action Required

- Comprehensive program to address all associated issues
- Improve predictive tools for pipeline loading under large scale movement and adverse environmental conditions

Coatings

Issue

- Coatings are relied upon for corrosion protection of pipelines. There is a need for more effective short term testing methods to predict long term performance – wear and penetration, coating soil interactions, etc.

Action Required

- Series of research programs relating to gaps in knowledge. Workshop planned for later this year should be used as forum for establishing specific project needs.

Other Considerations

- Coordinate with existing programs already underway
- Human factors