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United Kingdom Onshore Pipeline Operators' Association

PIWG Progress Update Meeting, October 2018

Graeme Pailor
PIWG Chairman

General

- Meetings
  - Meetings have been held in January, April and September. Similar timings are agreed for 2019.
- Membership
  - Currently around 25 group members / interested parties across all sectors

PIWG Aims

- Act of behalf of UKOPA Members as the expert body on pipeline integrity and defect assessment issues.
- Support, on behalf of member companies, the development and acceptance of appropriate good practice for pipeline integrity management and defect assessment.
- Provide the specialist / expert point of contact for UKOPA internal and external communications on pipeline integrity / defect assessment issues.
- Provide a formal UKOPA interface with HSE for discussions on pipeline integrity related issues.
- Provide a point of focus within UKOPA for commissioning and progressing technical work related to pipeline integrity and defect assessment with external expert bodies and technical specialist organisations including Universities.

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Standards Committee Update

- The spring / summer has been a quiet time for the BSI standards Committees and there are no updates of note to report

2018 Work Plan

- GPG AC corrosion management
- TBN – Ethylene decomposition in pipelines
- Sleeve Assessment Work phase 1B
- GPG for Seismic risks
- GPG for Pipeline life extension
- Develop standard for epoxy shell repairs
- GPG for managing pipelines subject to ground movement
- GPG for ILI Project Management
- GPG for Field Inspection to ratify ILI results
- Weld Quality Project

GPG – Management of Pipelines Subject to AC Current

- GPG Draft drafted to include:
  - Review of EU and UK pipeline standards
  - Expert advice
  - Operator Practice
- PIWG completed review in Q1 2018
- Training and 'launch' session took place in May at the Technical Seminar
- Final version to be issued, unabridged, as a TBN
- Issue to website is likely by end 2018 following Governance process

TBN – Ethylene Decomposition in Pipelines

- Document is ready and to be issued to website as TBN
- Expected issue by end 2018

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Sleeve Assessment Work

- Following high cost of Rosen proposal the work has been discussed with the vendor
- Some further review work is to be done by NGN to assess the differences between ILI vendor reports
- A spreadsheet has been developed with included macros to extract the required data
- Following testing, this will be issued to interested members to run and gather data for further assessment
- A request for participants is likely in Q1 2019

GPG – Seismic Screening Assessment of pipelines and associated installations (1)

- GPG Has been drafted based on:
  - Expert review of published standards, carried out for UKOPA
  - National Grid Specification for the seismic engineering of natural gas pipelines and associated installations
  - ISO Committee Draft – Pipeline Transportation Systems - Geological risk management for onshore pipelines
- Screening methodology was based on:
  - Assignment of Importance classification according to:
    - The number of potential casualties within the hazard range of the pipeline or installation.
    - The criticality of security of supply.
  - Assignment of Importance Factor based on the Importance Classification
  - Calculation of seismic action parameters:
    - Ground acceleration (using the seismic hazard map given in PD 6698)
    - Soil factor (using Table 3.3 in BS EN 1998-1).
  - Application of threshold ground acceleration criteria

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GPG – Seismic Screening Assessment of pipelines and associated installations (2)

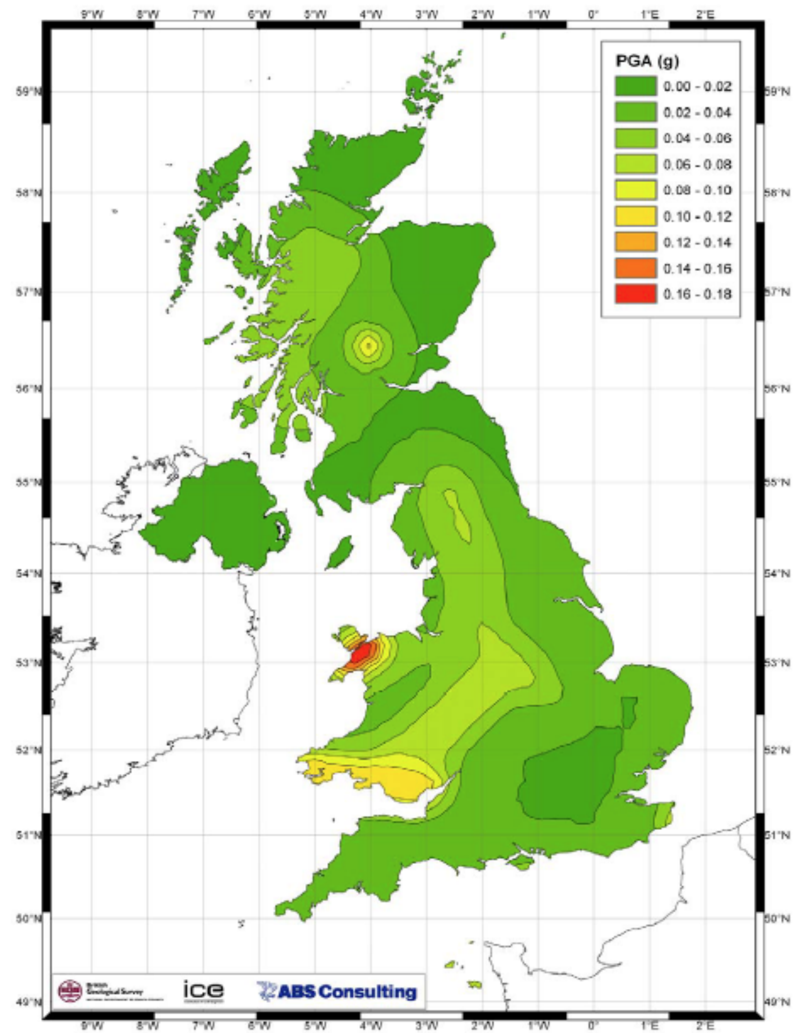
- A Working Group was set up to
  - apply the screening methodology using the UK PD 6698 Seismic Hazard Map and
  - Identify assessment requirements for assets in high hazard locations
- A workshop was held to carry out worked examples of the methodology both as a test and to include in an Appendix. Outcomes included:
  - One of the tables in the assessment methodology (importance classification) will be simplified
  - A colour reference of the ground acceleration map will be included to aid identification
  - Decision algorithms will be developed to assist in application for both pipelines and installations
  - Further advice on the calculation of importance classification for liquid assets based on the environmental consequence is required

GPG – Seismic Screening Assessment of pipelines and associated installations (3)

Actions from the workshop are being progressed

Further comments on the current draft are being sought

A further review will be undertaken once the actions have been incorporated before the document is submitted for governance, probably in 2019



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GPG – Life Extension of Pipelines and Associated Installations (1)

- GPG Draft A based on:
  - Review of UK pipeline standards
  - ISO TS 12747 – Pipeline Transportation Systems – Recommended practice for pipeline life extension
  - Operator Practice
- Three items were identified as requiring further work:
  - Fatigue life
  - Lack of historic records
  - Corrosion in non-inspected lines
- A Sub-Group led by Chris Rodgerson was formed to progress further studies

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GPG – Life Extension of Pipelines and Associated Installations (2)

- A telecom of the sub-group has taken place
- Draft B of the document has been developed
- Comments from the wider PIWG are now being sought
- Further revision of the document is expected in 2019, with final issue to be towards the end of 2019

Standard for Epoxy Shell repairs

- The scope for a standard for epoxy shell repairs (analogous to BS EN ISO 24817 for Composite Repairs) has been developed
- An order was been placed on the preferred vendor
- A kick-off meeting was held early in Q3 and the work has continued
- Gary Senior is overseeing progress for UKOPA
- Issue of the document to UKOPA for comment is expected by the end of 2018, with issue to the website in Q1 2019

GPG – Managing Pipelines Subject to Ground Movement

- GPG Draft B, based on comments received from the PIWG
- Final comments on the revision are now being sought
- On receipt and incorporation this will be passed to the Governance group
- Issue to the website is expected in Q1 2019

GPG – In-Line-Inspection

- The document has been reviewed by the PIWG and is ready for governance
- Issue 2 of the document is now ready for publication
  - Editorial comments incorporated
- Final Governance and loading is now awaited

GPG – Verification of Features Identified by In Line Inspection

- GPG Draft B based on:
  - Recommendations in UKOPA GPG – In Line Inspection
  - Operator practice
  - ISO/DIS 19345-1 – Pipeline Transportation Systems – Pipeline Integrity management specification – Part 1
  - Comments from PIWG members
- Scope
  - IILI through the pipeline life
  - Actions following ILI
  - Selection of features for investigation
  - Recommendations for the procedure for field investigation of ILI features
- Current Status – Final comments on Issue B being sought prior to Governance and issue – expected Q1 2019

Weld Quality Project

- The initial project scope was completed in 2017 and has been presented previously
- Additional work incorporating fatigue testing (carried out at Strathclyde University) has been completed and was reported at the October 2017 members meeting
- Two further pieces of work are in hand:
  - Testing of Atco pipework
  - MSc Project at University of Swansea

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Progress with Atco Testing

- The Atco testing will add to the dataset with data from comparable pipelines of similar vintage
- Testing has continued through 2018 to plan as excavated pipework becomes available
- A final report from Atco featuring the complete set of test results is expected by year end
- An option for a joint paper to publish the results is available

Swansea University MSc Project

- The work carried out at Swansea will be presented next in further detail

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Ideas for 2019

- Investigation into temporary repair types and applicability
- Development of a Damage Assessment Guide
- GPG for DC interference
- GPG for 'hard to pig' lines
- Pipeline Abandonment

Questions?