

PIPELINE INDUSTRIES GUILD

ONSHORE TECHNICAL PANEL

MEETING OF 22ND FEBRUARY 2006 HELD AT GE PIPELINES INTEGRITY INTERNATIONAL, CRAMLINGTON

KEY POINTS

1. ATTENDANCE

1.1 ATTENDEES (8)

Brian SPENCER (Chair)
Ernie HOLDEN

Bill HUGHES
Ian HARRISON

David YAPP
Phil PARKINSON

Richard BROUGHTON represented Russell DEARDEN and Jason EVANS (Corus)
Robbie WILLIAMSON represented Matthew DOHERTY and Kenneth MACDONALD (DNV, Aberdeen)

1.2 APOLOGIES (26)

Bruce McCULLOUGH
Roger SARGOLOGO
Phil BROWN
Chris MOVLEY
Marc HOBELL
Stephen BLACKMAN
David WILLIS
Russell DEARDEN
Paul GODDEN

Graham WILCOCK
Richard ESPINER
John BARR
Eric MARTIN
Kenneth MACDONALD
Richard PRATT
John COPPACK
Mark JORDAN
Matthew DOHERTY

Matthew DOHERTY
Alan THAYNE
John VARDON
Keith MOLE
Jason EVANS
Dick GRAY
Andrew JACKSON
Paul O'CONNELL

It was planned to make the following changes to the Panel's membership and mailing list:
Delete Jason EVANS and Russell DEARDEN and substitute Richard BROUGHTON (for Corus)
Delete Matthew DOHERTY and Kenneth MACDONALD and substitute Robbie WILLIAMSON (for DNV, Aberdeen)
Delete Stephen BLACKMAN and substitute David YAPP (for Cranfield)
Delete Phil BROWN – corresponding member only
Delete John BARR – corresponding member only

1.3 PANEL MEMEBERSHIP

Phil PARKINSON apologisd for not having been unable to progress the actions from the previous meeting due to urgent project commitments.

ACTION: Phil PARKINSON was asked to contact those Panel members who had not been actively involved (other than the HSE's representatives) to notify them of the intention to seek a replacement.

The Panel would subsequently review and rationalise membership annually.

It was suggested that it might make sense to have "corresponding members".

ACTION: Phil PARKINSON would seek members' views on this at the same time.

ACTION: Brian SPENCER was to discuss with Keith MOLE how to revitalise the Technical Forums now the new Director General was in post.

ACTION: Phil PARKINSON, in consultation with Brian SPENCER, was to draft an e-mail for Cheryl BURGESS (the new Director General) to send to all branches and member companies advising them that the Onshore Panel was looking for new members and seeking nominations both for branch representatives and from those companies that may want to be involved.

2. VISIT TO GE PIPELINES INTEGRITY INTERNATIONAL, CRAMLINGTON

Ernie HOLDEN gave a brief presentation on the work of GE PII prior to visiting their facilities.

Key points included:

- GE PII had four key areas of expertise:
 - In-line inspection
 - Advanced data analysis
 - Integrity management (repair and remediation), and
 - GIS and data management

This was unique compared with their competitors who tended to provide some, but not all, of these services
- PII had an international spread, increasingly headed from Houston rather than Cramlington though they were not currently operational in Russia and the FSU (having previously supplied equipment) but had 13 operational bases and 9 data analysis centres using 8 technologies
- PII employed ~1,000 people worldwide with ~220 based at Cramlington
- They had developed initially as part of British Gas in 1974: de-merged in 1998: and joined GE in 2002
- Revenue >\$200 million pa
- >500,000 kms of pipelines surveyed (on and offshore) to date
- GE had developed a broad spread of industrial and commercial bases and had pushed to get into oil and gas, having acquired Nuovopignioni (Italy) and then PII: GE worldwide now had ~300,000 employees and a turnover of ~\$140 billion pa
- UK Continental Shelf gas production will drop rapidly behind combined current demand plus growth. There will increasing be a need for interconnector pipelines for import plus the increased capacity from LNG import terminals being developed at Milford Haven and the Isle of Grain, together with new connecting National Grid pipelines
- As an example in terms of scale, the UK - Belgium Interconnector was 40" diameter, 25 bcm, 31,000 MW or the equivalent of 15 big power stations, revenue £30 million per day (at November 2005 prices)
- Pipeline threats in terms of damage were from operations / equipment, third party damage, corrosion, cracking, ground movement, manufacturing defects, damage during construction and fatigue
- Safety margins had been developed from measurements of the length and depth of defects (0.72 design factor) and the relationship to failures at hydrotest: code B31.G gives acceptable defect sizes: PII specifications had been developed with an "inspection safety margin" (20 / 40% specification that can be adapted to 10 / 20% specification)
- Intelligent pigs mostly used the Magnetic Flux Leakage (MFL) technique that works equally well in liquids or gas pipelines. Ultrasonic tools were also used and these normally required liquid contact to couple the ultrasound to the pipeline surface. For gas pipelines, this liquid contact could be provided by using a slug of over up to 500 m length.
- PII has several new developments:
 - Using a dry system ("EmatScan") using electromagnetic tools: this was more difficult with a lower conversion efficiency than the conventional ultrasonic approach

- Inertial measurement of positions (using inertial units derived from missile technology) tied to GPS with (in Egypt) magnets placed on the pipeline for reference at 3 km intervals to give + 0.6 m accuracy
- Inspection tool under development for deep water fields (BP Mardi Gras Field, Gulf of Mexico to 2,350 m depth up to 400 bar, thick wall pipe with varying diameters, with wye joints, etc)
- Inspection of "unpiggable pipelines" - applied to 50% of the US pipeline system that have plug valves, use of 22" valves on 30" pipelines, etc. - PII had developed "SmartScan" for use principally in US: every 30 km, fit hot tap for 45° pig launcher and receiver for pipe sections between each pair of valves: gives good data to assess pipeline condition using a very short and flexible pig vehicle
- Phased Array Ultrasonics: developed from GE Health applications - steerable ultrasonic beam "UltraScan DUO"
- Integrity Services: a lot of old pipeline are in use: 62% are >20 years old.
- Practical applications (eg 1% cost of repairs compared with replacing 14" products line in Kenya with a new line).

Brian SPENCER thanked Ernie HOLDEN and his colleagues for organising and hosting the visit that had been extremely interesting and worthwhile.

3. NOTE OF THE MEETING OF 14TH DECEMBER 2005: COMMENTS / ACTIONS

- 3.1 No comments had been received on the notes of the meeting (Rev 02)
 3.2 All actions were covered in the items reported below.

4. UKOPA UPDATE

There was not thought to have been a UKOPA meeting since the last Onshore Panel meeting, though the note of the September 2005 UKOPA meeting referred to their next meeting being planned on 18th and 19th January 2006. Neither Dick GRAY nor John VARDON was available to confirm if the planned meeting had taken place.

In future it was expected that full minutes would be provided. (None had been received since their September meeting.)

In terms of how contact was to be maintained between UKOPA and PIG, this had still to be reviewed following the appointment of the Cheryl BURGESS as the new PIG Director General. In the meantime those who regularly attended both meetings (Dick GRAY and John VARDON) were assuming this role.

5. PROMOTION OF A ONE-CALL SYSTEM / THIRD PARTY INTERFERENCE

5.1 PIG'S ROLE AND PROPOSED TECHNICAL FORUM

Frustration was again expressed that things seemed to be going on with no clear involvement or input by the PIG. It was difficult to know how the Panel may be able to influence the implementation of a One-Call System. The consensus was that primary legislation would be required before this was adopted by all operators.

It was reported that in Scotland, before work starts a notification has to be submitted. It was then the services companies' responsibility to contact the developer with relevant details (i.e. the other way round from most One-Call systems). It was mentioned that this was similar to *Linesearch* that has many UK oil operators as subscribers using an on-line inquiry system.

National Grid (NG) felt such a system could work effectively for transmission pipelines but would be very difficult for the distribution networks. They were looking to have one system for the whole company / industry. NG was looking at how to bring one system into play for both

the electrical and gas parts of their newly amalgamated system. The question was raised as to whether lessons could be learned from similar utilities in the United States (e.g. Mohawk).

It was considered possible that a mandatory One-Call System could be introduced under the planned EU Directive. The HSE was known to prefer that the industry should take the lead, but in the past the major players had been unwilling to contribute to the costs.

Reference was made to the PIG's Technical Forum that had been held at Birmingham Airport and to the comments made by Martin KANE of Severn Trent. His comments were negative (we don't need an OCS). There was now thought to be greater willingness among the water industry (and possible National Grid) to be involved.

The PIG's role and potential contribution was unclear, though there seemed to be universal support for the need for a One-Call System.

After discussion, it was agreed

- That it was important to get all parties around the table, to develop a system to record relevant information, leaning from the on-line experience of *Linewatch*.
- That a One-Call System had been found to be the only cost effective system for preventing third party interference.
- That the PIG needed to be actively involved, to regenerate interest and develop initiatives, particularly in the light of the accidents at Buncefield and Ath (Belgium): to kick-start / brainstorm proposed actions and to broaden public awareness of the importance of third party damage

It was proposed:

- That the PIG should be seen to be doing something to identify and to learn from the lessons from recent accidents and near misses.
- That the Technical Forum should be held to **lead** Pipeline 2006 (Stoneleigh, September 2006), rather than running a series of seminars at the same time as the exhibit.
- That invitations should target the senior managers in the utility companies / pipeline operators.
- That the lessons learned from both near misses - such as at the Hunton Hill, Birmingham incident (Esso) - and from the Buncefield and Ath (Belgium) accidents should be presented.
- That the support of the HSE and a range of operators should be sought (including the bigger utility companies in oil, gas and water, *Linewatch* / *Linerearch*, etc).
- That an update should be given on the actions taken and planned following the joint National Grid / UKOPA / HSE seminar held with contractors at Stoneleigh on 7th December 2005.
- That the HSE's Nick DICKERTY should be asked to repeat his interesting presentation on human factors in accidents.
- That speakers should be invited who could summarise recent experience in other countries (USA, Fluxys, the *Click* system in Holland, etc).
- That the seminar should seek to define:
 - What is the Guild's initiative?
 - What's planned as the next steps?

It was felt that the seminar should be the basis of the Pipeline Show in September 2006 – effectively reversing the previous emphasis, with a morning session supporting the exhibits.

It was felt to be necessary to collate the information (for example, many contractors would not be aware of the implications of the Hunton Hill near miss), to come up with recommendations and to put these before those operators and contractors who have responsibilities for preventing third party damage. The seminar must explain the benefits and consequences of a One-Call System, including financial implications for managers / accountants to understand. The seminar was looking at changing behaviours.

ACTION: Brian SPENCER was to speak to Phil BROWN (UKOPA / NG), Neil JACKSON (NG), Keith MOLE (PIG) and Alan THAYNE (HSE) to progress this proposal and these suggestions.

In more general discussion it was reported:

- That the diversification and break-up of National Grid meant that it was now more difficult – but more important – to ensure that independent (non-NG) pipeline operators and replacement alliances were properly briefed and kept in the loop.
- That National Grid was providing (ground and aerial) pipeline markers and replacing damaged ones with new hybrid markers. They felt that these should be “line of sight” markers and were wondering if the PIG would join UKOPA and the HSE in trying to put across their importance.

6. RECENT ACCIDENTS AND LESSONS LEARNED

No discussion was held on the Buncefield accident despite the issuing on the previous day of the HSE’s initial report.

The question was raised about the possible supply to UK projects of pipe from Corinth Pipe Works, Greece following the reported failure of Fluxy’s newly laid pipe and the Euro 10 million replacement costs. They (Corinth) were reported to be still supplying to North Sea and UK markets. The mill’s operations was reported to be compliant, with the one incident reported.

The question was raised as to how best to advise pipe purchasers? It was considered that procurement companies would have procedures that are designed to prevent this type of problem with QA / QC and would be aware by now of this problem.

Pig trap accident, USA: the sudden release of a polyurethane cleaning pig had led to severe facial injury to an operator (August 2005). A similar problem was mentioned in late-2005 with the failure of O-ring on an offshore pig trap causing injury to an operator.

7. STANDARDS UPDATE

DNV was looking to get more involved with ONSHORE pipeline standards to replicate their work offshore in terms of developing standards that can be used internationally. They were already involved with the BSi and ISO and were looking to get comments on their draft standards developed from offshore and in parallel with ISO documents

It was expected they would circulate draft documents for comment in late-2006. They would give further details subsequently.

8. SEMINARS, CONFERENCES AND COURSES

8.1 ONSHORE PIPELINE SAFETY SEMINAR: The SembCorp seminar held in Wilton in September 2005 was to be repeated at the PIG’s headquarters on 21st March 2006.

Phil PARKINSON was working with Paul DOCHERTY of JP Kenny (formerly with SembCorp and the original seminar’s organiser) and with Cheryl BURGESS to arrange and publicise this. All were encouraged to circulate the details to maximise attendance. Sponsorship of £1,000 had been provided between J P Kenny and RSK ENSR Group, though additional funding would be welcomed.

A problem was reported in how best to contact those in the recently sold off NG networks to let them know what was planned.

8.2 NORTHERN BRANCH INNOVATION DAY, LEYLAND – 12TH SEPTEMBER 2006:

ACTION: Phil PARKINSON was to advise David WILLIS that it had been agreed to take up Northern Branch's invitation to hold the Panel's meeting to coincide with this meeting.

9. PIG HQ ISSUES - UPDATE

Cheryl BURGESS had been appointed as the new Director General and was now in post.

ACTION: Phil PARKINSON was to copy to her the notes of this meeting and to invite her to attend future Panel meetings.

Richard GLENISTER would still have an involvement with the Guild until after the PIG London Dinner on 7th March 2006.

10. TECHNICAL FORUM

See above (Section 5) – nothing else was reported.

11. ANY OTHER BUSINESS

ACTION: Brian SPENCER was to circulate to Panel members the feedback from the Stoneleigh seminar held on 7th December 2005.

ACTION: Phil PARKINSON was to contact the Offshore and Utilities Panels seeking new members for the Onshore Panel.

An approach had been received in January 2006 from Richard VERNON who was undertaking research for the British government for the potential transport and disposal of carbon emissions for disposal offshore for possible secondary injection. National Grid may have something in the >5 year time frame. He had been advised by Brian SPENCER to speak with Phil BROWN and others in National Grid

ACTION: Phil PARKINSON was asked to circulate Richard VERNON's e-mail with the meeting note. Anyone wishing to contact Richard or wanting further details should contact Richard directly or Brian SPENCER.

UK Trade and Investment was seeking the PIG's help to fill a vacancy to support the International Oil and Gas Business Advisory Board in giving advice to the UK government on international pipeline issues.

ACTION: Phil PARKINSON was to circulate the UKTI letter with the meeting note. Anyone requiring further details should contact Brian SPENCER.

12. NEXT MEETINGS

Wednesday 19th April 2006: provisionally London.

Tuesday 12th September 2006: Northern Branch's Innovation Day (pm).

[London meetings will convene at 12h30 for sandwiches for 13h00 meeting start.]

Phil PARKINSON
28th February 2006