UKOPA

United Kingdom Onshore Pipeline Operators' Association

UKOPA/06/0064

Notes of the Meeting held at Newcastle University on 20th/21st September 2006

Present:

M. Harrison, Technology Manager, Huntsman Petrochemicals (UK) Ltd. - Chairman
N. Jackson, Transmission Standards Manager, UK Distribution, National Grid
R. Ellis, Manager, Pipeline Group, Shell UK Ltd.
D. Cullen, Senior Pipeline Supervisor, Shell Expro.
T. Stonehewer, Compliance and Monitoring Manager, UK Transmission, National Grid.
E. Reeder, Contract and Services Team Leader, Innovene, BP.
D. Gray, Pipeline Protection Engineer, Esso Petroleum Co. Ltd.
M. Price, Operations Manager, BPA.
L. Haw, Huntsman Petrochemicals (UK) Ltd.
W. Jones, Network Integrity & Policy Manager, Wales and West Utilities.
M. Kelso, Asset Care Engineer, BP
R. Armstrong, Scotland Gas Networks
G. Goodfellow, Centrica/Penspen
N. Riley, HSE
J. Stancliffe, HSE (21st)
R. McConnell, Consultant.
J. Haswell, Consultant, Pipeline Integrity Engineers Ltd.
W. P. Jones, Pipeline Integrity Engineers Ltd, (Secretary).

Application for Membership of the Association

Prior to opening the meeting for normal business, the Chairman welcomed Graham Goodfellow of Penspen who was attending the meeting as the representative of Centrica Storage Limited. He explained to Members that Centrica had applied to join the Association from January 2007, and recommended that the application be approved at this general meeting in line with the Articles of the Association by voting of Members.

The application was approved unanimously.

1. Welcome and Introductions

The Chairman then proposed a vote of thanks to Professor Attila Incecik and the University staff for arranging the meeting. He extended a special welcome to Wayne Jones of Wales & West Utilities and Mark Kelso of BP, both of whom were attending for the first time. He also welcomed:

(i) Professor Phil Hopkins and Dr Julia Race who were attending to give a presentation on The University's Centre of Pipeline Engineering.

(ii) Will Jeffries of Esso who was attending to give a presentation with Rod McConnell on Environmental Assessment.

(iii) Steve Yeomen of National Grid who was attending to give a presentation on National Grid's Approach to Environmental Risk Assessment

(iv) Dave Whiskered of Adler & Allan Ltd who was attending to give a presentation on Contingency Planning and Emergency Response - Lessons Learnt from Recent Incidents

Finally he noted that Jim Stancliffe from the HSE would be attending on the 21st September.

2. Apologies

The Secretary reported that apologies had been received from:

J. Vardon, OPA
P. Davis, Director and General Manager, BPA.
D. Perry, Engineering Manager Network Policy, National Grid.
J. Trounson, UKD Policy Manager – Transmission, National Grid.
P. Williams, Head of Operations, UKD Construction National Grid.
P. Roberts, NTS, National Grid.
R. Michie, Transmission Operations Manager, BG Group.
T. Taylor, Pipeline Plant Manager, Esso Petroleum Co. Ltd.
B. Keyes, Head of Network, Scotland Gas Networks.
C. Gorman, Network Operations Director, Northern Gas Networks.
M. Alderson, Network Integrity Engineer, Northern Gas Networks.
R. White, General Manager Total Oil Company.
J. Martin, BP FPSI.
K. Curtis, Pipeline Engineer, E.on UK Ltd.
B. McKay, Pipeline Users Group (PLUG).
S. Chatfield, HSE.
S. Wing, HSE.

3. The Newcastle University Centre of Pipeline Engineering – Professor Phil Hopkins and Dr Julia Race

The Chairman invited Professor Phil Hopkins and Dr Julia Race to make their presentations on the Centre of Pipeline Engineering and its associated research interests. Phil Hopkins commenced this session by noting he would cover three main areas: first, the University Master's Programme in Pipeline Engineering, then the Centre for Pipeline Engineering Research and, finally, Distance Learning.

In presenting the reasons for the interest in pipeline engineering qualifications and the Centre for Pipeline Engineering research, Professor Hopkins summarized a few key statistics. The average age of engineers in the UK working in the pipeline area is currently 51, and there have been difficulties recruiting in the oil and gas industries in the last few years. Currently 25,000 professional engineers retire each year and there are only 12,000 to replace them. Professor Hopkins stated that the course was set up with the support of local industry and continues to receive this support through external lecturers. He invited UKOPA Members to consider offering key note lectures to the students on the course.

Moving on to the Centre for Pipeline Engineering, Professor Hopkins stated that the Centre would be interested in ideas for projects, topics for research and supervisors for research students who would progress the work through the Centre. Ideas and support for 3-5 years, 3-8 years or even 1 year research projects would be of significant value. In addition, the Centre will be key to the University's initiatives associated with distance learning and professional development. In terms of the key interest areas for the Centre, he stated that there are currently 3.5 million kms of pipelines worldwide. These pipelines are ageing and there is currently increased demand for their use in an environment of decreasing research. He noted also that in the UK, research facilities for pipelines have been outside the Universities, as historically large industries, for example, the gas, industry, have funded large scale research programmes. Professor Hopkins made reference to the UKOPA website as being one of the only areas where competency requirements for pipeline engineering are noted as an essential requirement. The heart of the Centre will be research. There are 7 key areas of interest relating to research and these are: climate change, in particular carbon dioxide pipelines; deep water; ageing assets; ethics and responsibilities; risk and safety; water; sabotage, theft and terrorism. The Centre is actively looking for research ideas within these areas. With regard to risk and safety, Professor Hopkins noted interest in the UKOPA failure frequency model and the Centre's interest in developing this model further. Also a key area of current interest is leak detection.

With regard to joining and supporting the Centre, currently three main routes are being considered. The first is as Benefactor, second is as a Sponsor, i.e. a sponsor of particular research, and the third is as an Associate. Associates will have direct access to, for example, the library and distance learning package for a cost of £3-£4k per year. With regards to the distance learning package, the University is developing ideas relating to the MSc Course. Predominantly this is to satisfy the high level of interest and the difficulties that some students have attending the full-time course, particularly foreign students. However there is a high cost in the development of distance learning packages. The University currently has completed one module in the fundamentals of pipeline engineering. It is seeking to develop three more modules which will then constitute a Certificate, and they are looking for sponsors in this.

Dr Julia Race then presented some of the current research areas in more detail.

(i) <u>Carbon Capture and Storage</u>

This area of work is being sponsored by the Natural Environment Research Council. Currently the level of CO_2 in the atmosphere is 375ppm and this is rising. The goal is to stabilize CO_2 at 500ppm, which will involve capping CO_2 emissions at a level of 7 billion tons per year. This is driving a high level of interest in carbon abatement technologies. The DTI is sponsoring the carbon capture and storage initiatives which will have their main impact in the period 2010-2050. In terms of capture of CO_2, the three main areas are power generation, ammonia plants and natural gas. A number of companies are beginning to get involved in the initiatives, for example E.on is developing ideas to store carbon dioxide in depleted wells or geological formations. Storage of carbon dioxide in depleted wells is used for enhanced oil recovery. The main areas of interest are logistics, i.e. transport of carbon dioxide in either ships or pipelines, and storage of CO_2 in depleted oil wells where it is used for enhanced oil recovery, and storage in natural geological formations.

Newcastle University is one of 13 universities which are working on sponsored research in relation to transport of CO_2. The key issues associated with transport are: the effect of impurities which affect phase diagram and phase equations for CO_2; use of existing infrastructure, particularly existing pipelines and depleted oil wells; flow assurance, in particular the avoidance of hydrate formation; risks of long running fracture; the risks associated with pipeline routing, particularly in relation to high population areas as carbon dioxide is lethal at concentrations above 25-30%, and the concentration gradient of carbon dioxide in the atmosphere following a pipeline rupture. A number of technical problems are being studied. Carbon dioxide will be transported in the super critical phase, i.e. it will have a density of liquid but the compressibility of a gas. The phase modelling in the super critical phase is important, and it is affected by impurities.

(ii) Integrity Assessment of Construction Dents in Pipelines Subject to Fatigue Loading

Dr Race summarized the area of work the University is currently undertaking for UKOPA which is looking at the identification of critical dents in pipelines. The purpose of the work is to gather knowledge and critically review current initiatives with a view to recommending best practice, and also whether further research or work should be done. Key points are: how to decide whether dents are critical; the identification of dent management plans; the requirements for codified guidance, particularly in terms of depth and location of dents; the application of strain based criteria; and the relationship between dent parameters and fatigue. The key issue is to identify current best practice and identify whether further work is required.

(iii) External Corrosion Rate Model

Dr Race presented a parametric model relating corrosion rates to pipeline parameters. She stated that the model needs validation against a larger data set. The model is based on developing a weighting system for pipelines or pipeline sections which characterises the pipeline coating, the cathodic protection and the type of soil, and to develop a total failure score which essentially represents a relative risk ranking. This score can be linked to a maximum corrosion rate which can be factored for different sections of the pipeline or for other similar pipelines. The objective is

then to use this to estimate the maximum corrosion rate and relate this to in-line inspection intervals.

(iv) Risk Analysis Package

The Centre for Pipeline Engineering is looking to construct a general and credible risk analysis package for carrying out research studies. In doing this, the Centre is interested in developing further the UKOPA failure frequency model as part of the risk assessment package.

(v) MSc Projects

Dr Race encouraged UKOPA to support the Centre through the sponsorship of student MSc projects and said that the University was currently seeking project ideas.

The Chairman thanked Professor Hopkins and Dr Race for their presentations and invited questions.

Question: What are the benefits of being a sponsor?

Answer: The main benefit is involvement in focused research, for example the current research in which E.on is sponsoring into use of pipelines for transport of CO_2. Associates have access to distance learning material at a cost of between £3,000-£4,000 per year.

Question: What is the cost of development of a distance learning package?

Answer: A typical cost is around £30,000 per module.

Question: The MSc project is addressing a gap in skills and is successful in doing this, but what impact is this having on the UK skills gap?

Answer: The current make-up of students attending the MSc is 80% foreign, 20% EU. In addition there are a number of part-time students, all of whom are local to the Newcastle area.

Question: When is the research into dents to be delivered to UKOPA?

Answer: The work is due to be delivered at the end of December.

Question: When are project ideas required by?

Answer: By December if possible. There are currently over 100 student projects available in the University Library, some of which are very good. UKOPA Members are

invited to review these for interest and ideas. In addition, UKOPA Members are invited to consider supervising student projects, although this is not an essential requirement for offering an idea.

A copy of the slides used in the presentations given by Professor Hopkins and Dr Race are available on the UKOPA website, references UKOPA/06/0065 and 0066 respectively.

4. **Environmental Risk Assessment – Will Jeffries, Esso Petroleum Co. Ltd and Rod McConnell**

The Chairman invited Will Jeffries of Esso and Rod McConnell, UKOPA to make their presentation.

The presentation was introduced by Dick Gray who stated that Esso were interested in environmental risk assessment with the intention of using results to prioritise the remediation and repair of defects detected by on-line inspection.

Will Jeffries opened the presentation by providing an overview of the cross-country gasoline pipeline network which is controlled by the Esso West London Terminal. Gasoline pipelines are not currently classed as major accident hazard pipelines in the UK, although future legislation changes may alter their current status. In particular the Pipeline Safety Instrument will include the use of hazard and environmental risk assessments in the safe management of pipelines.

Key learning is currently available in reports of the Buncefield incident investigation where the following issues have been highlighted as learning:

- Drainage paths into the environment.
- Availability of information for emergency response.
- The relationship between surface water geology and hydrology.

Will then went on to explain the Esso interest in the identification of environmental consequence zones and sensitivity maps and the incorporation of this information into their GIS system. The purpose is availability of key information for implementation in risk reduction measures and also minimization of disruption to the pipeline network. He explained key issues associated with GIS data, including the accuracy of the base mapping used and the relationship between this and the accuracy of the data to be incorporated, and the difficulty of maintaining practical and accurate data for access via the GIS system. He explained that the environmental data is now readily accessible and is not generally subject to significant change and so does not require regular updating**.** This data is available in PDF format and is called up by the GIS system and overlaid on the pipeline network. This provides a very cost effective and practical means of viewing the information through the Esso Map Management System, which allows multiple data sets to be displayed on screen. He demonstrated this by showing superposition of the location of clean-up equipment and resources, risk zones on the pipeline network, and environmental sensitivity mapping along a pipeline route.

Will explained that the reason for the creation of the system was to provide fast information for those first arriving at a leak site, including an environmental sensitivity index based on environmental sensitivity maps and SSSI reports, better knowledge of locations of clean-up resources and site characteristics, recommendations for product recovery methods, site access, seasonable characteristics. Also, this information is used in emergency response plans and exercises. The key advantage is the integration of risk reduction measures and effective response.

Finally, he showed the development of a drain-down model which calculates volumes of product which may potentially be released on a location by location basis.

The Chairman thanked Will for an interesting presentation. There were no questions raised. An abridged version of the slides used in his presentation is available on the UKOPA website; reference UKOPA/06/0067.

5. National Grid's Approach to Environmental Risk Assessment – Steve Yeomen, National Grid

Tony Stonehewer introduced this presentation by stating that in terms of natural gas pipelines, the main impact on the environment is during construction. Steven Yeoman has been leading initiatives in this area for National Grid.

Steve stated that the presentation would look at three key areas - designing out risk during pipeline routing, pipeline construction and dissemination of learning.

Pipeline routing provides the main scope for designing out environmental risk at both the feasibility and conceptual design stages. Environmental impact during construction is controlled through company procedures, regulations and best practice, and industry best practice and the production of detailed method statements. There are still a number of problems to be addressed, for example silt pollution which has a serious affect on river eco systems. Steve introduced the work undertaken by CIRIA (Construction Industry Research and Information Association) for the control of water pollution for linear projects. This looks at the issues of silt pollution, the problems with land drain pollution and identifies pollution mitigation issues.

Steve presented a number of issues associated with flora and fauna which, in particular, present risks to construction projects in terms of delays and extension of programmes. This is mainly because there are limited times of the year when surveys are possible, then time is needed to agree mitigation measures with appropriate authorities and experts, and dealing with differing views and opinions. Species which present problems in this respect are great crested newts, badgers, bats, dormice, edible dormice, smooth snakes, white clawed crayfish, red squirrels and nesting birds. One species of plant which creates great problems is giant hogweed, the control of the spread of which is a major environmental issue in the UK. Archaeology is generally considered under the environmental heading. Pollution mitigation initiatives include silt filtration, silt fencing and silt traps.

The Chairman thanked Steve for an interesting and topical presentation, and invited questions and discussion.

In discussion, Tony Stonehewer explained that NG were keen to establish recognized best practice and standardization of preferred mitigation measures throughout the UK through the work with CIRIA (Construction Industry Research and Information Association). Mark Harrison stated that this would be of value to all UKOPA members.

A copy of the slides used in the presentation given by Will Jeffries is available on the UKOPA website, references UKOPA/06/0068.

6. Contingency Planning and Emergency Response - Lessons learnt from recent incidents – Dave Whiskered, Operations Director, Adler and Allan Ltd

Adler & Allan Ltd is an oil and environmental services company providing oil spill response services. Dave stated that his presentation would cover site issues arising at Buncefield, lessons learnt and issues associated with regulatory authorities. A major issue arising on site was the extensive use of fire fighting foam and the issues associated with dealing with this.

Use of Foam

The Fire Brigade is not generally conversant with products involved and has a tendency to use foam extensively. As a result, this can be very costly to recover and treat water which is contaminated with foam trace and it is very important to have people on site who are able to advise in this respect.

Equipment

Trying to respond quickly can lead to use of unsuitable equipment such as equipment which is not intrinsically safe in hazardous areas, including flash photography, mobile phones, and steel tools. Smoking on site was a problem.

Site Knowledge

Detailed site knowledge - in particular the location of bore holes and whether these are capped in areas containing bunds is essential. Bore holes become a major factor in terms of ground water pollution if the caps are breached during an incident. The accurate identification of mains and fire water supplies is very important. In addition details of the fuels stored on site and their specific location are required, it is important such products do not become mixed with fire water. During response to the incident, high volume pump equipment was inadvertently used to pump fuel rather than water.

Drainage

Details of drainage paths and soak ways on and off site are required. Fire water must not become contaminated. The cost of dealing with water containing trace elements of foam is between £200 and £300 per ton. The fire services have little knowledge of different fuels and the problems associated with their effect on foam degradation and the problems associated with disposal. Bunds around tanks quickly filled with a mixture of liquids and then acted as weirs, spilling the contents into the surrounding area.

Site Emergency Plan

Copies of this document off-site are essential.

Regulator Liaison Issues

Establishing the chain of command and changes in this during the management of the incident is a key factor. Conflicts of interest between regulatory authorities and stakeholders must be managed as there are many parties involved, for example the fire service, environmental authority, HSE, local authority, site operator. Regular meetings and communications are essential to manage potential conflicts of interest, ensure everyone is working to the same objectives and is aware of who is responsible for approval for work on site. A number of other interested parties must be kept informed, for example water companies, residents, the local authority and press.

In summary, key issues and lessons learnt were the need for preparedness, planning and documentation, regular contingency planning and practical exercises.

The Chairman thanked Dave for an extremely interesting presentation and invited questions.

Question: The use of foam has potential high costs in terms of disposal so is use of foam still a preferred response?

Answer: Consequences for the use of foam can be mitigated but this needs pre-consideration and planning which requires knowledge of the site concerned.

Question: Who took the lead in managing the incident?

Answer: This is a good question. Essentially it was a joint effort initially led by the fire service and then becoming a joint effort including the HSE, the site operator and other oil companies. Key lead was generally taken by the HSE and the Environmental Authority.

A copy of the slides used in the presentation given by Dave Whiskered is available on the UKOPA website, references UKOPA/06/0069.

7. Environmental Presentations - Summary and Discussion

Mark Harrison stated that the environmental theme for the presentations for this meeting had resulted in a number of varied and interesting presentations and he invited Members to offer any significant observations for note and possible action by UKOPA. He personally drew attention to interest in the use of GIS to capture and manage data in a practical form. He also drew attention to Steve Yeoman's presentation which covered a number of mitigation measures and asked who had driven these measures. Tony Stonehewer noted that some had been initiated by the contractor and a number were associated with the work done by CIRIA, the objective of this work being to produce a single and accepted standard for mitigation measures throughout the UK where there are a number of variations in local ideas. Tony agreed to provide a reference for the guidance issued by CIRIA relating to the Control of Water Pollution Problems from Linear Construction Projects. (Post Meeting Note – this document to be posted on the website reference UKOPA/06/0075).

Action: T Stonehewer

Mark Harrison then noted that a number of the examples provided applied to major construction activities but these would also apply to smaller scale operations such as site investigations. Finally he noted that the identification of bore holes and the significant environmental problems that they can raise when they are not capped, as noted by Dave Whiskered's presentation. He stated that in his experience this problem could apply on many sites.

Donal Cullen noted that carbon capture and its application to power stations is likely to significantly increase the cost of power generation. Julia Race confirmed this was a concern and the area of work will need to be incentivised through either carbon credits or carbon taxes, and for this reason will need to be managed by the Government. She confirmed the value chain for carbon capture has not been fully established, there are a number of environmental show-stoppers including regulations which prevent transportation of waste at sea and use of landfill sites for storage.

Phil Hopkins added that the current cost associated with carbon dioxide is approximately 18 Euros per ton but this will increase to 60 Euros per ton if storage measures are introduced. He noted, in this respect, that a significant option for future fuel for power generation would be coal where this can be readily combined with carbon capture technology. He noted also that it is very likely that at some stage a carbon dioxide pipeline will be built but drew attention to the fact that there is very little practical experience in the difficult issues associated with these pipelines.

8 Notes of Previous Meeting and Actions arising – UKOPA/06/0039

8.1 Notes of Previous Meeting

The Chairman asked Members for any comments or corrections on the previous notes. Phill Jones noted that comments had been received from Jim Martin and the notes would be amended to

address these comments. Subject to this, it was agreed that the notes of the meeting were accepted as a fair record of discussions and will be signed off by the Chairman.

Roger Ellis asked if the production of summary notes could be reconsidered. A number of other Members confirmed the summary notes were a useful means of updating other Members of their organization with regard to UKOPA activities. Following discussion, it was agreed that summary notes would be produced and notes of the main meeting and summary notes would be issued to Nigel Riley, HSE in future.

Action: P Jones

8.2 Actions Arising not covered on the Agenda (note of previous meeting in brackets)

8.2.1 Emergency Planning Work Group (EPWG) (7.2.3)

(i) *A link to this from the UKOPA website to the SembCorp Utilities site will be established in the near future.*

Jane Haswell stated this action was still outstanding and she would progress as soon as possible.

Action Ongoing

(ii) *EPWG to produce guidelines on management of damaged pipelines for inclusion in the PERO course and Ed Reeder agreed to provide some generic material developed by BP for training purposes*.

Jane Haswell stated that Ed Reeder had provided excellent material. A summary of this material had been added to the previous draft material which had been provided by Transco. The amended draft had been forwarded to the EPWG and Ed Reeder for comment and amendment. Following their approval, Jane proposed that the document should be posted on the UKOPA website. This was agreed.

Action: Jane Haswell

In association with the site, Neil Jackson reported that recent feedback received in National Grid from the PERO training course had been very positive and constructive, but included a request for video material of real incidents to be included. This material had been supplied to SembCorp Utilities. Jane Haswell agreed this was her understanding and she would follow up with John Wilson.

Action: Jane Haswell

8.2.2 Group of Experts to advise the Commission on a Strategy for Dealing with Accidents in the Transport Sector (refs UKOPA/04/0099 to 0101 inclusive) (7.2.2)

Roger Ellis reported that he had received a draft report prepared by the Work Group from Tony Taylor. The report will be finalised and published by the end of September but the key messages include the following:

- Oil and gas by pipelines are an essential, safe and reliable means of transportation.
- The main cause of accidents is third party interference.
- Initiatives progressed through self-regulation have proved valuable.
- Integrity management systems are essential in terms of responding to interference.
- Improved regulatory controls for third party interference are required.

8.2.3 Feedback from the PD8010 Questionnaire (7.2.5)

Members to review UKOPA/06/0032 with particular consideration to recommendations for inspection and maintenance frequencies.

Jane Haswell reported no comments have been received on the draft and suggested it is now posted on the UKOPA website as UKOPA recommended best practice. This was agreed.

Action: J. Haswell and P. Jones

8.2.4 Standard Pipeline Crossings (7.2.6)

The first draft of the document is being prepared by National Grid and this will be reviewed by Donal and Neil before circulation to Members.

Donal Cullen confirmed he had received the draft from Neil Jackson. It had been reviewed by the Shell Legal Adviser and he was expecting to receive the response within the next few days. He will then send an amended draft to Neil for discussion and finalisation.

Action: D. Cullen and N. Jackson

8.2.6 On-Line Inspection Summary (7.2.8)

Roger Ellis to contact Members who had not returned a questionnaire and would raise issues for discussion at a future meeting

Roger Ellis reported that this item has been overtaken by other issues and suggested it was appropriate to close the action. This was agreed.

Action Closed

8.2.7 DSEAR Regulations (8)

Tony Stonehewer to prepare a draft summary recommending compliance based on the approach developed by National Grid for comment and issue as a UKOPA briefing / best practice document.

Tony reported that this action is still in progress. A draft has been prepared but requires some further work to be an industry generic document. He expects to circulate this document in the near future.

Action: T. Stonehewer

8.2.8 Emergency Pipeline Repairs and Record of Pipeline Emergency Equipment and Spares (15)

Phill Jones was actioned to speak to Donal Cullen on the possibility of including the register of emergency spares and equipment on the website.

Donal Cullen has submitted a list and Phill Jones is to format this in appropriate UKOPA style for publishing on the UKOPA website. He suggested that this be circulated again to check that the recorded information is up-to-date and noted that some companies who do hold stocks have not replied. Roger Ellis suggested that the list should also include details for out-of-hours contacts. This was agreed.

Action : P Jones

Dick Gray asked what the future was for the National Grid Pipeline Maintenance Centre. Tony Stonehewer confirmed that the future operation of the Centre is under consideration and he will find out what the future strategy is and report back to UKOPA.

Action: T Stonehewer

8.2.9 APPE Conference (18.4)

R Ellis agreed to provide information relating to APPE's request to share best practice with UKOPA.

Roger confirmed this action is completed and he will follow up with reference to establishing particular issues on which sharing would be of interest.

Action Closed

9. H, S & E Issues

9.1 Actions Arising

There were no actions arising.

9.2 Reports from Members

The Chairman asked if Members had any reports or issues to raise for discussion.

9.2.1 Donal Cullen reported that in a recent discussion with the Shell HS&E Expert, three key issues were highlighted as the cause of incidents.

i) Failure to follow procedures.
ii) Failure to intervene in an unsafe situation.
iii) Lack of competence.

These issues, in particular the failure to intervene in an unsafe situation, had been demonstrated in a recent incident in which an operative lost two fingers in a cutting operation and in a further incident in which an operative lost sight in one eye due to removal of PPE. Ross Armstrong noted that human factors and human behaviour were now a common theme in discussions with HSE.

9.2.2 Tony Stonehewer noted that National Grid was considering a lot of human factor issues and he agreed that levels of occupational safety appear to be well behind those of operational safety. He also drew attention to the recent increase in security issues, and referred to a recent case in which Advantica had appeared in Court to explain the damage that could be inflicted on a pipeline due to explosives. He noted that one of the defendants had in his possession a CD with information on the location of the gas supply network, although it was later considered this was associated with the defendants work rather than terrorist activities.

9.2.3 Wayne Jones noted the current Government interest in economic key points. This was being addressed by Wales and West Utilities in terms of location and staffing of Control Rooms that were being separated from National Grid. Terrorist incidents on the gas network are seen as an increased threat as it is now clear that terrorists in the Middle East are associated with suicide bombings and as they are prepared to die in the event, are likely to cause greater damage.

9.2.4 Neil Jackson reported an incident in which a farmer had damaged a pipeline in the south east of England. The damage had been caused by a plough and was the result of significant soil erosion and reduction in depth of cover over the pipeline. The incident had resulted in a crack from which there had been a small leak. No ignition had occurred. Neil noted that in terms of UKOPA strategy for a more structured and formalized way of exchanging information on incidents, he would report this incident as a simple safety bulletin, indicating what had caused the incident, why damage had occurred and the key lessons that had been learnt. He will circulate this prior to the next meeting.

Action N Jackson

Phill Jones requested Members to consider current in-house existing safety and environmental notices and consider sharing this information with UKOPA for possible issue as UKOPA notices.

Action Members

9.2.5 Ed Reeder asked how other Members dealt with checking of depth of cover. Innovene had reviewed this and found that typically the edges of fields are associated with reductions in depth of cover due to current farming methods. Dick Gray confirmed that Esso were also looking at this issue and were using a depth locator and tying results into the GPS system. He agreed to circulate details of this.

Action D Gray

Roger Ellis noted that Shell had been interested in the XYZ surveys as a means of monitoring depth of cover; however it was now clear that the accuracy of the Z report from this survey was not as accurate as the X and Y positions. Dick Gray confirmed that Esso had also come to this conclusion. He noted that Esso had intended to use the XYZ survey results to register routes using pig runs and had found that in many cases the defined route was not the same as the deeds for the pipeline right of way.

10. UKOPA Strategy (UKOPA/06/0028) – Update

10.1 Actions Arising

(i) *P Jones to prepare a questionnaire for Members on topics for future seminars.*

Action outstanding – **P Jones**

(ii) *Members to provide suggestions for additional issues associated with installations and equipment for consideration*.

No suggestions received to date.

(iii) *Phill Jones to send a copy of the strategy document to Steve Chatfield*

Action completed and comments received.

10.2 Update

Mark Harrison reported that constructive feedback had been received from Peter Davis and Steve Chatfield. He issued a final call for comments and stated that the document is to be finalised. The

Management Council is to review HSE comments and will review, refresh and set dates on ownership. He stressed that this is not just a Management Council document, it is an opportunity for Members to be involved in and support UKOPA strategy, and he stressed this will be essential in order to deliver the objectives.

With regard to the change in meeting arrangements, Mark announced that the technical seminar will replace the May meeting. He noted the intention to bring colleagues from Member companies and there would be a need to identify and confirm the technical topic. Topics which may be suitable would be pigging and land use planning, but the Management Council concluded that a range of topics may be a better option. This would allow the best presentations received by UKOPA in the last two years to be presented to a wider audience. This was agreed. Mark confirmed that the meeting would be held in June 2007. National Grid had offered the availability of Eakring training facility as a venue and the date is provisionally set as the 20th June 2007. Mark requested Members to advise Phill Jones on presentations they felt should be included in this meeting, and to confirm the number of attendees from their company likely to attend as it will be essential to ensure that speakers are available and the venue is adequate for the numbers attending.

Action: Members

11. Report from the Chairman of the Infringement Working Group

11.1 Actions Arising

(i) *IWG to prepare and issue of a summary report which can be used by operators, particularly those associated with industries where pipeline operations is not a primary responsibility (for example power station operators), to brief colleagues and management.*

The summary report relies on the web page awareness information. The action is outstanding and will be progressed in the near future.

Action Ongoing

(ii) *M Harrison agreed to raise issues relating to collection of data would corroborate (or otherwise) the rural/suburban 3rd party incidence rates used in the prediction of the failure frequency due to 3rd party interference with the IWG*

Action Ongoing

(iii) *M Harrison and S Chatfield agreed to discuss confidentiality issues with Jim Stancliffe before the proposed meeting.*

Action Closed

11.2 Update

Mark Harrison reported that the July meeting had been cancelled due to holidays and other commitments. The next meeting is scheduled for October and a number of outstanding actions will be approved at that meeting. The key updates are:

i) The IDNs have been contacted and support has been received for the SRP system for direct reporting to the database.

ii) The excavation web page is now ready to go live. A draft script for the UKOPA DVD has been prepared and final input to this is required from the Work Group following which an application for expenditure approval will be prepared.

iii) Guy Helmsley of BPA has developed a UKOPA pipeline safety article covering pipeline awareness information for publication. He has arranged publication of this article in the land drainage contractor Association and CLA magazines, and an abridged version is to be published in Farmers' Weekly.

iv) Finally, the HSE statistical analysis – the HSE has had a statistical analysis carried out by HSL of the infringement data. A presentation of the results obtained is to be given by Lynn Jones of HSL under Item 13.

A copy of the slides used by Mark is available on the UKOPA website, references UKOPA/06/0070.

12. Pipeline Infringements – A Utility Perspective – Ellis Catherall, Environmental Health and Safety Advisor, BT

Mark Harrison welcomed Ellis Catherall to the meeting and explained that Ellis had been invited by the Infringement Work Group to provide a Utility perspective on pipeline awareness issues to UKOPA.

Ellis Catherall commenced his presentation by summarizing the scale of work carried out by BT. BT has a poles population of 3.5 million, and these poles need to be renewed/installed at a rate of between 90,000-100,000 per year. The work carried out is 90% reactive, i.e. it is requested for completion within 3 days or less. Note, this timescale requires taking the order, planning the work, issuing notices, completing excavations and providing the service. The work involves 191,000 excavations per year which is approximately 15,000-16,000 excavations per month. The total cost of the work, which is carried out by 7 major contractors, is £320m per year.

BT is considered to be the third worst offender in terms of pipeline infringements. One reason for this is the scale of the work that is carried out throughout the UK. There are 54 pipeline operators within the UK. BT is aware of only 43 and the information provided by these operators is inconsistent. As a Utility, it is impossible to know accurately where cross-country pipelines are if you do not know who the Operator is and are attempting to complete work within the service level timescale given by the Regulator and, in addition, dealing with a large turnover in staff working in

this area. In this respect, Pipeline Operators have a responsibility to increase awareness of themselves, their operation and the location of their pipelines. BT is now the only Utility which operates nationally and in this respect is able to gain an overview of the problem.

Some key issues which Ellis wished to draw to UKOPA's attention were:

- Gas prints
- Scotland and use of Susiephone
- Local arrangements
- Information formats – paper / CD
- Line search

In planning jobs, BT needs to deal with the complex county planning process. There are around 2,000 planning contacts within the UK to deal with. Linewatch provides excellent information on the location of pipelines. In August, there were 26,500 enquiries to Line Search, of which 6,500 of these were from BT. The response obtained from Linewatch is fast and accurate. From a utility point of view, it would be useful if all pipelines were registered on Line Search.

Moving on to gas prints, Ellis explained the colour key which is used to define the different types of gas main and pipeline. He stated that these prints which are generally provided as faxes to the contractor are in black and white and are therefore not readable on site. An improvement, he suggested, was that all low pressure, medium pressure and high pressure mains and pipelines should be provided on separate prints. He stated that Utility prints are generally taken as an indication only so contractors are instructed to read the prints and use safe digging techniques on site.

Finally, Ellis presented the BT Action Plan and drew attention to the level of detail which is being applied to improve BT's performance in this area.

The Chairman thanked Ellis for his presentation and invited comments and questions from the Members.

Martin Price stated that work of value of £320m per year, placed with 7 contractors, puts a major responsibility on the contractor to correctly train and support operatives. Roger Ellis noted that with regard to planning and implementation, implementation is subject to a number of problems including human factors. Ellis Catherall agreed and commented that Kevin Bosenquet of Linewatch had done extensive briefings and in these briefings it was noted that some operatives did not recognize or understand the purpose of pipeline markers. In this respect, he felt that more work needs to be done by the Pipeline Operator.

Ross Armstrong stated that in Scotland a great deal of work had been done to identify and target worst offenders and provide them with tool box talks. This had identified that in many cases operatives were not aware of and did not recognize field furniture. He said that a lot of work had

been done in the development of a website www.damageprevention.co.uk. This website provides a great deal of information including examples of pipeline markers and explanations of best practice.

Mark Harrison commented that all Pipeline Operators deal with contractors and all are interested in ensuring the existence of a competent resource and in this respect what should be done. This prompted a detailed discussion which identified there were a number of conflicting factors, i.e. Regulator protection of consumer interests and the onerous standards of service that result from this, safety requirements and operative certification requirements, and finally payment structure. Mark commented that there were major issues around the regulatory regime involving Ofgem, HSE requirements and employee remuneration.

Donal Cullen noted that information is there but in many cases it is not correctly used. He also stated that most excavations occur within 10 metres of the road verge. This area is registered as of special engineering difficulty and appropriate procedures and competence is required in this situation.

Tony Stonehewer noted that legislation must drive this area and must concentrate on the interfaces between the contractors, Utilities, Pipeline Operators and the enforcement agency. Also, he stated that little would change until the reward/renumeration strategy for on site work was changed.

Dick Gray and Neil Jackson both commented that the high use of foreign labour meant that in some cases gangs working on streetworks had a low capability in the English language. Ellis Catherall confirmed this to be the case and stated that BT's policy was to ensure that at least one member of every gang was English speaking.

Mark Harrison thanked Ellis Catherall for his time and an interesting and useful presentation which had identified a number of gaps and issues that required attention.

A copy of the slides used by Ellis in his presentation is available on the UKOPA website; reference UKOPA/06/0071.

13. HSL Analysis of the UKOPA Infringement Database – Lynne Jones, Senior Scientist, HSL

Mark Harrison explained that Jim Stancliffe, HSE had commissioned HSL to carry out an independent expert statistical analysis of the UKOPA infringement data, in order to assess the consistency of the data and to investigate trends relating to time and associations between cause and location. He invited Lynne Jones of HSL to present the results of the work.

Lynne commenced with on overview of the data, including the identification of the top 10 infringers and the top 10 activities which cause infringements. She showed the history of the data collection, demonstrated the significant increase in the volume of data introduced from October

2004, and explained the timeline analysis carried out to assess whether the change in volume of data changes its characteristics and the application of the Pearson's Chi^2 test to identify differences in data. She stated that there is insufficient data available to carry out an exact test, so an increased data set was generated using Monte Carlo simulation.

On completing her presentation, Lynne returned to the trends in the categories of infringements recorded, i.e. decreasing number of A1 infringements, constant number of B1 infringements and negligible numbers of B2, C1 and C2 infringements, and asked Members if these reporting trends were reasonable or whether this indicated that the categories should be reviewed. Mark Harrison stated that the reporting procedure used by some UKOPA Members does not assess the wider band represented by B2, C1 and C2 category infringements.

In relation to the categorisation and reporting of infringements, Rod McConnell explained he has used the infringement data to assess the effect of surveillance interval. He has developed a Monte Carlo simulation model which relates the time of the activity and the likelihood of infringement to the probability of detection within the surveillance interval. Rod demonstrated this model, and in particular drew attention to the low probability of detection (44.4%) for activities lasting 3 days or less, these being typical of the activities carried out by BT described by Ellis Catherall. Rod emphasised that the modelling of the likelihood of infringing the pipeline is based on the infringement category, and he stressed that correct categorisation is essential.

In discussion, a number of possible trends were highlighted for possible investigation, including:-

- Geographical locations vs. contractor and culture
- Seasonal activities
- Activities and volume of infringements vs. time of year (e.g. end of Local Authority financial year)

Noting the change in data indicated in Q3 04, Tony Stonehewer stated this may be associated with changes in NG observer reporting procedures and he agreed to look into this. He also suggested that more information was needed to understand the 11 A1 infringements. Mark Harrison agreed that the IWG could consider the A1 infringement cases for identification of case studies for possible issue of safety notices, and agreed to raise this at the next IWG meeting.

Action M Harrison

Roger Ellis stated that the analysis identified two key issues for strategic consideration; i) the A1 infringements – what and why, and ii) 50% of the infringements were pre-notified, so are procedures being followed.

Tony Stonehewer supported these observations and suggested more information was needed to understand the A1 infringements.

Mark thanked Lynne for her comprehensive presentation, and stated the HSL report would be circulated in due course.

Action M Harrison

A copy of the slides used by Lynne in her presentation is available on the UKOPA website; reference UKOPA/06/0072.

Following discussion and picking up the points made by Ellis Catherall and Rod regarding activities occurring close to high pressure pipelines and the timescales available to react to enquiries, Nigel Riley stated that a key driver behind the HSE development of the PADHI Plus system was to provide ready access to information to enable Local Planning Authorities to react to planning enquiries within the set 21 day target timescale for proving an initial response. As had been previously discussed, this can lead to problems in accurate identification of pipeline locations. A portal via the HSE extranet could be provided for pipeline operators to provide a link to their pipeline maps. N Jackson agreed it was in operator interests to ensure LAs has access to the most accurate data, and he agreed to progress discussions with HSE on behalf of UKOPA.

Action N Jackson

14. Reports from Working Group Chairmen (by Exception).

14.1 Risk Assessment Working Group

14.1.1 Actions Arising

(i) *Steve Chatfield noted that the wording of the HSE letter was important, and agreed to take advice on this and report back.*

Phill Jones reported that Steve Chatfield has provided a response and he will circulate this to the RAWG for consideration.

Action Closed

(ii) *J Haswell to arrange a final meeting of the WGP, with a key objective to discuss and clarify understanding of the process which applies when planning developments fail the PADHI process*.

Jane Haswell confirmed that the final meeting is being arranged for the 17th October.

Action Closed

(iii) *N Jackson to arrange a UKOPA RAWG meeting with M Wilson/HSE HID to confirm agreement on the methodology and process, and identify any outstanding issues for resolution, and discuss how the interface between the PADHI process and the application of the code supplements may be addressed in the roll out of the PADHI plus methodology*.

Neil Jackson reported that he had written to Moira Wilson requesting that this meeting be arranged, and he will progress this accordingly.

Action: N Jackson

(iv) *J Haswell / R McConnell / P Jones to arrange for technical justification papers to be published by UKOPA via the website*.

J Haswell reported this action is still to be progressed. All technical papers will be collated and published on the public or Members' section of the website as appropriate, depending on their level of confidentiality.

Action: J Haswell / R McConnell / P Jones

(v) *L Haw agreed to consider becoming a Member of the RAWG to represent ethylene operators*.

Linton Haw confirmed he will represent ethylene pipeline operators on the Risk Assessment Work Group.

Action Closed

14.1.2 Update

Neil Jackson presented an update to the meeting covering progress with the code supplements, work carried out on the mechanical damage modelling, issues associated with ethylene pipelines, ground movement failure frequency and wind farms.

(i) Code Supplements

Harry Hopkins has carried out an independent review of the Gas Land Use Planning supplement on behalf of the UKOPA RAWG. He has provided useful comments and the supplements have been updated to reflect these. Most significantly, the supplements have now been restructured to better align with the existing IGE TD/1 and PD8010 codes which place responsibilities on the Operator to assess, manage and control societal risk along the pipeline route. In restructuring the supplements, the emphasis is now clearly on the

assessment and tolerability of risk in the vicinity of the pipeline rather than direct application of the PADHI process.

(ii) Mechanical Damage Model

Neil explained briefly the work carried out on the development of a UKOPA model for the prediction of failure frequency due to mechanical damage. This work has assessed the over-prediction of failure frequency rates in comparison with operational data predicted through the Advantica implementation of this model, and has involved a reconstruction by PIE of the original gas industry mechanical damage model and the methodology for failure frequency prediction using an interpretation of mechanical damage data. The work has confirmed that the PIE model (i.e. the reconstructed gas industry model) provides a better fit to historical data. Future ownership and development of this model is now being considered. One of the options being considered is for Newcastle University to take ownership and to provide an independent review and updating of the model to allow other stakeholders such as HSE to apply the model and use the data on which it is based. This will place the work in the public domain and allow full peer group scrutiny which will cover the fracture mechanics modelling, the interpretation of UKOPA damage data and the method for predicting failure frequencies.

Jane Haswell noted that the model had been discussed with HSE and HSE had confirmed interest in this proposed way forward. Nigel Riley confirmed that as part of the fundamental review, HSE was actioned to update the MISHAP model, and HSE involvement of independent expert assessment of the work carried out by UKOPA could be a significant part of this process. Neil Jackson confirmed that the RAWG would like to see the publication of an industry model which would facilitate a move to consistent application and agreement of acceptable levels of risk.

(iii) Ethylene Pipelines

Neil stated that issues associated with risk assessment of ethylene pipelines were currently focused on the assessment of the Pottery Farm development and he invited Rod to explain this.

Rod explained that a planning development in the vicinity of the north-west ethylene pipeline at Pottery Farm is under consideration. This planning application was referred to HSE, who carried out a specific risk assessment from which an inner zone of 17m had been defined, and subsequently resulted in an "advise against" the development. This had caused concern to the UKOPA RAWG as the pipeline in this location is thick wall and operates at a design factor of less than 0.3, and the inner zone had previously been defined as 3m. A meeting had been held between the RAWG and HSE, and a key item of discussion was the identification and allocation of relevant failure frequency data and in particular the use of UKOPA rather than CONCAWE data for ethylene pipelines. Further

work is being undertaken in this area and a further meeting with HSE is planned for October.

(iv) Failure frequency due to ground movement

Neil reported that HSE has provided a response relating to the work carried out by National Grid and the comments provided by HSE are being considered by the RAWG who will make recommendations based on the exchange of views. The key issue is for the RAWG to clarify how HSE Advisers could apply the results in a conservative and reasonable manner.

(v) Wind farms

Finally, Neil reported that a meeting had been held with the British Wind Farm Energy Association to explain the basis for the recommended separation distances between wind turbines and pipelines which are provided in UKOPA 06/0057. Neil stated that the UKOPA recommendations had been well received and the arguments accepted. The British Wind Farm Energy Association had indicated these recommendations would be incorporated in their internal safety guidance. Formal completion of this action will be confirmed in due course.

A copy of the slides used by Neil in his presentation is available on the UKOPA website; reference UKOPA/06/0073.

14.2 Fault Database Management Group

14.2.1 Actions Arising

The significance of data updating was discussed. It was agreed that updates should be prompted, and that R Ellis would report back on the level of updating and the results of new records added.

This is covered in the update.

14.2.2 Update

Roger reported that 2006 is a quiet year for the Fault Database Management Group as the last data was published in 2005 and the next update is scheduled for 2007. He emphasized the significance of damage data, particularly now regarding its use in predictive models and in providing validation for failure rate trends for all damage mechanisms. He emphasized that fault data must be recorded in a timely manner and that, in this respect, the FDMG is considering including an annual 'no data return' as part of the process confirming that the data has been properly updated.

Roger also confirmed that UKOPA is to undertake reporting of UK gas industry data into EGIG and that a UKOPA/EGIG confidentiality agreement is being progressed in this respect. He went on to say that a confidentiality agreement is now required between UKOPA FDMG members and that this is also being progressed. Northern Gas Networks have submitted comments on this proposed agreement and Robert Owen is in discussion with Martin Alderson on the matter.

15. Feedback from the Buncefield HSE/Industry Working Group

Roger Ellis reported that UKOPA had been requested to provide a Representative on the Buncefield Standards Task Group. The Representative is Tony Taylor of Esso. The Task Group comprises of HSE, EA, SEPEA, UK PIA, the Tank Farm Association, UKOPA, CIA and TUC. The Task Group has considered safe operating procedures at tank storage sites at COMAH top and lower tier tank storage sites dealing with petrol products filling at a rate greater than 100mcph. The Task Group has concentrated on the standards of control, issues associated with pipeline transfers, tank capacities including safe working levels, and instrumentation and control, specifically the relevant safety integrity level. The Task Group will issue a report at the end of September which will include recommendations requiring immediate action, most of which will apply to operational management of tank storage. The objective is to prevent a similar incident through safe operating procedures for transfer of product.

Dick Gray referred to the HSE Improvement Notice which had been issued relating to high level switches and stated that Esso's interpretation had been that these switches should be replaced. Martin Price stated that this was not BPA's interpretation of the safety notice required the switches to be checked only. Mark Harrison suggested that UKOPA Members should review the Safety Notice and confirm their interpretation.

16. Agenda/Presentations for the February Meeting

16.1 Actions Arising

This action has already been covered.

16.2 Update and Presentations for the next Meeting

In considering the format for the next meeting, the Chairman reviewed feedback on Members' aspirations as previously recorded. The Management Council was looking to encourage greater participation by Members and felt that more could be done in this area. Members wanted a higher emphasis on operational / day-to-day matters. The Management Council is not sure if this is being achieved to Members' satisfaction and he encouraged more feedback from Members. It was agreed that careful selection of presentations which are relevant to Operator activities was being achieved. More focused reporting by Working Groups was also being achieved, particularly in moving to reporting by exception, and less emphasis on admin and financial matters is clearly now being addressed by the Management Council.

Mark noted the following themes have been proposed by Members for future meetings:

i) Hot tap and stopple.
ii) Operational Procedures.
iii) Incidents.
iv) GIS systems.

Phill Jones also noted that Peter Roberts of NG has suggested that UKOPA may find a presentation on the issues being considered by NG, relating to the installation of the GE product Threat Scan on the new 48" X80 94 bar pipeline from Milford Haven, to be of interest. Tony Stonehewer confirmed that NG would appreciate UKOPA's views on this and noted that the decision to install Threat Scan may set a precedent within the UK. Members confirmed interest in receiving this presentation.

Wayne Jones stated that Wales and the West Gas Network was particularly interested in determination of the asset life of high pressure pipelines and associated installations and, in particular, assessing integrity of non-inspectable pipelines. He noted that there is a condition replacement program in place for distribution assets and the Network is looking to consider issues associated with condition replacement of high pressure assets. He stated that the Network has carried out specific work on two particular pipelines and he would be pleased to share the results of this work with UKOPA.

Tony Stonehewer confirmed that NG has done significant work on asset life and found that the key problem is determining the asset life of equipment such as valves and actuators. He stated that he would be pleased to brief UKOPA on this work. Jane Haswell noted that BSI was participating in an ISO Task group looking at the extension of life of pipelines. This Task Group would be meeting in November and she could provide a brief update to UKOPA at the next meeting. She also noted that when the ISO Pipeline Life Extension Task Group was discussed at the BSI Pipelines Committee meeting, Alan Thayne of HSE had stated that HSE's views regarding the requirements for assessment of pipeline life extension were largely encapsulated in the work carried out by National Grid in the 85 bar uprating program. Tony Stonehewer agreed that a summary of the key issues considered, and the programs of work carried out, could be presented to UKOPA and he agreed to follow this up. It was agreed that pipeline condition assessment and life extension would provide an interesting and topical theme for the next UKOPA meeting.

Action W Jones/T Stonehewer/J Haswell

Mark encouraged Members to submit ideas on presentations for UKOPA 2007. In conjunction with this, Neil Jackson noted that the BS EN 1594 document relating to gas transmission pipelines is being reviewed and a presentation will be given on the key issues of the process. He could provide an update on this at the next UKOPA meeting.

Action N Jackson

Nigel Riley suggested that HSE could give a presentation on the implementation on the PADHI Plus procedure.

Action N Riley

17. Dates and Venues of Future Meetings

(i) The 7th/8th February 2007 – E.on will host at Coventry

At this meeting, the Chairman noted that UKOPA will be 10 years old in 2007 and in order to mark the occasion, it is the intention to invite ex-Chairman and persons who have contributed to the development of the Association, and to progress publications through IGEM, Pipes and Pipelines International as well as the Mechanical, Chemical and Civil Engineering publications. Any contact that Members have with these publications or Institutions would be appreciated.

Further ideas will be considered and Mark invited Members to make suggestions. Donal Cullen suggested that it may be appropriate for UKOPA to consider a joint meeting with one of the European Pipeline organisations and recommended that this would be a more significant marking of the 10 year anniversary. Rod McConnell suggested that it may be appropriate to consider a senior speaker from Industry / HSE to address the meeting. Jane Haswell supported both ideas, suggesting that it would be appropriate for UKOPA to progress a more formal interface with the European Pipeline Group and that this could be progressed during 2007, and that it may be appropriate to obtain a key note speaker to introduce the UKOPA technical seminar in June next year. Both initiatives could provide excellent PR for UKOPA, where there will be a wider audience and wider interest and the opportunity to create good PR material relating to the event. It was agreed these ideas would be considered further.

Action Management Council

(ii) Meeting on 10th/11th October 2007

BP is considering hosting this meeting but details are to be confirmed. Donal Cullen said if BP were unable to confirm, then Shell Expro would consider hosting this meeting.

18. Any Other Business

(i) Dick Gray noted that the Pipeline and No Dig Technology Exhibition is to be held at Stoneleigh next week.

(ii) Neil Jackson referred to recent correspondence from HSE relating to CAPEPLG. This Group is to be re-instated and a new program of work is to be progressed. Neil agreed to keep UKOPA informed.

(iii) AC corrosion – Roger Ellis confirmed that a significant amount of research has been done on AC corrosion and this has resulted in a number of mitigation and avoidance techniques.

He confirmed that recent pigging of the NWEP has confirmed that the mitigation methods are successful and there has been no further growth of detected AC corrosion. Ed Reeder, BP confirmed that Innovene have had similar experience on the TCEP line. No AC corrosion has been found but full mitigation is in place.

(iv) Roger noted that NG has announced work to install electrification of the west coast railway and this involves the installation of 400 kilovolt sub-stations which will supply at a much higher level and will have effects on CP. This affects both Shell and Huntsman pipelines. David Eyre of Penspen is investigating the proposals with a view to making recommendations for any future action. If the electrification work is successful, it is likely to extend to the whole west coast railway network and Roger agreed to keep UKOPA informed.

(v) Donal Cullen reported that Shell Expro had received thanks from HSE for hosting a visit to the St. Fergus Terminal and Control Centre, including the controls simulator. This visit was considered interesting and relevant by HSE.