



Other CEN/TC 234 concerns – UNECE Guidelines/Good Practices for Pipelines

Nominated by the CEN/TC 234 Convenors' Meeting, Malcolm Howe, BSI, participated at the UNECE Workshop (2006-03-08/09). He presents the attached report of the meeting giving a good overview over the programme and the related discussions.



DTI/AITS FUNDED REPORT OF INTERNATIONAL/EUROPEAN MEETING

This report is to be submitted to the relevant BSI Programme Manager at the same time as the DTI/AITS form is returned (i.e. within 1 month of the date of the meeting). It will then be circulated to the relevant BSI Technical Committee.

Meeting of Committee:

*UNECE Workshop on the
Prevention of Accidents of
Gas Transmission Pipelines*

Date(s) of Meeting:

8 and 9 March 2006

Place of Meeting:

*The Hague,
The Netherlands*

(Town & Country)

Author of report:

Dr Malcolm Howe

Other UK attendees:

Mr Nigel Riley

**Countries & number in
delegations**

Kyrgyzstan	2	Serbia/Montenegro	2
Azerbaijan	3	Uzbekistan	2
Israel	2	Belarus	1
The Netherlands	30	Sudan	1
Turkmenistan	1	Russia	1
Switzerland	7	Armenia	2
Italy	5	Turkey	1
Moldova	1	Austria	1
Belgium	4	Macedonia	2
Czech Republic	1	Sweden	1
Tajikistan	1	Latvia	1
Georgia	3		
Germany	15		
Poland	1		
Armenia	2		
Hungary	1		
Norway	1		
United Kingdom	2		
Ukraine	1		
France	1		



Additional major papers circulated at meeting

None

Items added to Agenda at meeting

None

List of discussed items

Setting the Scene for Oil and Gas Pipelines
Risk Assessment on Pipelines - Methods and Criteria
Land-use Planning
Information Policy
Lessons Learnt
Draft 3: UNECE Safety Guidelines/Good Practice for Pipelines.

Other comments/items: *None*

Date of Next Meeting: *None Planned for the time being.*

Proposed venue for next meeting: *None.*

Report from delegate

The key objective of the workshop was the exchange of information on national and international developments in the field of pipeline safety, including the existing legal framework and best practices to prevent, control and reduce the impact of gas pipeline failures and accidents. The proceedings focussed on the assessment of risk, land-use planning and information policy and were directed particularly to the Eastern European countries within the UNECE territories with oil and gas transit pipelines.

The workshop was expected to provide guidance to the UNECE Steering Group drawing up *Pipeline Safety Guidelines* under the *Industrial Accidents Convention* and the *Water Convention*. The initiative had commenced in 2004 and latest version of the Guidelines had been discussed in September 2005, where major additions were shown in bold. Further substantial amendments in the draft before the conference were shown in bold italic.

Clearly a great deal of time and effort had been expended by delegates from the many countries listed above in preparing this guidance document under UNECE Chairmanship and leadership. A surprising revelation in *Setting the Scene* was the lack of knowledge by the UNECE partners of the technical standards for safe pipelines already developed by the Western European gas industry at CEN and the safe operating procedures documents developed by their technical association, *Marcogas* and the European Commission. The existing guidance covered all aspects of gas pipeline safety from design, routing, construction, testing, commissioning and safe operation etc. Clearly knowledge of these existing documents could have saved the UNECE group years of effort spent on their Guidelines. On hearing the news, some of the eastern delegates expressed great disappointment at the loss of opportunity during their pipeline construction, contracting and financing phases.

Various national authorities from Germany, Holland and Switzerland outlined their safety procedures for the prevention of damage to pipelines, distribution networks and for other utility pipes and cables. To the UNECE's surprise Germany did not perform risk analysis to achieve safety distances for pipelines from premises and had no intention of starting.

The Dutch Ministry had performed certain risk calculations to amend their 1984 law on pipeline safety distances. The technical basis of these calculations was not too clearly explained, but was admittedly complex. Nevertheless, safety distances between pipelines and premises were to be increased. Apparently the Ministry responsible, *Housing, Spatial Planning and Environment* did not seem to apply any considerations of relative risk from other potential and actual societal hazards, e.g. transport by road, living below sea level in areas of Holland/flooding etc, which were far higher by orders of magnitude than the risk from high pressure gas pipelines.

The Swiss approach was also ultra-cautious relative to other higher societal risks.

The Dutch *Ministry of Economic Affairs* outlined current legislation before their Parliament to improve the accuracy of plant records, to store them in a central register, to ensure that all parties would be obliged to access this information prior to works and to use it properly during the works. This legislation applied to all utilities and extended into urban areas. The idea is similar to the information exchange long established in the UK under the New Roads and Street Works Act 2001, as amended.

The Georgian Ministry of Environmental Protection and Natural Resources outlined their security protection system for oil and gas pipelines, including spillage collection tanks to protect water sources in the event of oil release. They also outlined their planned intervention strategies by armed forces in the event of premeditated attack. Georgia had operated natural gas pipelines since 1905 and was well experienced in consequence.

SNAM Rete gas (Italy) and Gasunie (Holland) outlined their long standing safety procedures for protecting pipelines and noted the common finding that most pipeline damage, some 75 percent, arises from Third-Party interference.

Under *Lessons Learned*, Fluxys, Belgium, outlined their safety measures whilst avoiding direct reference to the legal proceedings now commencing following the fatal pipeline incident in 2004. The amendments centred on improved pipeline information exchange. Here, the pipeline was damaged critically apparently by a Third Party, despite all of the plant location information then available to those responsible for the construction site.

A release of ethylene in Nordheim, Germany, which was due to a small fracture in an old steel pipeline with welded bell-joints, was reported. The fracture was attributed to a tensile load in the pipeline, which was supposedly caused by subsidence from old mine-workings. However there was no hard evidence of cause presented. The release was contained and was without fire or injury. Cutting of the pipe to release stress, re-welding it and the fitting of strain gauges seems to have safeguarded against a similar failure.

Gasunie presented the results of a gas industry study of gas incidents. This confirmed yet again that most incidents, about 75 percent, were caused by Third- Party damage.

Also simple calculations showed that societal risks from transport by road were some 5,000 times greater than transport by gas pipeline.

Despite the title *Lessons Learned*, the various authorities showed a remarkable reluctance to recognise that gas pipelines were very safe indeed from proven official statistics. The authorities also exhibited a complete blind-spot to Third-Party damage being the principal cause of incidents. Consequently, they resisted any notion of exerting control over the random actions of third-parties in wrecking damage on buried pipelines, often using powerful earth-moving machines hired for private and contracted ground works. That the Ministries/Authorities acted in this way perplexed the pipeline operators present. The costs to society of these actions, e.g. to increase safety distances between pipelines and properties was also highlighted. Clearly some Ministries had gone so far in proposing new legislation that there was little room for political retreat.

The workshop ended with a clause-by-clause analysis of the previous amendments to the UNECE Safety Guidelines. A further meeting of the editing committee was held at the venue on the 10 March and a draft 4 of the Guidelines dated 10 March 2006 was published on the UNECE Web for information and comment. Following these deliberations, a further draft can be seen on: -

www.unece.org/env/teia/water/pipeline/pipeline%20safety.htm

The UNECE objectives were achieved and all parties were better informed at the end of the workshop, particularly the UNECE/partners' discovery of existing safety standards and operating codes for pipelines.

Malcolm Howe
Chairman BSI/GSE/33 and
Delegate from CEN TC 234