

Health and Safety Executive Board		HSE/12/10	
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**UPDATE ON THE PROPOSED AMENDMENTS TO THE PIPELINES SAFETY REGULATIONS (PSR) 1996 - FOLLOWING FURTHER STAKEHOLDER CONSULTATION AND RESEARCH**

### Purpose of the paper

1. The Board is invited to:
  - Note the outcome of the further work undertaken following the December 2010 Board; and
  - Agree to the recommendations for taking forward the PSR project.

### Background

2. In November 2009, the Board agreed to a formal consultation on the proposed amendments to PSR (HSE/09/103), the most significant of which were to introduce:
  - Gasoline as a named dangerous fluid – given further consideration following a recommendation by the Buncefield Major Investigation Board<sup>1</sup>;
  - Carbon dioxide (CO<sub>2</sub>) as a named dangerous fluid - reflecting on work on Carbon Capture and Storage emanating from the emerging energy technologies (EET) programme; and
  - A cost recovery regime for major accident hazard pipelines.
3. To allow for proper consideration of concerns raised by consultees in relation to gasoline, CO<sub>2</sub>, and the impact assessment, the CE and Chair agreed to postpone the amendments.
4. The introduction of new Coalition Government policies on regulation prompted a further review and after the December 2010 meeting, the Board agreed to postpone the amendments again to allow the following work to be undertaken:
  - Improve the evidence base on the scale of risk from gasoline pipelines;
  - Seek clarification from HSE lawyers as to whether the HSWA could be used to implement the major hazard elements of PSR;
  - Discuss with key stakeholders any potential alternate ways of securing compliance with the major hazard elements of PSR;
  - Work with industry to improve understanding of the potential costs to pipeline operators arising from land use planning controls set around gasoline pipelines; and

<sup>1</sup> Link: <http://www.buncefieldinvestigation.gov.uk/reports/volume2b.pdf> - part 2 Pages 143-144  
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- Keep European initiatives, developments in research and operational experience in relation to pipelines under review.

This work has been completed and is detailed in Annex 1.

## Recommendations

5. HSE now recommends:

- a) Not proceeding with the original proposal to include gasoline as a named dangerous fluid under PSR, as the existing regulatory regime is sufficient to cover gasoline pipelines.
- b) Postponing further work to allow HSE to consider emerging issues (principally the need to review Regulation 13A relating to the gas iron mains replacement programme) and to take account of new European initiatives.
- c) Keeping developments in Carbon Capture and Storage under review, to ensure the most appropriate regulatory model is developed.

These recommendations are covered in detail below.

## Introduction of gasoline as a dangerous fluid

6. The classification of gasoline has always been difficult. HSE originally intended gasoline pipelines to be subject to the additional major hazards requirements of part III of PSR, but delayed inclusion in the 1996 regulations, pending completion of further research. This concluded that although the level of risk is low, the potential consequences of an accident involving gasoline pipelines could be very serious<sup>2</sup>. More recently the Buncefield MIIB recommended the inclusion of gasoline as a dangerous fluid in PSR, although their report states that “*there is no suggestion that the large gasoline pipelines which supplied the Buncefield site directly contributed to the major incident*”.
7. Updated data on incidents in the UK and Europe involving cross country gasoline or fuel oil pipelines confirms that, **to date**, there have been no fatalities, and only one injury. Furthermore, the data show very few major accidents in well-regulated systems such as those in the UK and Europe. More serious accidents have occurred in the USA and a number of developing countries, with significant numbers of fatalities, usually associated with the attempted theft of gasoline from pipelines
8. The accidents in Europe were primarily caused by corrosion, accidental or intentional damage, poor design or metal stress. All these issues are covered by the general duties of PSR, which apply to all substances transported by pipeline, including gasoline. The duties include ensuring appropriate pipeline design, construction materials, safety systems maintenance, construction and installation, prevention of damage to pipelines, and co-operation between pipeline operators.

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<sup>2</sup> Arthur D Little “Risks from gasoline pipelines in the United kingdom” report to HSE June 1996 and WS Atkins Safety and Reliability “Assessing the risk from gasoline pipelines in the UK based on a review of historical experience”, HSE research report 210/1999.

9. What is not covered are the additional duties that apply to Major Accident Hazard Pipelines including notification before construction and use, development of a major accident prevention document, and emergency plans. However, the gasoline pipeline network in the UK is already extensive, and industry has informed us that it is unlikely that any new pipelines will be constructed in the near future. Consequently, HSE would be unlikely to receive gasoline pipeline notifications even if gasoline was included under part III of PSR. Furthermore, industry already treats gasoline pipelines as if they were major hazard pipelines, with well-developed emergency plans.
10. Industry has raised concerns about the potential impact from having to set consultation distances around gasoline pipelines and any compensation claims arising from planning restrictions should gasoline be included in part III of PSR. They have particular concerns about land use planning zones being applied retrospectively to the UK's extensive gasoline pipeline network. They argue this could blight land within those zones, potentially leading to large compensation claims.
11. After further consideration of the regulatory system under HSWA, we have now concluded that the existing legislation is sufficient to regulate gasoline pipelines, which will continue to be covered under the general duties of PSR. These cover design, safety systems, maintenance, materials, construction and arrangements for accidents and emergencies.

### **Regulation 13(A)**

12. In 2002 HSE, Ofgem and Transco agreed a 30-year mains replacement programme (MRP) to replace all iron gas mains within 30 meters of occupied buildings. These iron pipes presented the greatest hazard (gas leaks leading to explosion) - and are referred to as "at-risk" pipelines.
13. Regulation 13 of PSR places a duty on the Gas Distribution Networks (GDNs) to maintain all their pipelines "*in an efficient state, in efficient working order and in good repair*". Regulation 13A was introduced in 2003 giving the GDNs a statutory defence to the absolute duty of Reg 13 if their pipelines failed, provided they had implemented a MRP approved by HSE. In 2010, HSE and Ofgem commissioned an independent review of the MRP. Key findings were:
  - The programme had been effective in removing highest risk mains;
  - Significant amounts of large diameter pipes removed were in good condition;
  - The risk model used by the GDNs ought to reflect the frequency of events where gas releases get inside buildings.
14. Regulation 13A is specific and prescriptive, running counter to a risk-based goal-setting approach to regulation. It also puts HSE in the difficult position of having to agree the MRP, rather than having the GDNs implement their own risk-based programme. Following discussion with OFGEM and the GDNs, HSE is committed to a review of the Regulation 13A approval procedure, and will be

considering appropriate changes to PSR ahead of the next review of the programme in 2017.

### **European Commission Pipeline Study**

15. In May 2011, the European Commission carried out a study on the safety of onshore pipelines seeking details about domestic legislation on pipelines (15 out of 27 responded). In October, they published a draft report "Assessing the case for EU legislation on the safety of pipelines and the possible impacts of such an initiative". This outlined 3 potential options:

- Develop recommendations/guidelines (not legally binding) ;
- Amend the Seveso III Directive to include pipeline transport and;
- Adopt a pipeline safety directive.

16. HSE co-ordinated the cross government response to the draft report and argued that the UK already had appropriate legislation in place and would not support new legislative measures without evidence to show that they would add value. Publication of the final report is due early in 2012.

### **Proposed way forward**

17. Given the current approach to new legislation there is a strong argument not to proceed with the original proposed amendments to PSR. We believe that existing health and safety legislation is sufficient to regulate gasoline pipelines. Instead, we should focus on future amendments to Regulation 13A. Changes may also be required to respond to EC proposals, though HSE and the UK will continue to oppose new European legislative measures unless there is clear evidence that they will add value to existing systems.

18. A summary of the current position is:

- there are effective controls already in place for these pipelines
- there is no compelling evidence for action on the basis of serious incidents
- there is a high potential economic cost of introducing LUP controls (blighting land near existing pipelines) and a low likelihood of operators building new gasoline pipelines.

### **Risks**

19. HSE has worked closely with external stakeholders, particularly industry and local authorities to develop the proposed amendments to PSR and there may be a risk to HSE's reputation and loss of support from these key stakeholders if the reasoning behind the decision is not communicated effectively.

### **Action**

20. The Board is invited to:

- a) Note the updated evidence base in relation to gasoline incidents in Europe and worldwide.
- b) Agree not to proceed with the original proposal to include gasoline as a dangerous fluid under PSR; and
- c) Agree to postpone further amendments to PSR to allow HSE to consider emerging issues (e.g. a review of Regulation 13A relating to the gas mains replacement programme) and to take account of new European initiatives.

**Paper clearance -**

**Update on the further Work agreed by the HSE Board in December 2010**

**Use of HSWA to implement the major hazard elements of PSR**

1. Advice from HSE lawyers confirmed that the general duties of HSWA could not be relied on to implement the more specific duties relating to the major hazard elements of PSR e.g. notification requirements. PSR requires pipeline operators to notify HSE at various stages in the lifecycle of a pipeline (Regulations 20 – 22). This only applies to dangerous fluids listed in Schedule 2 of PSR. HSE could encourage pipeline operators to notify, but there would be no legal duty to do so. However, as there are no plans for new gasoline pipelines, the notification element of PSR would have little or no impact.

**Introduction of Carbon Dioxide as a dangerous fluid**

2. In April 2010 HSE decided to postpone the introduction of CO<sub>2</sub> as a dangerous fluid in PSR. This was to allow on-going research and lessons learnt from Government/European funded commercial scale projects to be taken into account, which would inform and improve regulatory decision making.
3. The first DECC Carbon Capture and Storage (CCS) Demonstration Competition did not result in a firm project. However, the DECC SoS has re-stated the Governments commitment to CCS as part of the UK's CO<sub>2</sub> emissions reduction strategy. A number of companies have indicated that they intend to develop the technology, although the timeframe will inevitably be longer than was originally envisaged. HSE is working with DECC and Scottish Government to monitor developments, and consider the appropriate legislative framework for this technology, although the original urgency for regulatory change has now gone due to the different time-frame.
4. In light of this, HSE recommends that the current position is maintained and the situation is reviewed as the technology and science evidence base develops.

**Regulation 22 – Notification in other cases**

5. This change would place an explicit duty on the pipeline operator to notify us when there are changes to the ownership of an industrial site. As a result the pipeline operator is required to prepare a major accident prevention document and put in place emergency procedures. Added to this the local authority (LA) will have a duty to prepare an emergency pipeline plan. A non-legislative approach was not considered appropriate as this amendment will ensure the pipeline operator and LA have adequate emergency procedures in place.

**Impact assessment for the introduction of gasoline as a dangerous fluid**

6. With the review of the methodology completed, the impact assessment (IA) for the introduction of gasoline as a dangerous fluid had been updated to reflect the changes to consultation distances around gasoline pipelines. However, industry continued to have concerns that HSE may be underestimating the potential compensation costs that could arise from setting of land use planning consultation distances around gasoline pipelines.
7. HSE has continued to work with industry and commissioned further research from HSL. The IA is now based on the most current information available and HSE is not in a position to make any further amendments.