

## **Analysis of responses to the consultation on proposed amendments to the pipelines**

### **Safety Regulations 1996 and the Health And Safety (Fees) Regulations**

**7 December to 1 March 2010**

#### ***Summary***

The consultation sought views on:

- the classification of gasoline and carbon dioxide as dangerous fluids under the Pipelines Safety Regulations (PSR);
- provision for a 3-year expiry date on notifications to construct a major accident hazard pipeline;
- a new requirement under 'notification in other cases' to notify HSE where an existing industrial complex is split up with the result that a pipeline ceases to be exempt from PSR;
- the introduction of a duty on local authorities to implement their pipeline emergency plan; and
- changes to regulation 2, 3 and 13A to improve clarity of text and provide duty holders with a better understanding of obligations imposed.

This consultation also allowed HSE to share with stakeholders the new cost recovery regime for major hazard accident pipelines, as defined under PSR.

#### ***Current situation***

Following the election, the Coalition Government introduced a new approach to regulation. This resulted in HSE and other government departments reviewing proposed regulatory measures to ensure they fit within the new rules and processes, which delayed issuing our response to the consultation. We have now completed this review for PSR and this has led to a number of changes to our proposed amendments. Details of the changes are covered below. It is also important to note that these amendments will be implemented, subject to Ministerial clearance, in April 2011 and not October 2010 as suggested in the consultation document.

#### ***The consultation exercise***

Consultation on these proposals began on 7 December 2009 and ended on 1 March 2010. In addition to making the CD available to any party via the HSE website, over 100 stakeholder organisations in the pipeline industry and other relevant sectors were approached directly for a response. All key stakeholders responded to the consultation.

An analysis of the responses to each question raised in the consultation document (CD) is set out in the following document. The numbers and percentages included relate to the 29 consultees who responded to the questions in the CD. Not all respondents addressed all of the questions set in the consultation.

HSE would like to thank stakeholders for their responses, and for their continued support in developing the proposed amendments.

The first two questions of the consultation asked respondents what type of organisation they represented and in which capacity they were responding, i.e. employer, employee, trade union

## **Annex 2 - List of assumptions used in the model**

- Failure rate = 0.263 events per 1000 km yrs (being 0.207 events per 1000km yrs for rural and 0.767 events per 1000 km yrs for urban). (Higher Scientist, Health and Safety Laboratory dated 23<sup>rd</sup> July 2008).
- Total length of pipeline in UK = 2,147 km (per Health and Safety Laboratory, GIS team calculations, 2010)
- Expected number of ignition events: rural areas = 3%; urban = 5% (Based on original estimates per WSA Report, page 12, which estimated 2.5% of incidents were ignition events in rural areas and 4.3% in urban areas, and adjusted by HSE for wider experience to 3% and 5% respectively).
- Location of pipelines = 10% urban and 90% rural. Advice provided by Higher Scientist, Health and Safety Laboratory (2008): total length of underground pipeline between 1988 and 2005 = 391,000 km yrs. Suburban length = 39100 km yrs (10%); rural length = 351,900 km yrs (90%).
- Consultation distance = on average 80m in urban areas and on average 60m in rural areas (Assessed by HSE, see Annex 3 for detailed analysis by width of pipeline).
- Individual risk:  $1 \times 10^{-6}$  for urban and rural areas, on average over the whole consultation distance. (HSE best estimate given the extended consultation distance from previous estimates and evidence available at the time of publishing).
- Total night time residential population in zone = 50,593 (urban) and 9,206 (rural). (GIS team at Health and Safety Laboratory 2010, based on 80m buffer zone)
- Expected reduction in the risk of an incident due to classifying gasoline as a dangerous fluid = between 10 and 20% (best estimate by Economics Analysis Unit for benefit calculations)
- Average cost of clean up in rural areas for the average incident (including business interruption costs) = 1% of the Buncefield economic cost = 1% x £894m (Chapter 3 of the Final Report of the MIIB).
- Based on data from HSE PADHI system, analysis of the average number of planning applications advised against around all major accident hazard pipelines over the last two years (50 per annum) and the estimated length of all pipelines of 25,000km, it has been estimated there are approximately 2 advised against cases per 1,000km of pipeline for an average CD of 100m. When this assumption is applied to the length of gasoline pipeline in urban areas, it is estimated that 0.43 applications are advised against per annum. In rural areas there is a much lower development pressure on land and other planning constraints which reduce the impact of HSE planning advice. Therefore it has been assumed that 2 advised against cases per 1,000km of pipeline is an over estimate in rural areas, and it may be more like one advised against case per 1,000km. The number of applications advised against in urban areas is therefore assumed to be around 2. Both the rural and urban estimates are based on the average number of AA cases for all major hazard pipelines, which cover 100m CD on average. It would be expected that the number of cases would reduce in proportion to the size of the CD for gasoline in these areas to reflect the smaller CD in which AA cases might occur. Thus, the total number of AA cases for 2,147km of pipeline is estimated to be between 1 and 2 per annum.
- Whether or not development is advised against depends on the type of development and the zone it is proposed for. According to PADHI, development is advised against if it is classed as a very large and sensitive development in any zone; development for vulnerable people would be advised against if in the middle zone and inner zones; development would be advised against in the inner zone if used by the general public, and finally no developments are advised against if they are used by working populations.

- The Valuation Office Agency (VOA) Property Market Report 2010 was used to estimate the size of the average developments that might be advised against. According to the VOA, the average suburban residential site might be half a hectare in size, or 5,000m<sup>2</sup>. Alternative developments that may be advised against include retail developments and sensitive developments. These are not expected to be a frequently applied for as housing, and the area of 5,000m<sup>2</sup> is assumed to cover such developments also. To account for smaller retails / sensitive type developments a range in development size has been provided from 1,000m<sup>2</sup> to 5,000m<sup>2</sup>
- The value of development that is lost to society for each advised against case is assumed to be 5% of the total land value for residential development (5% lost value for each application reflects the fact that the majority of developments will proceed on alternative sites, or be slightly modified and so proceed on the same land, and so there will just be some efficiency loss to society, Results from an on-going research project indicates that this loss is up to 50% in urban areas, but almost zero in rural area for major hazard sites. Due to the nature of a pipeline and that developments do not have to be moved very far to be outside of the CD, the efficiency loss is expected to be quite small at around 5%).
- The value of land for a residential site has been used to value all the development assumed to be lost. This is the most expensive use of land, so enables the maximum value of the land to be estimated.

### ***Annex 3 - LUP Zones for Representative Gasoline Pipelines***

Pipeline	Inner Zone	Middle Zone	Outer Zone/CD
16" Urban	44	75	80
12" Urban	40	75	80
8" Urban	32	55	70
6" Urban	19	45	60
16" Rural	44	44	55
12" Rural	40	40	60
8" Rural	32	32	32
6" Rural	19	19	35

The weighted average consultation distance is estimated as follows, weighted using the percentage of total gasoline pipeline accounted for by each diameter.

Pipeline	Inner Zone	Middle Zone	Outer Zone / CD
Weighted av Urban	38	71	78
Rounded	40	70	80
Weighted av Rural	39	39	57
Rounded	40	40	60