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## **THE APPLICATION OF THE CONTROL OF MAJOR ACCIDENT HAZARDS REGULATIONS 1999 (COMAH) AND THE PIPELINES SAFETY REGULATIONS 1996 (PSR) TO NATURAL GAS SALT CAVITY STORAGE SITES**

### **PURPOSE**

This SPC provides guidance for Inspectors on the application of COMAH and PSR to the development and operation of salt cavity natural gas storage sites. It applies to installations consisting of a cluster of salt cavities, their associated interconnections and process plant; typically the installation would be contained within a 5 km radius.

### **BACKGROUND**

1 There are currently four salt cavity natural gas storage sites operating in the UK with a further five planned by 2010. Gas is injected into storage from the high-pressure transmission system, stored at pressures up to 300 barg and returned to the transmission system when required.

2 The sites normally consist of a cluster of salt cavities, interconnections and a common import and export processing facility connected via pipelines to the national gas transmission system. The cavities may be separated from the processing facility by land that may or may not be owned and/or controlled by the site operator. Because of the layout, salt cavity storage facilities present some complications when determining how COMAH and PSR apply.

### **APPLICATION OF COMAH AND PSR**

3 The COMAH regulations state that 'installation' means a unit in which dangerous substances present are .... used, handled or stored, and it includes – (a) equipment, structures, pipework, machinery .... The cavities, import and export processing facility, and pipes of the storage site are integrally related to each other. The site can therefore be considered as one installation.

4 COMAH also states that 'establishment means the whole area under the control of the same person where dangerous substances are present in one or more installations, .....'. The operator may not have control of the land between each of the wellheads but the piece of land upon which each wellhead rests can be considered as the 'area under the control of the same person'. Thus all pieces of the land are under the control of the operator and dangerous substances are present in the installation, so satisfying the definition of establishment. The processing plant is integral to the storage operation and also forms part of the establishment.

5 Pipes connecting the cavities and processing facility become 'pipework' within the definition of installation and therefore are part of the COMAH establishment.

6 PSR Schedule 1 states that PSR does not apply to 'a pipeline contained wholly within the premises occupied by a single undertaking.' 'Premises' is not defined under PSR; however the definition of 'premises' under HSWA 1974 'includes any place and, in particular, includes...(b) any installation on land.' By considering the whole site to be one installation, the whole installation is occupied by the one undertaking (i.e. the operator's business) and therefore PSR is disappplied to the interconnecting pipework.

## **FURTHER CONSIDERATIONS**

7 COMAH requires operators to take all measures necessary to prevent major accidents and limit their consequences. Operator's safety cases must include consideration of the risks from interconnecting pipes in the safety report. Inspectors will assess the safety arrangements in accordance with the criteria in the COMAH Safety Report Assessment Manual (<http://www.hse.gov.uk/comah/sram/index.htm> ).

8 The operator must conduct an accidental risks analysis which will identify that there are events which can occur to the pipes under unfenced land above and beyond those for pipework within fenced areas. There is a reasonably practicable way to deal with this increased risk which is to use the standards which are adopted for cross-country pipelines. In order to demonstrate that 'all measures necessary' have been taken HSE expects standards used for the design and operation of pipelines subject to PSR to be applied to the pipework connecting the cavities and processing plant.

9 The design and layout of each interconnecting pipe must allow for its treatment as a single pressure system and provide for testing its integrity from end to end.

10 A pipelines specialist inspector must be part of the safety report assessment team and be involved in the intervention programme for the establishment.

11 The salt cavities and associated process plant should clearly be operated as single installation. For example, this guidance would not apply to a wholly remote cavity that uses the process plant but is not integral to it. The guidance applies where there is a cluster of cavities around a process plant and typically the installation would be contained within a 5 km radius.

12 This treatment of the storage site as a single establishment is consistent with the way that HSE's Risk Assessment and Process Integrity Unit (CI5) provides Hazardous Substances Consent and planning advice to local authorities.

13 Considering these facilities as one COMAH establishment means that:

- The operator provides a single, integrated COMAH report which covers processing, control systems, storage, pipework and emergency arrangements for the whole site
- Land Use Planning advice can be given for the whole site
- The Hazardous Substances Authority considers one application from one operator
- HSE assesses and prepares intervention plans on the basis of one safety report

## **CONCLUSIONS**

14 The salt cavities, wellheads, interconnecting pipework and the import and export processing facility should be considered as one establishment under COMAH and operators and Local Authorities will be expected to comply with the requirements of COMAH in full.

15 Standards covering the design and operation of cross – country pipelines (where PSR applies) will apply to any pipes connecting the salt cavities to the import and export processing facility which run under land not in control of the operator.

16 The pipeline connecting the establishment to the gas transmission system will be subject to PSR. This pipeline ends at the emergency control valve situated at the import and export processing plant. COMAH applies from this point.

17 Annex 1 shows schematically where COMAH and PSR apply.

### **ACTION BY STAFF**

18 SI3 staff should apply this guidance to all new salt cavity storage sites.

19 There does not appear to be significant implications for existing sites but Inspectors should consider and raise with operators as necessary.

### **FURTHER INFORMATION**

For further information contact the Gas & Pipelines National Inspection and Operational Support Team, City Gate West, Toll House Hill, Nottingham, (VPN 513 2911).

**ANNEX 1 – Schematic layout showing the application of COMAH and PSR**

