

Hazardous Installations Directorate

Specialised Industries Division Gas & Pipelines Unit

Operational Strategy for the Natural Gas Supply and Major Accident Hazard Pipelines Industries

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INTRODUCTION

1. The Gas and Pipelines Unit is responsible for HSE's operations in the natural gas supply industry and in industries transporting hazardous substances by pipeline. The unit enforces health and safety law at upstream natural gas transmission and distribution networks; gas storage facilities; onshore major hazard pipelines; offshore pipelines; and other associated high hazard sites.
2. The strategy is aimed at ensuring the risks from major hazards in the changing pipeline and natural gas supply industries are properly controlled. It supports the Health and Safety Commission's (HSC) 'Strategy for Workplace Health and Safety in Great Britain to 2010 and beyond'.

Public Service Agreement Target

3. The focus of our efforts will be on improving health and safety outcomes in Great Britain through progressive improvements in the control of risks from the workplace in support of HSE's Public Service Agreement [PSA] targets. This will primarily be through our work to ensure that risks are properly controlled at onshore major hazards sites [in support of PSA2]; working with Offshore Safety Division to ensure installation integrity; and assurance of pipeline integrity.
4. The PSA2 target is a 15% reduction, by 2008, in the number of relevant RIDDOR reportable dangerous occurrences at COMAH sites against a 2001/2 baseline.
5. The Unit contributes to OSD's safety targets by ensuring the integrity of emergency shutdown valves; pig traps; risers; pressure protection systems; sub-sea isolation valves; and wellhead pipework.

WORKPLACE CHANGES AND OTHER INFLUENCES

Natural gas supply industry

6. Some of the key issues affecting the UK natural gas supply environment are:
 - challenges to UK's gas supplies associated with a decline in indigenous supply and a continued increase in demand for gas;
 - a resultant need for greater gas storage capacity in salt cavities, depleted oilfields or LNG tanks;
 - new gas importation infrastructure projects such as pipeline interconnectors and seaborne LNG terminals;
 - further liberalisation of the gas industry and the influence of the economic regulator ;
 - changes in the quality of imported gas with concerns that sources of imported gas meet UK specifications for the safe operation of appliances.

Pipeline industry

7. Production from the UK off-shore oil and gas industry declining, but there is a continuing programme of bringing new oil and gas fields on stream, some of which because of their depth and temperature give rise to new

hazards. Some installations are approaching the end of their design life and operators looking for novel means of recovery of hydrocarbons from marginal fields. Often new developments are subsea and involve new pipelines, sometimes with difficult technical features such as high temperatures or deep water which require novel engineering solutions.

8. A challenge exists to ensure safety standards are maintained both by established oil companies, under pressure to cut costs, and by the new players who now operate some fields.
9. Well-established pipeline standards have been the cornerstone of delivering high standards of safety and HSE will get involved in their development where there is a clear health and safety benefit. Industry is considering options to extend operational parameters beyond previously accepted levels.

Climate change

10. Increasing concerns about the effects of CO₂ emissions and the business opportunity offered by carbon trading have led to proposals to store greenhouse gases in depleted oil and gas fields around the UK. The risks from the transportation of large quantities of supercritical CO₂ are not fully understood. Work will be needed to improve our understanding of the risks and to inform decisions on the appropriate level of control to ensure safety.

OUR HIGH LEVEL AIMS

11. The unit's support for HSC's strategy includes:
 - Providing information and advice and enforcing the law where necessary;
 - Working with business to prevent catastrophic failures in major hazard industries;
 - Providing information to the public about how risks are controlled at new major accident hazard sites to achieve recognition of the important contribution that health and safety plays in the management of these risks;
 - Promoting research that supports HSC/E's business aims.

DEVELOPING CLOSER PARTNERSHIPS

Working with and through others

12. We recognise that we rely on working with and using the contribution of others to our aims. We will maintain and where possible improve our working arrangements with:
 - other government departments and regulatory bodies such as the Environment Agency, Maritime and Coastguard Agency, DTI, and Ofgem;
 - overseas governments and authorities (e.g. the Irish Government, Manx Government, European Pipeline Regulatory Authorities);
 - operators, contractors and manufacturers;
 - industry groups, employers and employee representatives;

- professional institutions, trade associations and standards making bodies;
13. We will work with other agencies to assess the safety implications of treaty arrangements for interconnector pipelines between the UK and Belgium, Norway, the Republic of Ireland and the Netherlands.
 14. We will periodically review the iron gas mains replacement programme to ensure that it is achieving its intended aim.
 15. We will contribute to the development of gas and pipelines standards where these support HSE's objectives.
 16. We will promote pipeline and gas related research where there is a clear benefit in terms of safety. This will include a combination of in house work and support for industry and other external bodies.
 17. We will support the United Kingdom Onshore Pipeline Operators Association (UKOPA) in development of its leakage and incidents databases and the United Kingdom Offshore Operators Association (UKOOA)/Institute of Petroleum for the development of the Pipeline and Riser Loss of Containment Study (PARLOC)
 18. We will participate in a gas industry safety forum which will encourage the sharing of safety information between companies engaged in natural gas distribution.

A SENSIBLE HEALTH AND SAFETY CULTURE

Understanding the benefits of health and safety

19. The development of so many new major accident hazard infrastructure projects in the natural gas supply industry presents a challenge in how we explain the work that HSE does to ensure that the industry manages risks properly. We recognise the need to do more to make health and safety and its benefits more widely understood and accepted.
20. We will be pro-active in producing information which explains HSE's role and puts the risk from the new infrastructure into context.

Involving the workforce

21. We will engage in a structured way with workforce safety representatives from the gas distribution and transmission networks at national and company level to ensure health and safety standards are maintained and, where possible, improved.
22. We will ensure that we continue to consult employees and their representatives during contacts with industry.

FOCUSSING ON OUR CORE BUSINESS

Being clear about our priorities

23. Our activities will be targeted at meeting HSC/E's strategy and our PSA targets. We will not engage in activities which do not contribute to these objectives.

Pipeline systems

24. We will ensure that pipeline operators design, construct, operate and maintain offshore pipeline systems, interconnectors and onshore major accident hazard pipeline systems so that risks are properly controlled.
25. We will support HSE's Offshore Division in assessing the pipeline aspects of safety cases required under the Offshore Installations (Safety Case) Regulations.
26. We will ensure that we have intervention plans for major pipelines and pipeline operators which cover the design, construction, commissioning, operational and, if appropriate, decommissioning phases of pipeline projects. Particular attention will be given to new pipeline operators, and those for which operating pipelines may not be a core business activity. Where necessary we will extend the inspection process to include design houses, pipeline constructors and fabricators.
27. Working with Offshore Division, we will give priority to issues which threaten the integrity of offshore installations and in particular, corrosion management, riser integrity and emergency shut-down valve (ESDV) performance.

Natural gas supply

28. In the natural gas supply industry, we will ensure the proper control of risks on the onshore upstream gas supply infrastructure from the beach terminal to the end of the network at the user's emergency control valve. This includes gas reception terminals, transmission and distribution networks and storage sites. The priorities for the gas supply industry also include issues under the Gas Safety (Management) Regulations 1996 concerning minimising the risks of a gas supply emergency, gas quality and emergency service arrangements.
29. We will ensure that the revisions to distribution network operators safety cases are dealt with consistently in accordance with the Gas Safety Case Handling and Assessment Manual.
30. We will ensure that we have intervention plans covering safety case verification and inspection for major network operators and that resources are allocated proportionately. We will inspect the management and operational aspects of operations on the gas network to ensure the safety of these operations.
31. We will continue to observe tests of the NEC's emergency procedures for managing a network gas supply emergency.
32. We will approve iron gas mains replacement programmes under the Pipelines Safety (Amendment) Regulations 2003 for the major distribution network operators and monitor compliance with the programmes in accordance with our published document 'Monitoring and Reporting of the distribution networks' mains replacement programmes 2006-2013'.

Major Accident Hazard Sites

33. As part of the Competent Authority we will assess Control of Major Accident Hazard (COMAH) site safety reports covering a range of establishments in the gas supply chain, including terminals and gas

storage sites, and also fuel storage facilities operated by the Oil and Pipelines Agency (OPA).

34. We anticipate a number of new COMAH site submissions for salt cavity natural gas storage; depleted oilfield natural gas storage; and LNG import and storage. Ensuring the safety of these new facilities will be a key priority.
35. We will ensure that we have inspection plans covering the COMAH establishments and that resources are allocated to site inspection in order to ensure compliance with the law.

Enforcing where appropriate

36. The investigation of serious gas explosions resulting from leaks from distribution networks will continue to remain a priority, particularly where fatalities occur.
37. We will continue to investigate health and safety complaints by employees, their representatives and members of the public.
38. Approximately 75 % the reported gas leaks from distribution mains and services result from damage by third party interference, mainly during construction activities. The lead responsibility for investigating these incidents lies with HSE's Field Operations Division. We will provide support in investigating these incidents and in taking formal enforcement action.
39. We will work closely with UKOPA to target third party incursions which impact on the integrity of major accident hazard pipelines. For example, we propose to inspect utility and construction companies whose record indicates that improvements in their arrangements for preventing damage to pipelines are required.
40. Enforcement action following inspection and investigation will be taken in line with the Health and Safety Commission's enforcement policy.

COMMUNICATING EFFECTIVELY

41. We recognise that we will have a major challenge in communicating the role of HSE in relation to new natural gas storage facilities and pipelines where there is often significant local concern. We aim to ensure that the appreciation, understanding and management of natural gas storage and transportation related risks are better understood.
42. We will maintain the Gas supply and Pipelines sections of HSE's web-site and ensure up-to-date information on a wide range of issues is readily accessible to the public, employees and industry.

Resource constraints

43. In the event of reduced resource or additional unplanned work those activities which are likely to have the least immediate effect on the health and safety of workers or the public will be dropped. These lower priority activities would include:
 - Work on research projects
 - Standards work

- Assessment/inspection of subsea pipelines which do (i) not affect the safety of an installation or (ii) have the potential to create on-shore risks
- Inspection of lower risk activities
- Responding to repetitive complaints and requests for information where there is no demonstrated H&S benefit

Steve Wing
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