

**Health and
Safety Executive
Hazardous Installations Directorate**

**Specialised Industries Division:
Gas & Pipelines Unit**

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

2008 - 2013

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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 follows the format of HSE's Business Plan and supports the Health and Safety Executive's 'Strategy for Workplace Health and Safety in Great Britain to 2010 and beyond'.

Priorities

3. Our activities will be targeted at meeting HSE's strategy and the new DWP Departmental Strategic Objective (DSO), "to improve health and safety outcomes in, Great Britain through progressive improvement in the control of work related risks."
4. The Unit will not prioritise activities which do not contribute to the DSO.
5. The Unit's support for HSE'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; and
 - Promoting research that supports HSE's business aims.

Our Operating Environment

The UK natural gas supply industry

6. Key issues affecting the industry include:
 - challenges to UK's gas supplies associated with a decline in indigenous supply and a continuing increase in demand for gas;
 - a resultant need for greater gas storage capacity, primarily in salt cavities and depleted oilfields;
 - the development of new gas importation infrastructure projects such as LNG import facilities, pipeline interconnectors and transmission pipelines
 - further liberalisation of the gas industry and the influence of the economic regulator ;

- changes in the source of supply of imported gas and the need to ensure that imported gas is properly blended to meet UK specifications for the safe operation of appliances.

Pipelines

7. Production from the UK off-shore oil and gas industry is declining, but there is a continuing programme of bringing new oil and gas fields on stream. 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. As a result industry is considering options to extend operational parameters beyond previously accepted levels. Some installations are approaching the end of their design life and operators are looking for novel means of recovery of hydrocarbons from marginal fields.

8. We must ensure that 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 we will continue to be involved in their development where there is a clear health and safety benefit.

Carbon Capture and Storage and 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 and aquifers around the UK. The risks from the transportation of large quantities of dense phase or supercritical CO₂ by pipeline are not fully understood. We will work to improve our understanding of the risks in order to inform decisions on the appropriate level of control to ensure safety.

Targets

11. From April 2008, HSE's Hazardous Installations Directorate will contribute to DWP's Departmental Strategic Objective (DSO) to:

Improve health and safety outcomes

Indicators:

- Incidence of fatal and major injuries in workplaces.
- Incidence of work-related ill-health.
- Number of dangerous events in the nuclear industry, and in the offshore and onshore oil and gas sector.

12. As part of the DSO, Specialised Industries Division has set targets to achieve, by the end of 2010/11 a 45% reduction against the 2001/02 baseline of relevant RIDDOR Dangerous Occurrences. 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. This will be through our work to ensure that risks are properly controlled at onshore major hazards sites (including pipelines) and working with Offshore Division (OSD) to ensure the safety integrity of installations and associated pipelines. The Unit contributes to OSD's targets by ensuring the integrity of emergency shutdown valves; pig traps; risers; pressure protection systems; sub-sea isolation valves; and wellhead pipework.

Risks

13. 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 demonstrable Health and Safety benefit

Delivering major hazard outcomes

Objectives

To assure safe management and control of and to prevent catastrophic events in, major hazard industries;

To influence people and organisations – duty holders and stakeholders – to embrace and promote high standards of risk management and control

Key Deliverables

Working with industry to secure leadership and the effective management and control of risk in order to deliver improvement in overall industry performance, and in particular:

Major Accident Hazard Sites

Assessing, as part of the Competent Authority, Control of Major Accident Hazards (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).

Assessing the safety documents relating to anticipated new major hazard sites submissions for depleted oilfield natural gas storage.

Ensuring that we have intervention plans covering COMAH and other major hazard establishments and that resources are allocated to site inspection in order to ensure compliance with the law

Major Accident Hazard Pipelines

Ensuring 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.

Assessing the pipeline aspects of safety cases required under the Offshore Installations (Safety Case) Regulations in support of HSE's Offshore Division.

Supporting the United Kingdom Onshore Pipeline Operators' Association (UKOPA) in the development of its leakage and incidents databases and the offshore Pipelines User Group in the development of the Pipeline and Riser Loss of Containment Study (PARLOC).

Ensuring 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.

Working with Offshore Division to 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.

Contributing to the development of key gas and pipelines standards where these support HSE's objectives.

Natural gas transmission and distribution

Ensuring 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.

Ensuring that the assessment of distribution network operators' safety cases is dealt with consistently in accordance with the Gas Safety Case Assessment Manual.

Ensuring 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.

Continuing to observe tests of the Network Emergency Coordinator's emergency procedures for managing a network gas supply emergency.

Approving iron gas mains replacement programmes under the Pipelines Safety (Amendment) Regulations 2003 for the major distribution network operators and monitoring compliance with the programmes in accordance with our published document 'Monitoring and Reporting of the distribution networks' mains replacement programmes 2006-2013'.

Chairing and providing input to the Gas Transporters' Operational Safety Group in order to encourage the sharing of information between companies engaged in natural gas distribution

All sectors

Continuing to work with industry to extend, refine and further develop key safety performance indicators to assist in providing assurance that major hazard risks are being adequately monitored and controlled

Promoting continuous improvement in major accident prevention through regulatory activities, in particular to raise the performance of the poorest performers.

Investigating significant dangerous occurrences and incidents to ensure lessons are learnt to prevent a recurrence – at site, company and sector level as appropriate.

Ensuring consistency in the development of key health and safety technical standards by providing suitable technical support for working groups and international standards committees.

Delivering health and safety outcomes

Objectives

To protect people from health and safety risks from the natural gas supply and pipeline industries

To influence people and organisations – duty holders and stakeholders – to embrace and promote high standards of risk management and control

Whilst the primary nature of our core business is regulating high hazard industries, we will also allocate some resource to HSE's programmes which cover "conventional" health and safety issues.

Key deliverables

By the timely and thorough investigation of accidents and incidents ensure that where appropriate effective enforcement action is taken in accordance with HSE's policies

Enabling justice

Objectives

To improve standards of health and safety and prevent harm to workers and members of the public

To help promote a just and fair society in our area of responsibility, through actions in line with the HSE Enforcement Policy Statement and other relevant Codes (e.g. the Code for Crown Prosecutors).

To ensure those who do comply with the law are motivated to continue doing so.

Key deliverables

Investigating serious gas explosions resulting from leaks from distribution networks; particularly where fatalities occur.

Investigating health and safety complaints by employees, their representatives and members of the public.

Providing support to HSE's Field Operations Division in investigating third party damage incidents and in taking formal enforcement action.

Working closely with UKOPA to target third party incursions which impact on the integrity of major accident hazard pipelines. We will target organisations which are associated with high numbers of incursions and inspect utility and construction companies whose record indicates that improvements in their arrangements for preventing damage to pipelines are required.

Taking enforcement action following inspection and investigation in line with the Health and Safety Commission's Enforcement Policy. We will ensure that the enforcement management model is applied for all investigations

Providing Support to Government

Objectives

To provide specialist advice and relevant evidence to assist the Government in major policy decisions affecting society and the economy, including decisions on health and safety policy and how these take account of broader policy issues.

To provide Ministers with timely, accurate and succinct advice on health and safety in their day-to-day relations with Parliament, industry, interest groups, and with the public.

Key deliverables

Maintaining and where possible, improving our working arrangements with:

- other government departments and regulatory bodies such as the Environment Agency, Maritime and Coastguard Agency, DBERR, and Ofgem; and
- overseas governments and authorities such as the Irish Government, Manx Government, and European Pipeline Regulatory Authorities;

Working with Policy Group in the review of the Pipelines Safety Regulations 1996 and the Gas (Safety Management) Regulations 1996.

Periodically reviewing the iron gas mains replacement programme to ensure that it is achieving its intended aim.

Ensuring suitable and sufficient briefings for Ministers by prompt, accurate and comprehensive responses to requests and to proactively provide briefings on matters of Ministerial interest.

Working 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.

Demonstrating Public Accountability

Objectives

To demonstrate high standards of accuracy, openness and timeliness in providing information and in accounting to Government, Parliament, and the public for HID's actions, decisions and use of resources.

HID's advice and decisions to be underpinned by the best available knowledge and science.

Key deliverables

Responding to FOI and other requests from the public and workforce in a timely and appropriate manner.

Corporate Support Activities

Objectives

To support HID's priorities by engaging with stakeholders and undertaking generic research and analysis.

To ensure HID functions effectively and efficiently by managing our people and financial resources and by ensuring it performs functions in accordance with the law.

Staffing

The Unit resource comprises 25.3 staff years based in 3 regionally based operational (inspection) teams and a national inspection and operational support team. In looking to resource in line with business needs and priorities, the Unit will concentrate on:

- Recruitment and retention, primarily in specialist areas; recognising the age profile of existing staff, scarcity of skills and geographical disparities.
- Knowledge retention and management, using COIN and EDRM as tools to assist; and
- Reviewing and revising as necessary the competence framework to address the learning and development needs of regulatory and pipelines inspectors.

Key Deliverables

Ensuring that the Unit enhances its current skill, competence & knowledge management base to enable it to respond to future challenges.

Ensuring that drivers who do more than 5,000 miles a year are up to date with their safe driver training

Science

We will contribute to the Major Hazards (MH) Science Plan by commissioning pipeline and gas related research where there is a clear need and benefit in terms of promoting safety. This will include a combination of in house work and support for industry and other external bodies.

Key deliverables

Contributing as appropriate to the preparation of the MH Science Plan
Arranging for the delivery of Gas and Pipelines research work identified in the MH Science Plan
Managing science projects and their cost recovery for any Unit commissioned projects

Communications

14. We recognise that we 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.

15. We will maintain the Gas Supply and Pipelines sections of HSE's website and ensure up-to-date information on a wide range of issues is readily accessible to the public, employees and industry.

Key deliverables

Continuing to develop the Gas Distribution and Pipelines sections of HSE's website by providing information useful for all stakeholder groups
Providing information which explains HSE's role and puts the risk from new gas and pipelines infrastructure into context.
Participating in, and arranging where appropriate, technical and safety related events aimed at improving the control of risks in the gas and pipelines sectors
Engaging in a structured way with workforce safety representatives from the gas distribution and transmission networks at national and company
Ensuring that we continue to consult employees and their representatives during contacts with industry.