

# MAJOR HAZARD INDUSTRIES

## Introduction

1.28 Much of HSE's work is about the management of health and safety in high hazard industries and the control of major hazard events - the prevention of major incidents where the health and safety of many people, whether workers or members of the public, is affected.

1.29 Progress with published plans during 2002/2003 follow. Sectors covered are those where the control of major hazards is critical, for example, railways, gas conveyance and onshore major hazard pipelines, chemical installations covered by the Control of Major Accident Hazards Regulations (COMAH), explosives and the mining, offshore and nuclear industries. In March 2003, following public consultation, HSC published its overarching policy statement on regulating high hazard industries – 'Our approach to permissioning regimes'.

## Table 9 Railways

1.30 The operating environment for the railways in 2002/03 was shaped by the need for the railway industry to make the safety improvements recommended in the Southall Inquiry, the Joint Inquiry into Train Protection Systems, and Lord Cullen's two reports on the Ladbroke Grove collision; and to take forward the Commission's own regulatory agenda arising from the recommendations made in these reports. These actions are set in the wider context of the HSC Rail Strategy which was published in 2002. Safety on the railways continued to attract considerable public interest including the attention that was focussed on the establishment of Network Rail as the successor to Railtrack and concerns about the London Underground Limited Public Private Partnership proposals. There was strong political and economic focus on improving the performance of the rail network. Although these were primarily matters for the Government, the Office of the Rail Regulator (ORR) and the Strategic Rail Authority (SRA), HSE worked with other regulators to ensure that account is taken of health and safety implications and possible benefits.

1.31 European influences were also important during 2002/03 and HSE worked with the Department for transport (DfT) in this area. DfT has drafted regulations to implement the High-speed Interoperability Directive. HSE has also played a full part in influencing the development of the proposed European Railway Safety Directive.

1.32 Throughout the HSE Rail Programme there has been extensive consultation with stakeholders, including safety representatives and Trade Unions, to ensure all views are properly considered.

## Plans for 2002/03

## Progress during 2002/03

### Policy and strategic development

The focus of work here will be to change attitudes and improve the safety leadership in the industry - particularly to ensure that pressure to improve performance does not outweigh attention to safety. Key priorities include:

- Working with stakeholders to develop and implement a health and safety strategy for the railway industry which addresses key risks in the industry, recommendations arising from Southall, the Joint Inquiry and the Cullen reports, HSC's priorities, (notably Revitalising Health and Safety and Securing Health Together), and the consequences for health and safety of any industry restructuring.
- Preparing, under HSC's oversight, the legislation needed to implement the health and safety agenda emerging from recent public inquiries etc. This is likely to include new or amended regulations on: safety cases, safety critical work/competence, approval of new railway works and equipment, and automatic train protection systems.
- Ensuring that duty holders maintain health and safety standards in any changed arrangements for managing the London Underground Public Private Partnership.

The HSC Rail Strategy was introduced in summer 2002. It sets out five strategic aims which provide the context for our activities. We plan to review it in 2003.

HSC published *'The use of contractors in the maintenance of the mainline railway infrastructure'* in May 2002.

The Hatfield interim recommendations report was published in September 2002.

HSC published progress reports containing recommendations from the Potters Bar accident in May and June 2002

HSE is working closely with the ORR in their Interim Review of Track Access Charges.

We continue to work with stakeholders to implement Lord Cullen's recommendations on the accreditation of suppliers and the licensing of drivers and signallers. Work on a review of the Railways (Safety Critical Work) Regulations started. We began work to review the approval system for new and altered railway plant, work and equipment, and evaluation of the Railway Safety Case Regulations was commissioned. HSC commissioned independent reviews of industry proposals on the implementation of the European Rail Traffic Management Systems (ERTMS). HSC considered these reviews in producing advice for Ministers on whether the fitment of ERTMS could be delivered to previously accepted timetables.

The London Underground Public Private Partnership (PPP) Railway Safety Case (RSC) was accepted to time and HSE's decision was not challenged. However, the London Underground Public Private Partnership was not completed until 4 April 2003. Work to ensure health and safety standards are maintained will be carried forward to HSE's intervention plans for 2003/04. HSE has forwarded a copy to the Trade Union Safety Representatives, and have held meetings with London Underground and the Unions to discuss progress.

- Building effective relationships with DfT and other regulators, and key stakeholders, including the development of the SRA's Strategic Plan and the franchising process.

- Contributing to the European debate and action on railway health and safety, including 'interoperability' and negotiation of the proposed safety directive.

- Developing European and UK industry standards.

- Providing support to the Railway Industry Advisory Committee (RIAC).

- Introduce measures to replace 'actuals' charging regime with a levy.

- Contribute to the establishment of a rail industry safety body (RISB) and a rail accident investigation body (RAIB).

SRA – we were actively involved in the development of the Strategic Plan, participated in regular formal liaison meetings and had constructive contact at all levels in accordance with the MOU.

ORR – we have been actively involved in the Interim Review of Track Access Charges and two high-level liaison meetings have been held on issues of mutual interest in accordance with the MoU.

DfT- we have begun work with DfT on drafting a new MoU to reflect the changed relationships between HSE and DWP (as HSE's sponsoring Department), and DfT (as the railway industry sponsors).

HSE led on health and safety within the UK negotiating team for the 2nd Rail Package which included directives on rail safety and interoperability and amendments. The 2nd Rail Package reached political agreement in March 2003.

HSE issued a statement in September 2002 on the relationship between the Technical Specifications for Interoperability (TSIs) developed for interoperability, HSWA, Railway Group Standards and HSE's Railway Safety Principles and Guidance. We also participate in the Industry Standards Strategy Group. HSE has also been involved in the development of the Railway Group Standards Code and is a consultee on the Railway Group Standards.

Three RIAC meetings took place in 2002/03 including a successful public meeting attended by 100 people. Two additional public interest representatives have been appointed, a review of RIAC's working groups performed and a programme of work for 2002 onwards has been agreed and placed on the HSE rail website.

Enabling clause included in Railways and Transport Safety Bill.

HSE actively participated in discussions which took place at ORR's 'RISB Development Group', leading to the creation of the Rail Safety and Standards Board (RSSB) on 1 April 2003. We also actively contributed to discussions at DfT's 'RAIB Development Group' and contributed to the drafting of RAIB clauses in the Railway and Transport Safety Bill.

## **Policy and strategic development**

### **Outputs**

- Working with stakeholders to examine the feasibility and scope of new regulations on safety cases, accreditation and licensing, approvals and on train protection.

## **Preventing catastrophic failures and mitigating their consequences**

### **Train Protection**

- Monitoring of industry programmes for fitment of Train Protection and Warning System equipment.
- Reviewing arrangements for the train protection systems generally, including further consideration of the conclusions of the Joint Inquiry into Train Protection Systems and relevant European Directives.

### **Signals passed at danger (SPADs)**

- Investigation of SPAD incidents which have the potential to lead to severe consequences.
- Monitoring industry-wide SPAD mitigation measures.

HSE continues to work with duty holders and Trade Unions to implement Lord Cullen's recommendations on the accreditation of suppliers and the licensing of drivers and signallers. Work on a review of the Railways (Safety Critical Work) Regulations started. Work began to review the approval system for new and altered railway plant, work and equipment, and evaluation of the Railway Safety Case Regulations was commissioned. HSC commissioned independent reviews of industry proposals on the implementation of the European Rail Traffic Management Systems (ERTMS). HSC considered these reviews in producing advice for Ministers on whether the fitment of ERTMS could be delivered to previously accepted timetables.

Industry progress on the fitment of Train Protection and Warning System is largely in-line with the regulatory plan agreed by Her Majesty's Railways Inspectorate (HMRI).

In January 2003 HSC provided advice to the Secretary of State on the options and timetable for the fitment of a European Rail Traffic Management System (ERTMS) in the UK, as recommended by the Cullen/Uff Joint Inquiry Report on Train Protection Systems. HSC's advice was informed by its independent review of the report of April 2002 from the rail industry's ERTMS Programme Team on analysing the technical, economic and societal elements of ERTMS implementation. The Secretary of State accepted HSC's advice and the ERTMS Programme Team's work is being integrated into the National ERTMS Programme for developing ERTMS in the UK. HSE is represented on the National ERTMS Programme Development Group and continues to monitor industry progress towards delivery of the benefits of ERTMS.

During 2002/03 there were 404 Category A SPADs. Of these, 144 were serious, ie falling within the Railway Group's severity category 3 to 8. This means there was a 7.5% improvement overall and a 15% reduction in serious SPADs. 85 incidents were identified for independent investigation of which 66 had been completed at 31 March 2003.

Industry progress in delivering SPAD mitigation measures continues to be monitored through a mixture of regular liaison meetings with Network Rail, attendance at various industry meetings and feedback from SPAD investigations.

- Develop future strategies to tackle SPAD issues.
- Inspection of driver management by train operating companies.
- Inspection of signallers.

#### **Trespass and vandalism**

- Programme of inspections to reduce trespass and vandalism - with emphasis on fencing and the safety of children.

#### **Securing compliance through the Railway Safety Case Regulations 2000**

Take forward a programme for assessing new and revised safety cases and an inspection programme of key issues to check duty holders' compliance with their accepted safety cases; and

For the last three years, HSE has had a detailed strategy for dealing with SPADs issues. This was reviewed twice during the year and updated as necessary to ensure that it remained current.

During the year, inspections of the driver management systems of eight train operators were completed.

During work to assess signaller competence carried out under the Railtrack intervention plan, inspectors considered work-related stress issues and issued improvement notices on safe means of signal access (to prevent fall from heights).

170 inspections contacts were carried out, eight enforcement notices issued for fencing and scrap removal.

HSE has continued to work closely with the British Transport Police (BTP), Network Rail, duty holders and Trade Unions to manage route crime hot spots, including using enforcement action and prosecutions when necessary.

Large amounts of lineside debris cleared from the Network. Still problems in some areas with recontamination and fly tipping.

#### **Other significant activities**

Information Minute (SIM) on Lineside Scrap reissued. SIM on Lineside Security being revised. Significant contribution through articles and talks to support Railtrack debris clearance campaign.

29 safety cases accepted; 64 exemptions issued.

Intervention plans in place for all safety case holders, based on core assessment issues and outcomes from assessments. New guidance published on the Internet dealing with competent body audits, material revisions and the work of Infrastructure Maintenance Companies (IMCs) within possessions.

Safety case guidance amended to reflect removal of railway safety from assessment and auditing of railway operators safety cases. Evaluation of safety case regulatory regime has commenced with stakeholders across the industry and other regulators.

- Evaluate the Safety Case Regulations 2000 and prepare further revisions necessary in the light of Lord Cullen's report.

#### **Ensuring initial integrity (safety by design) of new and altered works**

- HSE will issue approvals to duty holders under the Railways and Other Transport Systems (Approval of Works, Plant and Equipment Regulations) 1994 (ROTS) with the aim of ensuring that duty holders have processes and standards in place for the introduction of new and altered railway works, plant, and equipment that are safe, reduce risks and protect people; and
- a programme of inspection to ensure such works are delivered to required standards. In parallel, work will continue to assess the Approvals system and replace it by the Pan-European system emerging from the EU Interoperability Directives.

#### **Improving safety leadership, skills and general compliance**

Programmes will focus on:

- Trackside safety.

Maintained contact with SRA regarding their franchising replacement programme. Safety Case implications for each franchise have been considered, as requested by SRA. Developing procedures with SRA to support smooth transition through franchise replacement. ORR will be included in the development of the procedures. Consideration is being given to how health and safety opportunities may be maximised at franchise replacement.

Research started in January 2003 to evaluate the impact of the Railways (Safety Case) Regulations. The research will feed into a major review by HSE of the regulations. The review is progressing in dialogue with the railway industry and other stakeholders.

The Railway (Safety Case) Regulations 2000 were amended in April 2003, to facilitate the creation of the RSSB, as part of Lord Cullen's recommendations.

In its administration of the authorisation and approvals systems during 2002/03 HSE issued 307 approvals for bringing into use and issued 327 letters of no objection to concept design proposals and the ROTS legislation and, 52 screening decisions, 14 staged-work decisions and two authorisation under Railways (Interoperability) (High Speed) Regulations.

112 Inspections were carried out of completed work and works in progress. Railways (Interoperability) (High Speed) Regulations came in force during the year. Interim procedures were introduced on time and work continued on the development of quality procedures for both the new regulation and for ROTS.

#### **Other significant activities**

An exemption was granted under Railway Safety Regulations 1994, regulation 4, to allow Mark I rolling stock running south of the Thames to continue to operate. HSE granted this exemption subject to mitigation that TPWS be fitted to all driving cabs of affected trains by 31 March 2003.

Railtrack (Now Network Rail) is the predominant business within the railway industry and HSE has an intervention plan to coordinate and manage its regulation of that company. Under the plan in 2002/03,

- Musculoskeletal disorders, stress, asthma, asbestos, hand arm vibration, falls from height, construction, and slips and trips;

- Investigations of incidents and complaints.

programmes of work were targeted at specific risk areas and HMRI asked inspectors to address action by Railtrack on Cullen recommendations relating to safety leadership.

For trackside safety, HSE underpinned (with an Improvement Notice) Railtrack's delivery of the new company standard for protection of track workers (RIMINI).

The introduction of a new risk minimisation standard for trackside workers (RIMINI) in December 2002. In April 2003, HMRI clarified to the industry what the RIMINI standard required and briefed the Trade Unions on HMRI's position vis a vie RIMINI.

During work to inspect Railtrack's major stations under the intervention plan, inspectors checked that:

- asbestos registers and hazard directories were in place and accurate;
- musculoskeletal disorders were under control through risk assessments;
- asthma was being prevented by intelligent design specification of materials during project management;
- slips and trips were addressed by platform surface design and review; and
- falls from height were subject to enforcement during construction work and interventions emphasised elimination of HAVs at the design stage of projects.

In an inspection initiative on the use of vibrating tools in railway maintenance, inspectors evaluated the adequacy of risk assessments, provision and use of low-vibration tools and their maintenance, health surveillance and user information, instruction and training.

During the year there was an initiative to inspect the management arrangements and controls railway employers have in place to prevent or control the risk of violence towards staff. As a result of this series of visits, inspectors have made several recommendations for improvement. Safety representatives and Trade Unions are consulted as a matter of course by inspectors during visits.

Very significant investigation activities arising from Potters Bar (Major Incident), Southall East and

- Improving the skills base of the industry and attention to safety training

- Improving health and safety for those working on or using the railways through general compliance and by measures to improve the safety culture within the industry.

London Underground Chancery Lane derailments. In 2002/03, HSE read many reports issued by Network Rail (NR) summarising the work of internal inquiry teams investigating incidents like SPADs. The quality varied considerably and root causes were not always identified, so Railtrack (Network Rail) is changing its approach to such investigations. Work to check these systems is planned for 2003/04. Nationally co-ordinated inspections were undertaken immediately after the Potters Bar incident in May and then followed up in November to measure any change in standards there may have been. We have presented the findings to NR and HMRI is continuing to apply pressure to bring about a general improvement in standards of points maintenance.

The competence of staff was a key focus of inspection work under the plan looking at the management of contractors by NR. There was also work on the competence and skills of signallers. Inspection visits during the year have concentrated on ensuring that those with responsibilities for carriage of dangerous goods are competent for the work they have to do and that all parties involved have the necessary information to fulfil their duties properly. HSE continues to support the industry in promoting the development of key skills and competencies of workers in the rail industry. In August 2002, the SRA appointed a Rail Skills Board to ensure delivery of the Framework for Skills and to establish a National Rail Academy.

HSE is monitoring the work by NR to improve this safety culture following a review by Dupont in the wake of the Ladbroke Grove crash. Past national inspections on NR's management of track defects (KIT3 in 2000/01 and MIP2 in 2001/02) identified a wide spread issue of non-compliance with basic track maintenance standards and work continues to try and bring about a general improvement in compliance. The NR intervention plan for 2003/04 includes a nationally coordinated inspection (scope 1.1) targeted on the issue of compliance with track maintenance standards. As well as the frequent contacts between inspectors and Trade Union Safety Representatives at the local level, HSE - also holds high level meetings with the Trade Union General Secretaries during the year, to provide further opportunities for members to raise issues of further concern.

## Table 10 Control of Major Accident Hazards Regulations (COMAH)

1.32 COMAH was introduced on 1 April 1999 and aims to prevent and mitigate major chemical incidents that could harm people and the environment. HSE and the Environment Agency (EA) act jointly as the Competent Authority (CA) in England and Wales and HSE and the Scottish Environment Protection Agency (SEPA) act jointly as the CA in Scotland. HSE has discharged its statutory duties to:

- assess safety reports within a reasonable time and convey their conclusions to operators;
- prohibit operations if there are serious deficiencies in the measures to prevent or mitigate the consequences of a major incident;
- investigate major accidents ensuring appropriate urgent, medium and long term measures are taken and make recommendations for future prevention;
- implement an inspection programme for all COMAH establishments;
- provide advice on land use planning in respect of risks from major accidents; and
- notify the EC of Major Accidents.

### Key programmes of work for 2002/03

### Progress during 2002/03

#### Regulating top tier sites

There are currently 357 top tier sites and 717 lower tier sites. More establishments have been brought into scope with the full application of COMAH to explosives and the extension of classification requirements to a wider range of substances as a result of changes to the Chemical (Hazard Information and Packaging for Supply) Regulations. New entrants safety reports are due in February 2002. The changed requirements for chemical hazard classification and labelling will take effect summer 2002 and safety reports for top tier sites will be due April 2003. HSE's intervention programmes have been developed in liaison/consultation with relevant stakeholders, including Trade Unions and Trade Associations (mainly through the Chemical and Downstream Oil Industries Forum (CDOIF)).

Working with the constituent parts of the Competent Authority (CA) HSE will:

- assess safety reports for 173 top tier COMAH sites;
- review the use of major accident protection policies for lower tier sites;
- review site emergency plans as a priority during inspections;

86 full safety report assessments and 22-part safety report assessments processed. The high rate of early-screening failures has led to a high number of safety reports being returned to industry. The low re-submission rate has affected the assessment progress.

Lower tier sites are a second order priority, with efforts being concentrated on assessment and verification of safety reports and inspections of top tier sites. 331 visits were paid to lower tier sites at which assessment of major accident protection policies will have formed part of the inspection.

Guidance has been developed on the assessment of emergency plans and a pilot was run asking inspectors to use this guidance for assessment. In addition, two training courses on emergency planning were run for inspectors.

- conduct 800 verification Inspections to reconcile claims made in safety reports with the conditions on site.

### **Occupied buildings**

HSE will continue its programme to encourage improvements in the siting and design of occupied buildings on major hazard sites to:

- ensure workers are not placed at greater risk through occupying buildings on site, and safeguard plant shut down in the event of an emergency;
- on explosive sites, develop and implement standards for the design and location of occupied buildings within safe separation distances; and
- implement the third year of a five year inspection programme to assess the design and location of occupied buildings at approximately 450 sites across Great Britain to ensure compliance with the chemical industry's Association Guidance - 100 sites will be inspected in 2002/03.

Because of the difficulties encountered with the information contained in the safety reports, only a limited number of verification inspections were carried out in 2002/2003. 673 visits were paid to top tier sites and verification of safety report information will have formed part of some of these inspections.

A five year project is underway with the aim of ensuring that operators at all top tier major hazard establishments have assessed the risks to people in occupied buildings, including control rooms. Operators will have identified the measures necessary to reduce those risks to as low as reasonably practicable, and where necessary, have agreed an action plan with HSE to remedy any shortcomings. HSE renewed and revised the project to clarify the guidance, milestones and outcome measures. Revised guidance and recording templates have been issued.

In 2002/03, copies of risk assessments were requested from the relevant companies. The intention was to analyse and utilise the information to help establish and set benchmark standards for the construction, design and location of remote manufacturing facilities with associated control rooms. The risk assessments received failed to adequately address the occupied buildings issue. As a result, draft guidance was prepared and put out to the explosives industry for comment, and to seek representation to help set and agree appropriate standards for the design and location of occupied buildings in respect to remote manufacturing facilities on licensed explosives sites. 2003/2004 is the final year for this part of the project. The standards agreed and set down in the finalised guidance for the explosives sector will be published following consultation with the explosives industry.

Work has continued on this five-year project, but due to delays in the assessment of safety reports, it was appropriate to undertake a fundamental review of the project. This review was completed during 2002/2003 and revised guidance was issued to take the project forward. By the end of 2002/03 62 sites had been assessed.

### Remote operations

At licensed explosives sites HSE will:

- carry out a survey of all buildings to identify those to be targeted;
- require site licensees to provide a risk assessment within an agreed time;
- agree a programme of improvements for industry setting standards and developing an assessment model to aid this; and
- publish guidance on standards of construction, distances and mitigatory features.

### Plant integrity

- HSE will implement a programme targeting plant integrity to reduce the unintentional release of substances that have major accident potential.

A survey was carried out in 2001/2002 at sites having buildings falling within the occupied buildings criteria, as defined in initial guidance issued to the explosives industry. Following completion of the survey, sites were identified for requesting submission of copies of their risk assessments.

Requests for submission of copies of risk assessments from site licensees having buildings that meet the criteria was completed in 2002. Most responses were received by the end of 2002.

Following on from the publishing of guidance referred to above the industry will be consulted over agreeing a programme of improvements requiring occupiers to be brought up to the standards set down within the guidance. Compliance against these standards will be monitored by a programme of site visits, with enforcement action taken as appropriate.

Draft guidance was prepared during 2002/2003 and circulated to representatives of the explosives industry for comment.

A pilot project to assess plant integrity at oil refineries, focusing on pipe work integrity, began in 2002/2003. All refineries will have been covered by August 2003. The project is being extended to other major hazard sites in 2003/2004, with guidance on targeting being developed, based on intelligence gleaned from an HSL research project on loss of containment.

## Table 11 Offshore

HSE ensures that risks to people who work offshore in the upstream petroleum industry and in the whole of the diving industry, both offshore and inland, are properly controlled. It does this through a programme of inspection, assessment, investigation, enforcement, advice and education.

### Key programmes of work 2002/03

#### Management of offshore process integrity

HSE will implement the third year of a four-year programme to reduce hydrocarbon escapes through improved process integrity. This is a combined programme of process inspections and investigation of reportable releases.

Analysis of the reports received as part of the investigation project has been completed and the results issued as an Offshore Technical Report.

### Progress during 2002/03

Good progress and co-operation from industry:

- process inspections not completed will continue in 2003/4;
- results from the programme have identified the worst performing installations for focused inspection in 2003/4;
- good practice guidance has been prepared and issued on two related subjects.

### **Floating production, storage and offtake installations operations (FPSO)**

Loss of station keeping events represent one of the main initiating factors leading to hydrocarbon releases and currently stand at 7 per shuttle tanker per year.

HSE will:

- conduct a programme of specialist inspections to encourage a reduction in loss of station keeping events; and
- in partnership with industry publish guidelines to assist compliance.

### **Incorporating health and safety in design**

HSE will continue with the second year of a four year programme focused on the design stages of major offshore projects through:

- intervention, in the safety case assessment process at the design and construction stage; and

- inspection of major new design, construction and modification projects.

### **Other work**

HSE will also:

- Assess offshore installation safety cases.

- Presentations and workgroups continued including annual feedback to industry and Trade Unions on progress.

The original technical report has been issued and further results will be analysed to identify any new problem areas in 2003/4.

The specialist inspections will take place during 2003/4. During 2002/03, industry was given the opportunity to adopt the guidelines (see row following) before inspection against them took place.

The guidelines published by the main industry body UKOOA was issued during the year and is accepted as the industry standard against which inspections will be conducted.

The ongoing programme will seek improvement by:

- establishing agreed policy and practice for HSE intervention in design;
- producing guidance on design/safety management;
- introducing a register of key performance indicators;
- inspecting major new design, construction and modification projects; and
- strengthening arrangements with DTI.

Relevant outputs achieved include: publication of HSE policy and guidance on ALARP in design, guidance note to inspectors on design management and the delivery of a capability and maturity methodology for design management.

Ongoing, but the programme has identified that further effort is required on the inspection of such projects.

153 cases were assessed in 2002/3.

<ul style="list-style-type: none"> <li>● Carry out 403 inspections of offshore installations and related activities (including diving and well operations).</li> <li>● Carry out inspection of offshore installations and related activities to assess compliance with the safety case.</li> <li>● Investigate a target of 502 incidents and complaints relating to offshore installations and related activities.</li> <li>● Amend the Offshore Installations and Pipeline Works (Management and Administration) Regulations 1995 to take account of technological developments.</li> <li>● Work with other Government bodies, in particular DTI, in handling decommissioning of installations.</li> <li>● Negotiate and liaise with EU and other international bodies to maintain international standards.</li> </ul>	<p>There were 359 offshore installation visits (which includes visits for investigation purposes). Increased work on safety case assessment accounts for the shortfall.</p> <p>Safety case verification work is included in the above total for installation visits; some 334 staff days were identified as having been spent on specific safety case follow up issues.</p> <p>596 incidents and complaints were investigated.</p> <p>Achieved, revised regulations were issued in October 2002.</p> <p>Ongoing work.</p> <p>Ongoing work.</p>
---	--

## Table 12 Gas Conveyance and on shore major hazard pipelines

The Gas Safety (Management) Regulations’ (GSMR) aim, by a safety case permissioning regime, is to ensure that the risks arising from conveying gas are adequately controlled. These include the conveyor’s arrangements for preventing a supply ‘emergency’, maintaining the gas transmission and distribution network, dealing with and investigating gas escapes and gas quality. HSE assess the safety of major hazard pipelines by examining their design and integrity under the Pipeline Safety Regulations.

### Key programmes of work 2002/03

### Progress during 2002/03

<p><b>Managing the Gas Distribution Network</b></p> <ul style="list-style-type: none"> <li>● Currently there are approximately 600 major gas leaks per year from the mains distribution network. In 2000/02 this led to 4 fatal incidents. To address this Transco have established a programme of mains replacement. In the short term priority is being given to replacement of at risk medium pressure ductile iron pipes (that is all those within 30m of dwellings). This work will be completed by the end of December 2002 and will involve the renewal of some 2300kms of pipes.</li> </ul>	<p>Further work revealed there was 2898kms medium pressure ductile iron pipe of which the majority had been replaced by December 2002. Transco was given an extension to April 2003 to replace the remaining 11.38km and this was achieved.</p>
---	---

<ul style="list-style-type: none"> <li>● Over a longer term Transco have 30-year programme to replace at risk low-pressure cast iron mains involving 91 000km of pipes.</li> <li>● Proposals will also be made to amend the Pipelines Safety Regulations 1996 (PSR), in support of the mains replacement programme and to provide a defense in the event of incidents occurring where Transco did not know or could be reasonably expected to know the condition of a particular pipeline. A Consultation Document (CD) is planned for the early part of this year with amended regulations coming into force in June 2003.</li> </ul> <p><b>Major hazard pipelines</b></p> <ul style="list-style-type: none"> <li>● HSE assesses the safety of major hazard pipelines by examining the operator’s arrangements for securing initial and continuing integrity under the Pipeline Safety Regulations. The aim is the prevention of major accidents associated with major accident hazard pipelines.</li> </ul>	<p>Transco are starting to ramp up the replacement of low-pressure cast iron mains.</p> <p>A CD was produced and amended regulations were agreed by HSC in January 2003.</p> <p>No major incidents associated with a pipeline occurred in 2002/2003.</p>
---	--

## Table 13 Mining

HSE has an on-going commitment to ensure health and safety in mining and associated activities. Failure to do so can result in high consequence incidents.

### Inspection and investigation

Planned inspections and investigations of incidents will be the main means of securing compliance. Activity will focus on those areas where hazards affect a large number of people such as ventilation systems and dust control, explosion protection, support and ground control, shafts and winding, and man riding systems. Inspections will also be directed at early indicators of system deficiencies such as non-RIDDOR notifications of adverse methane or dust levels with the aim of driving down the number of such occurrences.

<ul style="list-style-type: none"> <li>● HSE will undertake a programme of 1100 regulatory contacts at mines.</li> <li>● As part of these HSE will undertake a programme of 400 planned inspections at coal mines, which includes investigation into the effectiveness of the control of risks from explosive dusts and gases.</li> <li>● All reportable fire or ignition incidents will be investigated.</li> </ul>	<p>Mines inspectors made 1039 regulatory contacts at mines.</p> <p>Mines inspectors undertook 410 preventative inspections at coal mines.</p> <p>All fire and ignition incidents, a total of 13, were investigated.</p>
--	---

- A Consultative Document bringing forward proposals for new regulations on the control of respirable dust in mines will be published.

Problems with the selection of an accurate and robust personal dust detection instrument have led to a delay in the issue of the Consultative Document on inhalable dust. However it appears that these problems are now resolved and the CD should be issued during 2003.

**Other significant activities**

In the mining sector there has been a review of safety at the face of large headings which has involved Trade Union representatives, safety representatives, contractors and employers at coal mines. Members of the review team visited underground workplaces to see the work at first hand and discuss emerging ideas with workers. As a result changes are being made to the way large drivages are planned and one manufacturer has developed improved work platforms which are being trialled underground. A report on the first stage is being prepared.

Table 14 Nuclear

HSE is responsible for regulation, through licensing, of the nuclear industry to ensure protection of the public and workers. The nuclear industry continues to present fresh challenges to effective regulation, particularly through the ageing of plant, the shift towards decommissioning and waste management programmes, the impact of electricity market reforms, and HSE’s increasing responsibilities relating to Ministry of Defence (MOD) sites.

**Plans for 2002/03**

**Progress during 2002/03**

- Under the nuclear licensing regime, inspectors will continue to inspect all 40 licensed nuclear sites in Great Britain to monitor compliance with the 36 nuclear licence conditions and assessment of the safety cases for these sites.
- Regulate British Energy’s (BE) activities to ensure safe operation of its power stations.
- Regulate the construction and commissioning of the nuclear submarine facilities at Devonport to facilitate UK’s strategic defence capability, in parallel with MOD’s plans.
- Agree criteria to allow permissioning to commence on the delicensing of all, or part, of Rosyth Dockyard by March 2004.

Inspectors have inspected all licensed sites to programmes within HSE’s Integrated Enforcement Strategy (a rolling three year programme to monitor compliance with all 36 licence conditions).

HSE has successfully regulated all BE’s nuclear power stations. Safe operation has been maintained, with no serious incidents or accidents.

Final clearance for HMS Vanguard to refit and refuel was given on 28 February 2003. Discussions in progress on a Staged Improvement Plan for the remaining upgrades to existing dock facilities.

Rosyth’s Site Monitoring Protocol has now been accepted opening the way for survey work to begin, in preparation for delicensing.

- Deal with issues concerning decommissioning and radioactive waste management, including the Quinquennial Reviews (QQR) of licensees' decommissioning strategies.
- Contribute to the development of the Department of Trade and Industry's (DTI) Nuclear Decommissioning Authority) White Paper and maintain dialogue with DTI and Other Government Departments to ensure smooth change over following creation of the statutory NDA.
- Continue to develop arrangements for cooperative working between HSE and DTI's Office for Civil Nuclear Security (OCNS) (the security regulator) to minimise safety and security risks so far as is reasonably practicable.
- Undertake 37 periodic safety reviews at nuclear chemical plants (over three years (2001 - 2004).
- Carry out an agreed programme of UK nuclear emergency exercises.
- Close out findings of team inspections into Sellafield control and supervision by 31 March 2003.
- Complete assessment of the Pre-construction Safety Report (PcSR) for the Dounreay Sodium and Potassium Disposal Plant by 31 December 2002.
- Implement a refined inspection programme to improve targeting of inspector resources and give indication of individual licensee performance from 1 April 2002.

Development of a holistic approach to radioactive waste management at Sellafield has been a key issue. Significant progress has been made with legacy and contaminated land management proposals drawn up. The first cycle of QQRs is largely complete. Progress has been made with BE responses to the 2001 QQR Report. Completion of this work continues to be monitored. AWE QQR work completed and a draft public report is nearing completion.

HSE contributed directly to the Government White Paper published July 2002. More recently we have been consulted extensively and have contributed towards the instructions submitted to Council March 2003 for the drafting of the Nuclear Reform Bill and the drafting of a Memorandum of Understanding between the proposed NDA and HSE.

Working level dialogue has been established at sites. Co-operative projects established on key issues Bi-ennial Review meeting programme established – first meeting held November 2002. Technical support is being provided at specific nuclear sites.

Ten PSRs completed in 2001/02 and eight (provisional) in 2002/03.

All nuclear emergency exercises including annual testing of on-site arrangements at each nuclear licensed site and the planned off-site arrangements around those sites which are carried out on the rolling national three-year programme, have been successfully completed.

All but two of the 28 recommendations have now been closed out. The remaining two (recommendations 12 and 24) will be carried forward into the start of the next reporting period.

The PcSR for the Sodium Disposal Plant has been assessed and the plant is now operational. The PcSR for the Sodium/Potassium plant is being revised by the licensee following HSE comment.

The draft structure and format for the IES Regulatory Review Process was completed within programme. The process was used October – November 2002 for the 2002/03 reviews and found to be effective.

- Review and assess ten Hazard Identification and Risk evaluations submitted under Radiation Emergency Preparedness and Public Information Regulations 2001 (REPPPIR) for Nuclear Submarine systems and facilities.
- Develop improved arrangements for effective working between HSE and EA/Scottish Environment Protection Agency (SEPA) in regulating nuclear licensees.
- Consider actions needed to ensure adequate nuclear safety education and contribute to the work of the DTI-led national working group that aims to identify gaps in nuclear related skills.
- Continue to support international nuclear safety initiatives primarily through the development of standards through the International Atomic Energy Agency (IAEA), assistance to the countries of Central and Eastern Europe and bilateral contacts with the United States of America and France.
- Continue to deliver, in conjunction with nuclear operators, an agreed programme of nuclear safety research.
- Work with others and seek advice from the Nuclear Safety Advisory Committee, as necessary, on the implications for the effective working of the nuclear licensing regime of ageing of plant, the shift towards decommissioning and waste management programmes, the impact of electricity market reforms, and HSE's increasing responsibilities relating to Ministry of Defence (MoD) sites.

AWE and RRMPOLE REPPPIR Hazard Identification and Risk Evaluations were assessed and local authorities notified of their duty to produce off site emergency plans. The MoD site assessments were not pursued because of higher priority work.

Work continues to improve the working relationship between HSE and EA on nuclear sites. A joint document 'Working Together on Nuclear Sites' has been produced after consultation with key stakeholders and work is in progress on new ways of working on regulation of radioactive waste that better serve the interests of all parties.

As a member of DTI's Nuclear Skills Group, HSE has contributed to a report on skills shortages which makes recommendations to Ministers. HSE continues to play an important role by making presentations at conferences and seminars and is working actively with licensees, universities and training providers to develop solutions to the problems.

HSE has played a key part in developing nuclear regulatory regimes in Russia, Ukraine, Bulgaria, Slovakia and Lithuania. Feedback on the assistance provided has been very positive. Key international programmes operated by IAEA, Organisation for Economic Co-operation and Development (OECD) and WENRA focussed on Inspection Practices, Performance Indicators and Regulatory Effectiveness have been supported. Bilateral exchanges with US and French regulators have also continued.

A co-ordinated programme of nuclear safety research was agreed with the nuclear power plant licensees and approved by HSC. The programme valued at approximately £7million was developed to address HSE's nuclear safety research issues and was commissioned by HSE through the Levy Programme and by the licensees through the Industry Management Committee.

HSE's Nuclear Safety Directorate (NSD) was restructured in November 2002 to provide a greater focus on reactor decommissioning, nuclear chemical plant site remediation and managing the legacy of radioactive waste from the last 50 years. Close links have been achieved with the MoD in relation to the regulation of the Defence related sites. The nuclear licensing regime is being applied at AWE to new,

- NSD will develop a Strategic Plan, which will include a number of measures designed to gauge its success in delivering its strategic goals and its overall aim. This Plan will be made available on HSE's website.

operational, and decommissioning facilities and is bringing about improvements in safety standards.

The NSD Strategic Plan 2003-2006 is available on the NSD website.

Table 15 Selected outputs for major hazards

	2000/01 outturn	2002/03 plan	2002/03 outturn
<b>Railways</b> 'new' and revised safety cases	132	218	44*
<b>Offshore</b> assessment of safety cases	232	124	153
<b>Offshore</b> Wells Notifications		500 (Note: this is reactive work)	408
<b>Onshore (chemicals, gas, explosives)</b> assessment of safety cases	28	90	108
<b>Nuclear</b> nuclear licence actions	218	380	240**

*\*The number of safety cases processed is below the expected profile. This is because it has been necessary to return many cases to duty holders for further action and these will be carried over into 2003/04.*

*\*\* This is a measure of activity levels rather than an achievement against target as it is largely dependent on external events. The planned figure is an average of the actual number of formal actions under licence issued over the previous three years outturn.*