

# WORK IN MAJOR HAZARD INDUSTRIES

## Introduction

1.27 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.

1.28 In September 2000 HSE published a discussion document (DD) on regulating higher hazards. This explored the issues and principles underlying the legislative framework for hazards as exemplified by the offshore, chemicals, rail and nuclear regimes. The DD had the objective of increasing transparency, stimulating discussion and seeking views on the approaches adopted. In light of the views submitted, HSC reaffirmed the importance of clarity in its approach and has decided to develop the ideas further and publish a statement of principles relating to regulation of higher hazards by use of 'permissioning' regimes (ie those involving licensing, safety cases etc) during 2002/03.

1.29 Progress with published plans during 2001/02 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 Hazards Regulations (COMAH), explosives and the mining, offshore and nuclear industries.

## Table 9 Railways

In 2001/02, work to secure improved standards of health and safety on the railways was driven by a major review of working methods and by operational work targeted at the prevention of catastrophic failures and the improvement of compliance. The reports of the two public inquiries established by the HSC following the Ladbroke Grove disaster in October 1999 were published during the year and established a broad agenda for change (the Ladbroke Grove Rail Inquiry, which looked at the immediate factors surrounding the disaster and wider safety management issues within the industry, and the Joint Inquiry into train protection systems).

Four particular themes driving HSE's work in 2001/02 were:

- prevention of catastrophic failures;
- improving health and safety of those working on or using the railways;
- policy and strategic development work; and
- changing attitudes: improving the safety culture in the industry.

Further information can be found in HSE's Railway Safety Report 2001/02 due for publication towards the end of the year.

### **Prevention of catastrophic failures**

The prevention of catastrophic failures has formed a large part of the preventative planned inspection programme in 2001/02. In January 2002 a report of findings of an inspection into the driver management process of 13 train operating companies (TOCs) was published.

## Plans for 2001/02

### Train protection strategy

HSE will take forward the train protection strategy by:

- monitoring the industry programmes for fitment of Train Protection and Warning System (TPWS) equipment;
- developing a major industry/HSE working group to review arrangements for the train protection systems generally, including the impact of the conclusions of the Joint Inquiry into Train Protection Systems and relevant European Directives.

## Progress during 2001/02

HSE continues to give very high priority to ensuring that industry delivers fitment of the TPWS to the programme agreed under the Railway Safety Regulations (1999). Progress throughout the year, both on track and train fitments, has been significant and by end of year the industry is broadly on programme and delivering fitments at the highest rate that the programme requires. Around 60% of the track fitment programme is complete and around 60% of passenger trains are now fitted with TPWS. Evidence is building of a significant contribution to railway safety. HSE has also endorsed Railtrack's proposals for fitting TPWS+ to the network, which will provide greater protection for trains running at up to 100 mph.

In response to the Uff/Cullen Inquiry Report, industry has formed a Programme Board to develop a national implementation strategy and plan for fitment of the European Rail Traffic Management System (ERTMS). The outcome of this work was reported to HSC in April 2002. HSE has an observer role on the Programme Board and has played a full part in encouraging the Programme Board to deliver a robust and quality analysis to HSC.

HSE's work in independently investigating Signals Passed at Danger (SPADs), with the potential for serious consequences, continues, as does the publication of monthly reports.

In January 2002 HSE published two reports dealing with multiple-SPAD issues and one on the review of driver management within TOCs.

HSE also published a SPAD enforcement policy, setting out the circumstances in which inspectors will take enforcement action to secure improvements



- to develop new field procedures for assessment and acceptance and for planning subsequent interventions;
- to consider audit reports from Railway Safety (a Railtrack subsidiary company who will be required to submit assessment of railways safety cases to HSE), and consider enforcement action to secure compliance where necessary.

#### **Initial integrity (safe by design) of new and altered works**

HSE:

- has a statutory responsibility to approve new and modified works before they are brought into use through the Railways and Other Transport Systems (Approval of Works, Plant and Equipment) Regulations 1994 (ROTS). HSE's technical assessment of proposed schemes and the subsequent interaction with the scheme proposer provides a level of assurance that the proposed design will minimise the potential for major hazards as well as other health and safety risks;
- will review the future of this work in the light of the HSC's discussion exercise on permissioning regimes and the introduction of legislation implementing European Directives.

HSE accepted 39 new safety cases (78% of profile) and exempted 93 (93% of profile).

HSE developed and published its new field procedures for assessment, development and intervention planning in October 2000. With the involvement of representatives from the railway industry, HSE then reviewed the Railway Safety Case Manual in the last quarter of 2001 and republished it on the HSE website. HSE then ran industry seminars to explain the requirements of the new Regulations and retrained all its inspectors in the new procedures.

Railway Safety has delivered regular audit reports to HSE through the year, which HSE has found a useful source of intelligence.

HSE is currently considering options for amending provisions for annual railway safety case audits (anticipated winter 2002/03) to take account of the creation of the Railway Industry Safety Board (RISB).

In its administration of the approvals system during 2001/02 HSE issued 402 approvals for bringing works into use and issued 316 letters of no objection to concept or design proposals.

Following comments received in HSC's consultation exercise on permissioning regimes, HSE has now decided that work on the review of ROTs will be taken forward during 2002/03 as part

of HSE's evaluation of the railway safety case regime. Some areas of HSE approval will fall within the requirements of the Regulations introduced to implement the Highspeed Interoperability Directive in May 2002.

### **Improving the health and safety of those working on or using the railways**

HSE will implement a risk-based inspection programme to monitor compliance with health and safety legislation, based on information received through the new safety case regime. The objectives will include reductions in incidents, injuries (to passengers, workers and other members of the public) and to promote best practice. The programme will include:

- a joint industry campaign to prevent trespass and vandalism including further development of the poster, video and school visit campaign begun in 1999, and co-ordinated by the HSC's Railway Industry Advisory Committee (RIAC);
- monitoring arrangements for maintaining the infrastructure, including track, signalling, embankments, tunnels and structures;

Work on trespass and vandalism has continued at a high level throughout the year and includes work with schools, British Transport Police and Local Education Authorities as well as Railtrack and TOCs to tackle the significant risks posed by such behaviour. During the year this work has been strengthened by the appointment of Railway Inspectorate contact officers (RICOs). Firm enforcement action included the case of the death of a 12 year old following which English, Welsh and Scottish Railways (EWS) and Railtrack were prosecuted and fined £120 000 for failing to provide adequate fencing.

HSE drafted papers on track maintenance strategy and rail maintenance strategy which are still being revised.

HSE inspectors continued to support the British Transport Police (BTP) investigation of the Hatfield accident. Inspectors also visited Railtrack zones' head offices and infrastructure maintenance contractors (IMCs) to ensure they are meeting existing standards for track inspection and maintenance. HSE consulted closely with Railtrack to achieve necessary compliance with industry standards, taking formal enforcement action where appropriate.

HSE programme addressed the maximisation of green zone working and safe working systems in red zone and red zone prohibited areas.

- on London Underground, inspect the arrangements for ensuring passenger safety at the platform/train interface.

HSE also took action to require the implementation of a new industry-wide standard for track worker safety, reducing risks to such workers. It issued an improvement notice to enforce the implementation of the first key stage of this standard.

HSE produced a position paper reviewing statistics and current initiatives on:

- passenger use of stairs and escalators, falls from platforms onto lines and strikes from trains;
- staff falls from heights, from railway vehicles and from the same level. Further workstreams based on this paper will follow in 2002/03.

### Policy and strategic development

Major reports setting out a range of fundamental recommendations have been, or are in the process of being, prepared and published, and the HSC will be taking forward action, in conjunction with Government, the other railway regulatory bodies and the industry. HSE supported the delivery of three major reports into railway safety arising from public inquiries established by the HSC under section 14(2)(b) HSW Act (the Joint Inquiry into Train Protection, The Ladbroke Grove Rail Inquiry Parts 1 and 2). During 2001/02 HSE will

- monitor implementation of recommendations from Professor Uff's report on the Southall train incident;
- receive Lord Cullen's two reports on the Ladbroke Grove accident and safety management in the industry and the Joint Inquiry into Train Protection Systems, study, assimilate their recommendations and develop plans (including the development of a database of all accident inquiry recommendations to monitor progress) to take them forward; and

HSE has developed action plans with industry and published progress reports on each enquiry. The final report on progress on the Southall Inquiry was published in spring 2002. Progress on the few Southall recommendations where work continues will be reported on in a single report covering all railway public enquiries.

HSE has been actively involved in the development of proposals for the new industry bodies recommended by Lord Cullen - the Railway Accident Investigation Body and the Railway Industry Safety Body. HSE:

- modified its approvals database (CRISP1) to enable it to be used as a basic recommendation tracking database;
- has produced half-yearly status reports on Uff and Cullen recommendations;

- HSC will review the operation of its advisory committees and will consider ways of enhancing the operation of RIAC, which is the most broadly representative body within the rail industry involving operators, unions and passenger representatives.

#### **Changing attitudes: improving the safety culture**

Developing the competence of those working within the railway industry is a key challenge for the next few years. The HSE will work closely with the Strategic Rail Authority (SRA), Department for Education and Skills (DfES), the Railway Industry Training Council (RITC) and industry stakeholders to help develop appropriate plans and schemes of competency assessment. HSE will also review the operation of the Railways (Safety Critical Work) Regulations 1994.

- contracted with consultants Amey Vectra to develop a systematic recommendation management and tracking system;
- worked to gain agreement and implement the new system. Amey Vectra has so far produced eight reports on various aspects of the recommendation management and tracking process, business area implications and drafting, verification and validation techniques. Implementation is now being taken forward.

In response to recommendations by Lord Cullen the terms of reference of RIAC have been amended to increase the number of passenger representatives and to make the committee more strategic in its outlook. Margaret Burns, a member of HSC has been appointed as Chair of RIAC.

HSE, SRA and DfES, DTLR, RITC and Railway Safety (among others) actively participated in the working group that formulated the Framework for Skills Programme (designed to push those skills the railway industry needs for safety, performance and future growth further up the industry's agenda) and in the programme itself.

The review of the Safety Critical Work Regulations has begun and will continue during 2002/03.

HSE took part in a RITC conference on developing and maintaining skills and competences in general in the railway industry. Further conferences are planned in 2002/03.

HSE inspectors and RICOs visited railway companies carrying out safety critical work to assess how well they were complying with the 1994 Regulations. Information gained showed failures to take account of human factors, competence and fitness issues when undertaking safety work.

## Table 10 Gas conveyance and on shore major hazard pipelines

Plans for 2001/02	Progress during 2001/02
<p>The Gas Safety (Management) Regulations 1996 (GSMR) aim, by a safety case permissioning regime, to ensure the integrity of the gas distribution network and that emergency arrangements are in place to deal with a major gas leak. HSE assesses the safety of major hazard pipelines by examining their design and integrity under the Pipeline Safety Regulations.</p>	<p>Work includes the assessment of safety cases and verification inspections.</p> <p>14 GSMR safety cases were assessed (out of a planned nine). The high number of safety cases affected the number of GSMR chargeable inspections: six were carried out against a planned 18.</p>

## Table 11 Control of Major Accident Hazards Regulations (COMAH)

Plans for 2001/02	Progress during 2001/02
<p>COMAH was introduced on 1 April 1999 and aims to prevent and mitigate major chemical accidents, which could harm people and the environment. The HSE and the Environment Agency (EA) in England and Wales and HSE and the Scottish Environmental Protection Agency (SEPA) in Scotland enforce COMAH. In both cases HSE and the EA or HSE and SEPA act jointly as the competent authority (CA). The CA has a statutory duty to:</p> <ul style="list-style-type: none"> <li>● assess safety reports within a set time and convey their conclusions to operators;</li> <li>● prohibit operations if there are serious deficiencies in the measures to prevent or mitigate the consequences of a major incident;</li> <li>● investigate major accidents; and</li> <li>● set up an inspection programme for all COMAH establishments.</li> </ul> <p>Since 1990 there have been 50 major accidents at establishments covered by COMAH. Of these, six involved death or serious injuries to workers, 14 less serious injuries to employees, and four injuries to people off-site. This number is expected to rise because of the extended scope of COMAH and the inclusion of accidents to the environment. The occurrence of near miss serious incidents is much higher and it is largely a matter of chance whether they result in injury.</p> <p><b>COMAH</b></p> <p>In 2001, there were approximately 450 top tier sites and 1200 lower tier sites; currently there are approximately 357 and 717 respectively. The priority for the next three years is to:</p>	
<ul style="list-style-type: none"> <li>● assess safety reports for top tier COMAH sites;</li> </ul>	<p>14 safety report assessments were completed against a plan of 268. A large number were rejected due to a lack of required information.</p>

- review major accident protection policies for lower tier sites;
- review site emergency plans;
- review land use planning policy and procedures for LA consultation about developments around major hazard sites; and
- verify inspections to reconcile claims made in safety reports with conditions on site.

Lower tier sites are currently less of a priority and greater efforts are being diverted to complete safety reports and carry out top tier inspection.

Guidance has been developed on the assessment of emergency plans and a pilot is being run asking inspectors to use this guidance for assessment.

A scoping paper has been produced for discussion.

Because of the difficulties encountered with the information contained in the safety reports, only a small amount of verification inspections have been carried out this year.

### **Occupied buildings**

A programme will be carried out to improve the siting and design of occupied buildings on major hazard sites to ensure that workers are not placed at any greater risk from site hazards because of having to occupy buildings on site, to safeguard plant shut down in the event of an emergency and, on explosive sites, to develop and implement standards for the design and location of occupied buildings within safe separation distances.

### **Chemical sites**

We will assess the design and location of occupied buildings at approximately 300 top tier COMAH establishments for compliance with the Chemical Industries Association guidance.

A fundamental review of this project is being undertaken. Progress on safety report assessment is required to establish progress to date.

### **Explosives sites**

At licensed explosives sites, distances between process and storage buildings in explosives factories are set out in a license. But there are many instances of 'remote' operation when workers are located in, for example, an annex or compartment within the license distance. There are no standards for the construction and location of such places and there have been explosions resulting in injuries to workers.

11 of the 15 sites identified as falling within the occupied buildings criteria have been visited. Preliminary discussions have taken place within HSE regarding information collected, with a view to taking forward the assessment, collation and evaluation phase of the project.

In consultation with the Explosives Industries Forum, we will carry out a survey of all buildings

to identify those to be targeted. Site licensees will be required to provide a risk assessment within an agreed time. Standards will be set and a model for assessment developed, a programme of improvements will be agreed with industry, and guidance on standards of construction, distances and mitigatory features will be produced.

## Table 12 Mining industry

### Plans for 2001/02

### Progress during 2001/02

Mining legislation requires an ongoing commitment by HSE to ensure health and safety in mining and associated activities. Failure to properly control the coalmine environment can result in high consequence incidents. This is a key area of the management of risk in mines.

During 2001/02 HSE will undertake:

- a programme of 400 planned inspections at large coalmines which includes investigation into the effectiveness of the control of risks from explosive dusts and gases. All reportable fire or ignition incidents will be investigated;
- assessment of musculoskeletal disorders (MSD) (under the priority programme); and
- control of respirable dust to prevent pneumoconiosis.

There were no high consequence events.

478 inspections were undertaken.

All reportable fires and ignitions were investigated.

49 Coal and Other Mines (Ventilation) Regulations 8(2) notices were investigated. The number of notices increased from 146 to 184, due in part to severe barometric fluctuations in early 2002. Work is ongoing at several mines to identify sources and reduce the impact of intake contamination.

Investigation of selected notices has continued.

Rising trends in incidents of hand arm vibrations (HAVs) has meant a re-prioritisation of work and targets on MSDs will be carried forward to 2002/03. However one audit was completed.

All adverse dust notifications were investigated. Inspectors have investigated instances where dust levels have been at less than the notifiable level but were, nevertheless, elevated. This will continue and has raised awareness of dust control issues at mines. The number of notices increased from 5 to 6

which, on these low numbers, is not statistically significant. Encouragingly, there were no notifications in the final quarter of the year.

Control of respirable dust discussed with all stakeholders at MI's employer/employee health and safety meetings and with individual unions. Trials have begun at some large coalmines with a novel form of micro-droplet spray in an attempt to reduce intake contamination.

**Other significant activities**

Assessment of exposure to diesel vehicle exhaust fumes in mines: A prototype instrument, which can measure diesel particulates in coalmines, has been developed. Work has continued as part of the planned inspection programme. Trial with use of biodiesel was curtailed by mine closure.

## Table 13 Offshore industry

### Plans for 2001/02

### Progress during 2001/02

#### Management of offshore process integrity

A three-year programme to give greater emphasis to process integrity in order to reduce hydrocarbon release numbers. This is a combined programme of process inspections, investigation of reportable releases and a campaign to raise awareness of the issue with dutyholders.

Analysis of the results from the 2000/01 release investigation project: report detailing the results from the analysis, including root causes to be published in 2001/02.

Targeted 10 part inspection plan for all normally attended production platforms.

Raising awareness.

A report was issued at the Offshore European Conference in September 2001. Of the root causes, the largest category was inadequate design (29%) followed by inadequate inspection/condition monitoring (28%), inadequate competency (11%), inadequate compliance monitoring (10%) inadequate procedures (9%) and inadequate risk assessment (8%).

Approximately 35% of the inspection plan has now been completed. The findings have been subject to regular review and together with the results from the release investigation project have lead to joint HSE/UKOOA (United Kingdom Offshore Operators Association) action to formulate good practice in problem areas. In particular:

- a final version of the good practice guide on bolted pipe joints was agreed and the document will be formally launched this autumn;
- a joint UKOOA/HSE group was set up to formulate good practice with respect to the management of flexible hoses (associated with 4% of all releases in 2001/02).

The campaign continued with a number of talks to dutyholders and industry bodies being made in 2001/02.

A second joint HSE/UKOOA offshore hydrocarbon release seminar was held in November 2001 attended by 130 delegates. Presentations describing individual initiatives to reduce release numbers were given by a number of dutyholders.

### **Safety standards in floating production, storage and offtake installations operations (FPSO)**

There are significant hazards involved in FPSO operations, including collision between production installations and vessels (eg storage or offtake vessels). This programme is designed to encourage the reduction in loss of station keeping events, one of the main initiating events, which currently stand at seven per shuttle tanker a year.

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

HSE will conduct a three-year programme focused on incorporating health and safety at the design stages of major offshore projects through the safety case assessment process at the design and construction stage and inspection of major new design, construction and modification projects.

Reduce accidents during lifting operations offshore.

The campaign continued with a number of talks to dutyholders and industry bodies being made in 2001/02.

A second joint HSE/UKOOA offshore hydrocarbon release seminar was held in November 2001 attended by 130 delegates. Presentations describing individual initiatives to reduce release numbers were given by a number of dutyholders.

UKOOA guidance on FPSO/shuttle tanker collision risk management finalised and approved for publication.

UKOOA/Navion (Navion is a tanker charting company) DARPS (a position reference system) Safety Alert issued.

HSE presentation to Navion shuttle tanker workshop in March 2002.

Pilot application of Design Capability Maturity model to British Petroleum (BP) Clair project completed in collaboration with BP. Results reported to UKOOA Safety in Design Working Group.

Technical guidance has been published.

Programme of visits to all major offshore drilling contractors completed.

Contributed to industry-led guidance.

All lifting Dangerous Occurrences (DOs) and reportable accidents have been analysed for root causes.

First year programme of inspections completed.

## Table 14 Nuclear industry

### Plans for 2001/02

### Progress during 2001/02

Under the nuclear licensing regime HSE inspectors have continued to inspect all 40 licensed nuclear sites in Great Britain to monitor compliance with the 36 nuclear licence conditions including safety cases for operation of the sites. A top priority has been to ensure operating nuclear installations and those undergoing decommissioning, are operated, maintained and dismantled in a way that minimises risks to workers and the public so far as reasonably practicable. HSE has continued to support international nuclear safety initiatives. Following the entry into force of the Joint Convention on the Safety of Spent Fuel and Safety of Radioactive Waste, HSE is developing its input into the UK report on compliance in readiness to meet the end of year deadline. HSE also assisted the Department of Trade and Industry (DTI) in completing the second national report on compliance with the Convention on Nuclear Safety. HSE has started work to look at best practice in the nuclear industry and other nuclear regulators to develop performance indicators that will demonstrate whether risks are being adequately managed in the nuclear sector. HSE continued to deliver, in conjunction with nuclear operators, an agreed programme of nuclear safety research.

Key programmes of work include:

- work with relevant stakeholders and Nuclear Safety Advisory Committee (NuSAC) to consider issues arising from the Department of Trade and Industry's (DTI's) Quinquennial Review (QQR) of the United Kingdom Atomic Energy Authority (UKAEA);
- considering actions needed to ensure adequate education and skills provision for the industry of the future;
- strengthening co-operation with the Environment Agency (EA) and Scottish Environmental Protection Agency (SEPA);

HSE has worked closely with DTI and key stakeholders to take forward issues arising from the QQR, especially work relating to the establishment of the Liabilities Management Authority.

An updated review of nuclear education in universities has been completed and placed on HSE's website.

Data on nuclear licensees is being gathered as part of the Nuclear Skills Group activities.

In May 2002 HSE will commission work to gather complementary data that will provide a view of the nuclear skills and training provision in the larger licensees.

There is regular contact between HSE and the EA and SEPA at all levels on regulatory and liaison issues.

- developing synergies, following agreement of an MoU with DTI's Office for Civil Nuclear Security (OCNS); while assisting DTI to modernise the security legislative framework using health and safety regulations;
- regulation of British Energy's (BE) proposal to make more effective use of resources to operate Scottish and English power stations;
- regulation of the construction and commissioning of the nuclear submarine refuelling facilities at Devonport to ensure UK's strategic defence capability, in parallel with Ministry of Defence plans;
- dealing with issues concerning decommissioning and radioactive waste management, including the Quinquennial Reviews of licensees' decommissioning strategies (QQRs);
- a programme of team and augmented inspections;

A joint HSE/EA statement of intent on working together has been developed and is reflected in the revision of the Memorandum of Understanding (MoU).

Work on developing working arrangements in support of the MoU between HSE and OCNS was underway when the terrorist attacks occurred on 11 September. There followed a significant and continuing collaborative effort between HSE, OCNS and industry to identify vulnerabilities, consequences and additional countermeasures in the light of these new threats. HSE and OCNS continue to work together closely to ensure both security and safety needs are effectively met.

Progress is being made in closing out the 100 plus recommendations arising from a Nuclear Installations Inspectorate's audit report of British Energy's Operations focusing on safety functions of Headquarters-based staff. But it is taking time for BE to assemble and present the evidence HSE requires for this. HSE will be in a position to consider BE's proposals for integration once adequate progress has been made on the remaining recommendations.

HSE agreements and permissions have been issued in a timely manner consistent with Ministry of Defence's plans and licensee programme requirements.

Reports of findings from the BE and British Nuclear Fuels Ltd (BNFL) Magnox QQRs were published in 2001/02 and are available on the HSE website. Three further reports have been published in the first quarter of 2002/03.

Augmented inspections were carried out at Sellafield and team inspections of Aldermaston, Rolls Royce Marine Power Operations Ltd and safety-critical electrical systems at British Energy sites.

- 37 periodic safety reviews at nuclear chemical plants (over a three-year period);
- review and assessment of 37 Special Hazard Assessments (SHA) under Ionising Radiation Regulations for nuclear submarine systems and facilities;
- carry out an agreed programme of UK nuclear emergency exercises;
- re-licensing of the merged Magnox Electric and BNFL - by 31 May 2001;

A joint inspection with the Naval Nuclear Regulatory Panel (NNRP) was undertaken at Devonport and joint HSE/NNRP audits were carried out at Vulcan and Clyde.

Joint inspections with SEPA were undertaken at Dounreay.

Work has commenced on the Material Transport Inspection at United Kingdom Atomic Energy Authority (UKAEA) Harwell/Windscale.

At BNFL's sites, ten safety case reviews were completed (four at Springfield and six at Sellafield). Work on a further two reviews at Sellafield were carried forward to 2002/03 and a revised programme of reviews for the site was agreed with BNFL.

At UKAEA's Dounreay site, assessment of one review is underway and a further three are to be submitted for assessment.

Requirements for SHAs have now been subsumed by Radiation (Emergency Preparedness and Public Information) Regulations 2001 (REPPIR) which require Hazard Identification Risk Evaluation Reports (HIRERs), notification of material changes and submissions of reports of assessment.

Two significant material change submissions were reviewed and initial assessments and responses have been made to 22 REPPIR Reports of Assessment.

HSE satisfactorily promoted a programme of nuclear emergency exercises including annual testing of on-site arrangements at each nuclear licensed site, and off-site arrangements around those sites in the rolling national three-year programme.

Delayed while the EA processed the issue of new discharge authorisations for the stations.

- regulation of the performance of the new licensee at Atomic Weapons Establishment (AWE) plc, and reporting to ministers by 31 May 2001;
- assessment of the strategy of high level liquid waste storage at Sellafield by 31 August 2001;
- closing out of the findings of the safety audit of Dounreay by 28 September 2001 and of BE by 31 March 2002;
- introduction of refined inspection programme to give indication of individual licensee performance by 31 March 2001;
- monitor and review BNFL's programme for emptying its highly active liquid waste (HAL) tanks and increasing its vitrification capacity by 30 April 2002;
- closing out findings of team inspections into Sellafield control and supervision by 31 December 2002;
- to complete assessment of the *Pre-construction Safety Report for the Dounreay Sodium and Potassium Disposal Plant* by 31 December 2002;

Progress was further delayed by the Secretary of State's proposal to create a Liabilities Management Authority.

Subsequent to the relicensing of Aldermaston and Burghfield on 1 April 2000, a report on the performance of AWE plc (*Relicensing the atomic weapons establishment sites to AWE plc*) was issued in June 2001.

HSE's view on this was published through an Addendum (published August 2001), to its February 2000 report.

A report closing out the Dounreay audit report was published in January 2002 and is available on the HSE website.

This covers progress made in addressing the 143 recommendations and sets out key elements of the restoration plan.

The first phase of an integrated enforcement strategy was completed on target for 1 April 2002.

Quarterly review meetings are being held with BNFL and monthly data is being obtained to enable HSE monitoring of compliance with a Specification issued in February. The next major review in the first quarter of 2002/03 will be the first of the declared biannual reviews. The focus is now on obtaining improved operational control by BNFL. The continued unavailability of full vitrification capacity has resulted in BNFL bringing forward planned shutdowns of reprocessing in order not to breach the Specification.

Work is on target. The need for additional work has been identified and a review is being undertaken with BNFL to establish if the 31 December 2002 target is still realistic.

This work is ongoing as HSE is currently awaiting some support documents from UKAEA. UKAEA expect to reapply for the Licence Instrument for active

- the active commissioning of the Trident nuclear submarine facilities at Devonport by 31 March 2002; and
- agreed criteria in place to allow permissioning to commence the delicensing of all, or part, of Rosyth Dockyard by 31 March 2004.

commissioning of the plant in August 2002; completion will now slip into early 2003 but is dependant on UKAEA submission dates.

The first of the active commissioning agreements was issued to programme in February 2002.

Discussions are ongoing with MoD stakeholders and the licensee. No delays are currently anticipated in completing this programme on time.

#### **Other significant activities**

A detailed inspection and assessment of BNFL readiness to move into plutonium commissioning of Sellafield Mox Plant was carried out during the year and a final Consent was granted on 19 December 2001.

Following shutdown of Wylfa reactor for over a year to enable modifications to be made to improve safety, clearance of the safety case was achieved and consent was granted for a return to power on 27 July 2001.

HSE carried out an immediate and thorough investigation into an incident at Chapelcross concerning dropped spent fuel. A public report on the investigation published in February 2002 was well received by ministers and special interest groups.

In November 2001, the Government announced its intention to create a Liabilities Management Authority (LMA) covering public sector historic nuclear liabilities. HSE has significant regulatory interests in this and a project team has provided advice and assistance to DTI in drafting the recent White Paper on liabilities management. HSE will continue to provide significant input into the work of the LMA.

Table 15 Selected outputs

	1999/00 outturn	2000/01 outturn	2001/02 plan	2001/02 outturn
<b>Railways</b> 'new' and revised safety cases	-	-	237	132*
<b>Offshore</b> assessment of safety cases	121	184	124 (revised to 166)	232
<b>Nuclear</b> nuclear licence actions	385	298	380	218**
<b>Onshore (chemicals, gas, explosives)</b> assessment of safety cases	185	80	277	28***

\* This total does not include the more than 50 safety cases processed but not yet recorded because of the need for further review.

\*\* 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.

\*\*\* Poor quality of COMAH safety reports submitted under the new requirements has led to a high level of rejections (which are not recorded). Requirements have been discussed with the industry and guidance has been published.