



# DEFENCE ENVIRONMENT AND SAFETY REPORT

2001/02



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## Glossary of Acronyms

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2SL/CNH	Second Sea Lord and Commander in Chief Naval Home Command
ABRO	Army Base Repair Organisation
AFOPS	Armed Forces Overarching Personnel Strategy
ALARP	As Low As Reasonably Practicable
ATE	Army Training Estate's
ATRA	Army Training and Recreational Agency
AVB	Airfield Vehicle Branch
BFC	British Forces Cyprus
BFFI	British Forces Falkland Islands
BFG	British Forces Gibraltar
BU	Business Units
CE WSA	Chief Executive War Ship Agency
CESO(A)	Chief Environment and Safety Officer (Army)
CESO(MOD)	Chief Environment and Safety Officer (Ministry of Defence)
CESO(RAF)	Chief Environment and Safety Officer (Royal Air Force)
CESO(RN)	Chief Environment and Safety Officer (Royal Navy)
CHASP	Central Health and Safety Project
CJO	Chief of Joint Operations
CNNRP	Chairman of the Naval Nuclear Regulatory Panel
COMAH	Control of Major Accident Hazards
CSA	Customer Service Agreement
D SEF Pol	Directorate of Safety, Environment and Fire Policy
DARA	Defence Aviation Repair Agency
DASA	Defence Analytical Services Agency
DASB	Defence Aviation Safety Board
DASC	Defence Aviation Safety Centre
DBA	Defence Bills Agency
DCG	Defence Catering Group
DE	Defence Estate
DEFRA	Department for Environment, Food & Rural Affairs
DESB	Defence Environment and Safety Board
DFG	Defence Fuels Group
DLO	Defence Logistics Organisation
DMETA	Defence Medical Education and Training Agency
DMS	Defence Medical Service
DNSB	Defence Nuclear Safety Board
DOSB	Defence Ordnance Safety Board
DOSG	Defence Ordnance Safety Group
DPA	Defence Procurement Agency
DRE	Defence Railway Executive
DRG	Defence Railway Group
DRPS	Defence Radiological Protection Services
DSA	Disposal Sales Agency
DSE	Display Screen Equipment
DSEAR	Dangerous Substances and Explosive Atmosphere Regulations
DSMT	Department of Specialist Management Training
DSTL	Defence Science and Technology Laboratory
DU	Depleted Uranium
EA	Environment Agency
EIAs	Environmental Impact Assessments
EMS	Environmental Management System
ERM	Environmental Risk Management
EU	European Union
EWC	Establishment Works Consultant

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FMG	Facilities Management Group
FRAM	Fire Risk Assessment Methodology
FSMP	Fire Safety Management Plan
FSV	Formal Staff Visit
H&S	Health and Safety
HLB	Higher Level Budget
HSAF	Health Strategy for the Armed Forces
HSC	Health and Safety Commission
HSE	Health and Safety Executive
HSNS	Health Strategy for the Naval Service
ILMP	Integrated Land Management Plan
IMIS	Insensitive Munitions Implementation Strategy
INFRA	RAF Infrastructure Organisation
IPT	Integrated Project Team
ISG	Injuries Steering Group
IWG	Injuries Working Group
JSP	Joint Service Publication
LAIT	Land Accident Investigation Team
LINC	Land Incident Notification Cell
LQA	Land Quality Assessment
LRS	Lloyd's Register of Shipping
LSA	Local Safety Adviser
LSSB	Land Systems Safety Board
LSSO	Land Systems Safety Office
MACR	Major Accident Control Regulations
MCA	Maritime and Coastguard Agency
MOU	Memorandum of Understanding
MQR	Medical Quinquennial Review
NARO	Nuclear Accident Response Organisation
NAWR	Noise at Work Regulations
NMoH(F)	Naval Medical Officer of Health (Fleet)
NNPP	Naval Nuclear Propulsion Programme
NRP	Naval Reactor Plant
NRPB	National Radiological Protection Board
OC	Operational Capability
OH	Occupational Health
OME	Ordnance, Munitions and Explosives
PI	Performance Indicator
PPP	Public Private Partnership
PTC	Personnel and Training Command
QMG	Quarter Master General
RHS	Revitalising Health and Safety
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurrences Regulations
RN	Royal Navy
RSC	Railway Safety Case
RWMAC	Radioactive Waste Management Advisory Committee
SDR	Strategic Defence Review
SGD	Surgeon General's Department
SHE	Safety Health and Environment
SHEF	Safety Health Environment and Fire
SOR	Statement of Requirements
SP Pol	Service Personnel Policy
SR	Spending Review
SSB	Ship Safety Board
SSM	Site Services Manager
SSMO	Ship Safety Management Office
SSO	SHEF Support Organisation
SSSI	Sites of Special Scientific Interest
STC	Strike Command

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TAVRAs	Territorial Army Volunteer Reserve Association
TFM	Total Facilities Management
TLB	Top Level Budget
US of S	Under Secretary of State
VCDS	Vice Chief of Defence Staff
WSA	Warship Support Agency

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## Foreword

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This is my second annual report to the Defence Environment and Safety Board (DESB) as Chief Environment and Safety Officer (MOD). The report, which was considered and approved by the third meeting of the Defence Environment and Safety Board on 16 July 2002, reviews the Department's management of safety and environmental protection for the year 2001/2002. It covers the whole range of safety matters, including health and safety at work, the safety of equipment and weapons systems, environmental protection and fire safety, and is divided into two parts, the first dealing with safety performance and the second with policy development.



MOD is a complex organisation, faced by a multiplicity of commitments at home and overseas, which present major challenges to the scientific, technological and managerial skills of both Service and civilian staff. In particular, mounting operations, training realistically, buying and maintaining ships tanks and aircraft, as well as running dockyards and nuclear facilities, all demand the very highest standards of safety in its broadest sense. The last year has, therefore, seen the continued implementation of a radical change programme aimed at helping managers to deliver safety more effectively. Successes have included the formation of the Defence Aviation Safety Centre on 1 April 2002 and, most notably, the creation, as recommended by a study into nuclear safety, of the Defence Nuclear Safety Board. This held its first meeting in March 2002, thereby putting in place the final supporting pillar of the DESB and the final piece of the Department's overarching Safety Management System.

Good progress has also been made in the other areas identified as priorities in last year's report. Work has continued on the preparation of a Departmental Sustainable Development Strategy, and a new contract for the provision of occupational health services to MOD civilian staff has been agreed, together with a new programme of health screening for civilian staff. Significant progress has been made in carrying out environmental monitoring in the Balkans, as described in the report, and work on implementing the recommendations of a study into the management of SHEF in operational theatres is in hand. Progress has been made on Fire Study 2000, environmental appraisal is now firmly embedded into departmental processes and MOD's nuclear waste strategy has been published. The level of parliamentary business continues to rise, some 500 items of business having been handled this year.

Of course, concerns still remain, including the future development of the DESB's role and the establishment of more formal arrangements for co-operation and co-ordination between the functional safety boards, particularly in relation to safety issues affecting more than one environment. It is also important to tackle the problem of diminishing expertise, especially in the nuclear and explosives fields, by taking action to recruit and retain more staff, together with the development of appropriate training courses and the provision of incentives. In addition to focusing on these issues, the coming year will also take forward work with the Environment Agency on a number of annexes to the existing Memorandum of Understanding; on further initiatives in support of the Revitalising Health and Safety agenda; and, on further development of the Department's sustainable development strategy, including the establishment of a steering group to provide direction.

Overall, while there are many challenges ahead, I am confident that the management structures and procedures put in place to encourage a corporate and active safety culture in the Department, linked to effective monitoring, will promote continuous improvement in environmental and safety performance with corresponding benefits to military capability.



Dr G Hooper  
Chief Environment and Safety Officer (MOD)

**PART I**  
**DEPARTMENTAL PERFORMANCE**

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## The Functional Safety Boards

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On the evidence of another full reporting year, the general view from the functional safety boards is that the Department's new Safety Management System is now bedding down satisfactorily, with communications and interactions at the working level operating well. The respective roles of the functional safety boards are set out in Annex A at the end of this report.

Of course, there still remains much to be done including, in particular, greater development of the Defence Environment and Safety Board (DESB) role in endorsing major policy initiatives and in providing top level direction and co-ordination on some of the significant safety issues, which affect more than one environment. So far as the functional safety boards are concerned, it is generally agreed that they need to adopt more formal liaison and joint-working arrangements. A principal aim of closer co-operation should be to ensure better guidance on MOD priorities as a means of informing and balancing any investment decisions on safety improvements, which emerge from the functional safety boards' assessments of the risks in their respective areas.

### SHIP SAFETY BOARD

Ship safety standards in MOD continue to match or exceed those found in comparable civilian practice. Significant progress has been made this year in strengthening the regulatory framework for the safety of MOD shipping and further development continues. Changes to the working arrangements of the Ship Safety Board (SSB) have proved very successful in improving its effectiveness and efficiency. The new arrangements have been published in a Ship Safety Board Manual to increase awareness of the Board's role and working arrangements.



The MOD shipping regulatory regime is being harmonised with civil practice where this is beneficial, but underlying safety philosophies are not always fully compatible. These differences form the basis of MOD exemptions from statutory regulations. Examples of such differences include:

- Regulation by the Royal Navy (RN) of explosives safety concentrates on minimising the probability of an accident through proven design standards, formal regulations and a strong safety culture embedded in a disciplined service, while civil practice focuses on explosives quantity-distance rules. The MOD is undertaking further work to demonstrate the benefits of its regulatory approach.
- Damage control and recovery on a damaged warship is undertaken in such a way as to maintain it as a safe-haven for the crew and to maintain its military capability. This compares with the civil practice of abandoning ship after damage in order to save life. This year MOD has adjusted its own lifesaving policy to carry more life-rafts as a result of continuous research and development, including weapon damage trials.

Accordingly, the SSB recognises that the drive to align the Royal Navy with civil statutory requirements is increasingly leading to difficulties in maintaining an efficient regulatory regime and there remains a risk of inappropriate legislation being made applicable to MOD shipping activities in the future. The SSB is working towards the recognition of the Maritime and Coastguard Agency (MCA) as the lead civil regulatory body for MOD shipping activities in cases where civil regulation applies. This will require a formal agreement between the MCA and MOD and delegation of these

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regulatory duties by the HSE. The revised arrangements will also require referencing in the MOD/HSE General Agreement.

The SSB has approved a revised Ship Safety Management Policy, published as a Joint Service Publication, JSP 430, for use by MOD. The new policy incorporates feedback from a significant consultation exercise with MOD and industry, and will be monitored and developed through a permanent Editorial Committee reporting to the SSB. The Naval Authority Council has also been formed as a sub-committee of the SSB to oversee the safety regulation of MOD shipping activities, and has an important role in integrating and harmonising the Naval Authority regulatory regime.

Naval Authority delegations to Responsible Organisations, which are intended to speed up the certification of MOD ships, are also making good progress, and Lloyd's Register has issued the first MOD safety certificate under this arrangement.

The concept of naval classification continues to develop with Lloyd's Register of Shipping (LRS) and Det Norske Veritas, both civil Classification Societies, being actively involved. The MOD has just approved Lloyd's Register's Rules for Electrical Systems as suitable for RN use. The RN currently has 7 vessels in Class with LRS, including HMS ARK ROYAL, and another 11 in progress. All new construction projects are also being built to Class (for Hull). All auxiliaries are in Class, or progressing towards an equivalent certification regime. These harmonised arrangements allow MOD to exploit the expertise and infrastructure that exists to support civil shipping.

The Ship Safety Management Office (SSMO) has been developing improved safety management performance indicators for the Defence Procurement Agency (DPA) and the Warship Support Agency (WSA), which will be used to inform management about the health of their arrangements.

As a result of good safety management the MOD accident rate remains comparatively low despite the size and nature of our business. However, the deaths this year from boat and diving accidents (2 and 3 respectively, discussed in more detail later in the report from the Royal Navy SHEF area) are being investigated for lessons learnt. Safety audits continue to identify areas for improvement, and these are monitored by the SSMO.

Safety should improve further as modern ships and submarines are procured under the safety case regime (in place since 1996) and older platforms are disposed of. Safety management is also becoming increasingly important to maintaining the availability of shipping, which in turn is central to the maintenance of defence capability.

## LAND SYSTEMS SAFETY BOARD

The work of the Land Systems Safety Board (LSSB) during the year 2001/2002 concentrated on reviewing the status of safety management systems across Land Systems Integrated Project Teams (IPTs), developing process maps to aid IPTs in applying such systems, and identifying best practice. As part of this review, the Board also published a formal method for assessing and, if appropriate, approving, exemptions from legislation where permissible. The Board has also instigated work on ensuring that there is a suitable method for feeding back information from accidents and incidents both to IPTs who are maintaining equipment in service and to those who are developing new equipment.



The results of the status review indicated that, through the system of letters of delegation, and the awareness briefings that have been conducted throughout the acquisition community, all IPTs are now well aware of their responsibilities with regard to safety, and the need to provide justification

for the safety of their equipment. However, there is still a need to ensure that managers throughout acquisition and operation fully understand and discharge their responsibilities for the wider aspects of the safety management system, such as the involvement of all stakeholders in assessments.

Whilst the need for formal safety justifications is now well embedded within the system, the review also highlighted the level of funding needed to ensure that safety cases are undertaken for new and in-service equipment, and that risks are reduced to As Low As Reasonably Practicable (ALARP). Although the system of safety appraisals, which includes top level hazard analysis, had been designed to cater for legacy equipment, considerable resources are still required to cover the large inventory involved. In this context, the involvement of those who manage defence capabilities and those responsible for user and in-service aspects are key. At a time when budgets are under considerable pressure, it is proving difficult to allocate the resources needed to prepare the justifications and implement the changes necessary to fully mitigate all risks.

It also became clear during the year that, whilst the commitment to the generation of safety justifications was good, an improvement in the standard of some safety cases is still required. This is a reflection of the limited specialised resource available to project teams. To address this problem, both the competence framework and the training courses that support it have been subjected to a comprehensive review. This has resulted in the creation of a set of training modules to address all levels of competence. The majority of team members will require an awareness of equipment safety issues and responsibilities, but some will require sufficient knowledge and expertise either to undertake internal work within project teams, or to assess work undertaken on their behalf by contractors. One of the priorities for the forthcoming year will be to ensure that such training is being provided to all relevant staff, and that all those outside MOD who support projects have the required expertise.

Work on the mapping of processes involved in safety management systems will continue. The objective is to ensure that these processes are clear throughout the lifetime of an equipment. Results of the work have already been incorporated into a review of the formal procedures used by project teams and these will be re-issued during the forthcoming year.

To continue to raise the awareness of safety management, the Land Systems Safety Office (LSSO) took the lead, in conjunction with the other Safety Offices and industry, in organising the third MOD equipment safety assurance symposium in November 2001 on the theme of 'Joined-up Safety'. Over 200 delegates from MOD, industry, other Government departments and academia attended the two-day event, which included lectures, workshops and an exhibition. The forum was successful in raising the profile of MOD system safety and provided an opportunity to discuss relevant issues in this important area.

## **DEFENCE AVIATION SAFETY BOARD**

During the period covered by this report the Defence Aviation Safety Board (DASB) has conducted reviews of MOD's aviation safety record for the year ending December 2001 and has reported on: the status of aviation safety matters in the MOD; progress in addressing identified risks to aviation safety; management arrangements for aviation safety; the airworthiness status of the MOD's aircraft fleet; and progress in taking forward aviation safety management initiatives.



The aircraft accident rate for 2001 was commendably low, but there is no room for complacency as the rate appears to be returning towards the historic norm in the early part of 2002.

The main problem areas identified as risks to aviation safety in MOD arise as a result of the continuing challenge of matching tasks and resources; embarked operations of operational non-marinised aircraft; a difficulty in progressing greater investment in flight safety related systems; and pressures for controlled airspace in the UK arising from the demands of regional airports and MOD re-basing decisions.

On the other hand, the formation of the Defence Aviation Safety Centre (DASC) on 1 Apr 02 is expected to provide opportunities for improved efficiency and coherence, and will lead to greater continuity in the corporate governance of Defence aviation safety.

In overall safety terms, procedures, aircraft standards and service practices are assessed as satisfactory and, where there is evidence of pressure on safety margins in a number of areas, the DASB is content that appropriate action is being taken.

In addition to the current work reviewing the status of aviation safety in the MOD, and managing the main risks, the DASB priorities for the coming year are to improve the means by which the Capability Managers are advised of DASB assessments of key aviation safety risks and priorities for equipment safety enhancements; to clarify the scope of aviation safety and refine the aviation safety management system; to develop a supporting structure for the DASB aimed at realising the opportunities for improvement that the formation of the DASC presents; to harmonise aviation safety targets with the ALARP approach; and to develop performance indicators against which to measure the effectiveness of improvement initiatives.

## DEFENCE ORDNANCE SAFETY BOARD

During the current reporting period, the Board met three times and endorsed and authorised the issue of three key Policy documents: JSP (Joint Service Publication) 520 - the Ordnance, Munitions and Explosives (OME) Safety Management System; JSP 482 - MOD Explosives Regulations; and, MOD Policy for Insensitive Munitions (IM). JSP 520, which was issued in October 2001, introduces common arrangements for managing OME safety across the air, land and sea operating environments, a significant new feature being the requirement for independent peer review of OME Safety Case reports at major project milestones. JSP 482, which was issued in January 2002 and comes into force in January 2003, is progressively replacing the existing single-service explosives regulations. The policy for IM puts in place arrangements aimed at reducing over time the vulnerability of munitions to accidental initiation.



The Board also addressed the current arrangements for managing the explosives risks associated with bringing ammunitioned warships into harbour. Having successfully scoped the key issues and proposed a way forward, the Defence Ordnance Safety Board (DOSB) has passed the policy lead to the Ship Safety Board.

For the coming year, the Board will continue to work on the formulation and development of the OME safety management arrangements and to monitor their implementation. More effort will be directed towards developing and monitoring OME safety performance measures and metrics to support the safety assurance function. This work will be complemented by the introduction of an OME system audit programme. Similarly, work will continue on the Insensitive Munitions Implementation Strategy (IMIS), the focus of which will be to determine the cost and programme implications of implementing IM solutions for all OME systems. With regard to warships in harbour, the DOSB will continue to provide support to the SSB in developing appropriate OME safety management arrangements, building on the present safety management processes.

Difficulties in maintaining and recruiting staff with the required skills is a key risk to delivering OME Safety. However, the recent appointment of the Director of the Defence Ordnance Safety Group (DOSG) as Head of Profession for OME Safety should provide a focus through which to address this issue. Another problem area is the current lack of appropriate performance measures against which to make an assessment of the effectiveness of the safety management system. A programme of work has, therefore, been started to develop OME Safety Performance Indicators, to agree the current baseline figures and to set year-on-year improvement targets. An audit programme is scheduled to commence in October 2002.

Overall, however, and bearing in mind that procedures for identifying and managing OME - related risks have been in existence for many years, there is a high level of confidence that major risks are being managed satisfactorily and in accordance with the principles of ALARP. The introduction of JSP 520 and the further work of developing performance measures will provide the means of objectively measuring OME safety and setting year-on-year improvement targets.

### **DEFENCE NUCLEAR SAFETY BOARD**

The Defence Nuclear Safety Board (DNSB) is the most recent of the functional safety boards to be created following a recommendation from the Department's Defence Nuclear Safety Study. This reviewed MOD's safety management systems to ensure the safety of MOD's nuclear assets through life. The inaugural meeting of the DNSB was held on 7 March 2002, when its terms of reference, modus operandi and membership were agreed.



The Secretary of State for Defence's health and safety policy statement requires that where the Department has been granted specific exemptions, disapplications or derogation from legislation, Departmental standards and arrangements are to be introduced which will be, so far as is reasonably practicable, as least as good as those required by civil legislation. Whilst Authorisation (a process which applies the standards and disciplines of Civil Licensing to defence nuclear activities) has been applied successfully to the naval bases and dockyard companies progress has been slow in applying it to the Naval Reactor Plant (NRP).

There have been difficulties in fully integrating security classified reactor plant information into safety justifications. This has been most apparent in the safety campaign for the docking of HMS VANGUARD in Devonport and in the Department's response to the Radiation (Emergency Preparedness and Public Information) Regulations 2001.

Whilst the level of confidence in nuclear weapon safety remains high (a view recently endorsed by the Nuclear Safety Study), the complexity and interdependence within the safety management systems continues to demand, and receive, particular attention within the Department.

Like most advances in the nuclear programmes and nuclear safety, increased regulation comes at a cost, both in terms of finance and specialist resources. The retention of adequate numbers of suitably qualified and experienced personnel (both Service and civilian) within the Department's nuclear programme remains an area of concern.

In 2000 HMS TIRELESS suffered a reactor coolant leak as a result of cracking in one of the reactor circuit pipework connections. A complete repair was successfully completed alongside in Gibraltar in April 2001. The incident did not present any health hazard to the general public or to personnel on board. The early detection and management of the incident underlines MOD's effectiveness and commitment to ensuring that the highest standards of nuclear safety are maintained. The timely, and incident free, completion of the repair was undertaken to the

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satisfaction of all relevant authorities including the MOD's internal regulator, the Chairman of the Naval Nuclear Regulatory Panel (CNNRP). Subsequent inspection of the SSN Flotilla identified similar, albeit less developed cracking in 6 other submarines. A pintle repair programme was subsequently implemented, including on 3 submarines where inspection did not identify defects.

The Department has successfully completed a Nuclear Safety Study to review the through life safety of its nuclear assets. The Chairman of the DNSB has commenced work to implement the study's recommendations including the formation of the Defence Nuclear Safety Board (DNSB) and the appointment of an internal Nuclear Weapon Regulator. The transfer of responsibility for the road transport of nuclear weapons and materials and the associated Nuclear Accident Response Organisation (NARO) within the Defence Logistics Organisation from the Director General Equipment Support (Air) (DGES(Air)) to the Chief Executive Warship Support Agency (CE WSA) was completed on schedule at the end of March 2002. This transfer was achieved after rigorous independent assessment of the nuclear weapon transport process and its associated nuclear accident response elements. Revised arrangements for the CinC Fleet Nuclear Accident Response Organisation have been developed to reflect the Fleet HQ organisational changes and relocation of Fleet elements under the Fleet First initiative.

Developments in radiation dose control within the Naval Nuclear Propulsion Programme (NNPP) have been particularly successful. The average dose incurred by all personnel was 0.33mSv (cf. UK average background dose of 2.2mSv) and collective dose across the programme was 2.68ManSv.

The safety of nuclear weapons and propulsion systems is among the Department's highest priorities. As a result of good safety management within its nuclear propulsion and nuclear weapon programmes, the MOD, in over 40 years of such operations, has never had an accident which has led to or come anywhere near leading to a hazard to the public. The application of stringent safety procedures will be maintained to ensure the continued maintenance of this unblemished safety record.

Over the coming year the Nuclear Weapon Regulator, who was appointed in May 2002, will focus on work to ensure a smooth transition to the independent internal regulation of the nuclear weapons programme. The NW regulator and CNNRP will work to establish and develop their relationship with the Health and Safety Executive (HSE)/Nuclear Installations Inspectorate (NII), and other relevant, authorities to maintain confidence that the appropriate processes are put in place to meet the requirements of internal regulation.

Further validation of the new Fleet Organisation and the associated Fleet Safety Management System will be conducted and the new NARO arrangements will be formally assessed by CNNRP.

Work will continue to extend the concept and principles of Authorisation to the NRP and to address the difficulties associated with recruitment and retention of suitably qualified and experienced personnel across the nuclear weapon and propulsion programmes.

The Warship Support modernisation initiative will introduce partnering with civil contractors at both the Clyde and Devonport Naval Bases. Work will continue to ensure that the highest standards of nuclear safety are applied and maintained, that CNNRP is satisfied that the disciplines of Authorisation are applied, and that the MOD as the duty holder retains control of all nuclear activities.

## **SAFETY HEALTH ENVIRONMENT AND FIRE BOARD**

The Safety, Health Environment and Fire (SHEF) Board met once during the year (the previous meeting having taken place in March 2001, just before the end of the last reporting year) and took work forward in the three main areas for which it is responsible: developing overall safety, health,

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environment and fire policy for the MOD, monitoring its implementation, and overseeing the scrutiny of draft legislation.

In its policy development role the Board considered the implications for MOD of the upgrading of the Green Ministers' Committee to ENV(G), a sub-committee of the Cabinet Committee on the Environment (ENV), with a new focus on sustainable development as the underpinning theme of their work; the corresponding change in the role of MOD's Green Minister; and the greater demands on the Department to integrate sustainable development into its core business and report publicly on progress. It approved measures planned to give effect to this, including the establishment of a Departmental focal point for sustainable development. The Board also discussed plans for the development of a health and safety and environment training strategy; considered a paper on how to meet the requirement for environmental appraisal; and considered an audit report on the management of SHEF in operational theatres. This latter audit was conducted in response to senior level concerns that SHEF requirements might be placing restrictions on operational activities. In the event, the audit report concluded that the concerns were largely unfounded.

The SHEF Board monitors the implementation of policy by way of a twice-yearly report from the Chief Environment and Safety Officer (Ministry of Defence) (CESO(MOD)), in the form of an action plan, reporting progress on policy initiatives undertaken at the Board's direction. For the current reporting year this included, for example, approving work on the detailed arrangements for implementing the Memorandum of Understanding with the Environment Agency (EA); considering the outcome of environmental monitoring undertaken in the Balkans; and, overseeing work on a new contract, to take effect from September 2002, for the provision of occupational health services to MOD.

On the legislative front, the main item of business, apart from keeping a watch on the progress of the European Union (EU) Physical Agents (Noise) and Physical Agents (Vibration) Directives, was a paper which considered the lessons learnt from MOD's handling of the EU Ambient Noise Directive and how to apply them in similar circumstances in future. A more detailed section on SHEF legislation affecting the Department is given in the second part of this report dealing with SHEF policy development and, in particular, with legislative initiatives from the EU.

MOD's strengths and weaknesses in health and safety management were assessed by a joint HSE/MOD team against a management model of which the elements were policy, organising, planning and implementing, measuring, auditing and reviewing. The report of Phase 1 of the review was published in Jan 2001. Phase 2, which was postponed from 2001 to allow breathing space while the new Audit Code of Practice was established, will be a desk-top study of SHEF audits, looking at the reports in detail and following issues through, as a way of examining how well the system works in practice. It is now scheduled to start in April 2002.

A notable achievement during the course of the year was the signing in July 2001 of a Memorandum of Understanding (MOU) with the Environment Agency designed to facilitate better co-operation and understanding between the two organisations. A Joint Liaison Committee has been established which will meet annually and work is being taken forward on detailed annexes to the agreement.

The main focus of next year's SHEF business is likely to centre on the further development of MOD's sustainable development strategy, involving the establishment of a steering group to oversee and coordinate the detailed work to be undertaken in a number of workstreams. This is discussed in more detail in the second part of this report. The Board will also be directing a climate change strategy for MOD; raising awareness of the Department's accident and incident reporting system with the aim of improving reporting and making better use of the system's capacity; and continuing to monitor progress on the Land Quality Assessment programme being overseen by Defence Estates (DE).

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## **SHEF Audit**

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### **SHEF AUDIT MANUAL**

There is now in place, and set out in the SHEF Audit Manual, a single, agreed methodology for the conduct of all SHEF audits within MOD. The aim of this approach is to reduce the disruption caused by audit at the working level by setting in place a tiered system of audit conducted by recognised Audit Authorities. The system should eliminate the need for other bodies, which have safety as part of their remit, to conduct independent audits of their own.

The format and content of the manual is controlled by the SHEF Audit Board which comprises representatives of the MOD SHEF Audit Authorities under the chairmanship of the Directorate of Safety Environment and Fire Policy (D SEF Pol). The audit authorities are:

Directorate of Safety Environment and Fire Policy (D SEF Pol)

Chief Environment and Safety Officer (Royal Navy)

Chief Environment and Safety Officer (Army)

Chief Environment and Safety Officer (Royal Air Force)

Chief Environment and Safety Officer (Defence Logistics Organisation)

Chief Environment and Safety Officer (Centre)

Defence Procurement Agency (DPA)

Defence Estates (DE)

Defence Science and Technology Laboratory (DSTL)

D SEF Pol acts as the overall audit authority for MOD. It conducts audits at Top Level Budget Holder (TLBH) level on a three yearly basis and has additional responsibilities to ensure that the delivery of audits conducted by other audit authorities meets the requirements of the SHEF Audit Manual. All the other audit authorities direct their SHEF audit programmes at the Higher Level Budget Holder level with sampling down to unit level for verification. These audits are also based on a three year audit cycle but this can be varied if required.

### **INTEGRATED AUDIT**

As a further move towards reducing the burden of audit, the Audit Board has sanctioned the first integrated audits combining the health and safety, environmental, and fire protection elements of SHEF in a single question set. As a trial, all D SEF Pol's SHEF audits conducted during the report year were carried out on this basis. The aims of the trial were fully met and the Audit Board has now agreed that all SHEF audits conducted by the other audit authorities in year 2002-2003 will be on an integrated basis.

## AUDIT PROGRAMMES

A central aim of the new approach to SHEF audit is to ensure that audit programmes have a high level of visibility and that all the audit authorities report their programmes to the SHEF Audit Board before the start of the year. Since the conduct of audits under the auspices of the SHEF Audit Manual was a novel approach in most areas of MOD, only D SEF(Pol) and Chief Environment and Safety Officer (Royal Air Force) (CESO(RAF)) were able to meet this requirement during the reporting year. However, the year did see all of the other audit authorities responding to the requirements of the manual by re-organising their SHEF audit capability or putting an audit organisation in place and working towards the publication of audit programmes for audit year 2002-2003. The proposed D SEF Pol forward programme of SHEF audits is as follows:

<b>FY 02/03</b>	<b>FY 03/04</b>	<b>FY 04/05</b>
<b>CinC Fleet</b> (FY 97/98)  <i>October 2002</i>	<b>Royal Air Force</b>  (Strike FY 98/99) (PTC FY 00/01)	<b>MOD Centre</b>  (FY 01/02)
<b>Adjutant General</b> (AG FY 95/96) ATRA FY 99/00)  <i>January 2003</i>	<b>GOC NI</b>  (FY 00/01)	<b>Land Command</b>  (FY 01/02)
<b>Chief of Defence Logistics</b> (New pilot to evaluate integrated pan-safety audit)  <i>February 2003</i>	<b>2SL/CNH</b>  (FY 99/00)	<b>DPA</b>  (FY 01/02)
<b>Dstl</b> (DERA 96/97 DERA Sites 98/99)  <i>June 2002</i>	<b>CJO</b>  (FY 00/01)	<b>Meteorological Office</b>  (FY 00/01)
<b>Defence Aviation Repair            Agency</b> (New)  <i>December 2002</i>	<b>Army Base Repair            Organisation</b>  (New)	

### D SEF Pol SHEF Audit Programme

NB. Figures in brackets are dates of last D SEF Pol audit (either H&S or SHEF).  
 Figures in italics are approximate dates of audits in FY 02/03

## AUDIT RESULTS

As the period 2001 to 2003 represents a transition to fully integrated SHEF audits, only D SEF Pol TLBH audit results are reported below (with results for the previous year being included for information). However, since the introduction of the MOD Environmental Management System (EMS) coincided with the launching of integrated audit, not too much weight should be placed on the numerical results of audits conducted in these years of transition to integrated audit. Indeed, the requirement to report against the Management of SHEF Performance Indicator, which is based on the results of audit, has been suspended until 2004 in recognition of the fact that TLBHs require time to assimilate both the EMS and the new approach to audit.

The prime purpose of audit is not to produce audit "scores" but to identify potential weakness or gaps in the SHEF management system, and to produce recommendations upon which action plans can be based. In this respect the integrated audits were extremely effective and were positively received by the recipient organisations. Their subsequent action plans have shown they are using the results as a positive driver for change.

Organisation	Date		SHEF	
Land Command	Dec 2001		78%	
DPA	Aug 2001		85%	
		<b>Health and Safety</b>	<b>Fire</b>	<b>Environment</b>
RAF PTC	Feb 2001	89%	Review	80%
MET Office	Dec 2000	91%	64%	52%
Centre TLB	Oct 2000	68%	85%	Not Possible
CJO	Oct 2000	69%	73%	49%
DERA Shoeburyness	Jan 2000	88%	NA	NA
HQ NI	Jan 2000	87% - Review	NA	NA
ATE	Oct 1999	72%	NA	NA
2SL/CNH	July 1999	87%	NA	NA
RAF Strike	May 1999	80%	NA	NA

### SHEF AUDITS May 1999 - March 2002

SHEF Workshop  
CNH/2SL SHEF Audit of Flagship  
Cadet Study

February 2001  
November 2001  
October 2000

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## FUNCTIONAL AUDITS

Functional Audits are audits carried out by D SEF Pol on a single aspect of safety management across MOD as whole, the results of which are normally submitted to the Defence SHEF Board or the DESB. During the audit year, D SEF Pol was involved in two major functional audits, the Management of SHEF in Operational Theatres and Safety and Environmental Protection in the Acquisition Management Process.

The acquisition audit completed the fieldwork during this report year and is due to report its initial findings to the DESB in July 2002. The operational theatres audit reported to the SHEF Board in November 2001. The principal findings were that:

- There was no evidence that operational effectiveness was impeded or that commanders were becoming risk averse as result of the requirements of SHEF management systems;
- The manner in which SHEF management support is provided to commanders on operations should be reviewed;
- Risk management measures should concentrate primarily on the hazards associated with operations and the location and environment in which they are undertaken, leaving routine safety measures as a low priority;
- Wholesale application of UK SHEF management standards is not always practicable and commanders should be given assistance in implementing solutions that are pragmatic whilst recognising the needs of operations.

The following functional audits are proposed for FY 02/03.

- Radioactive Waste Management.
- Control of Contractors.

## EXPLOSIVES AUDITS

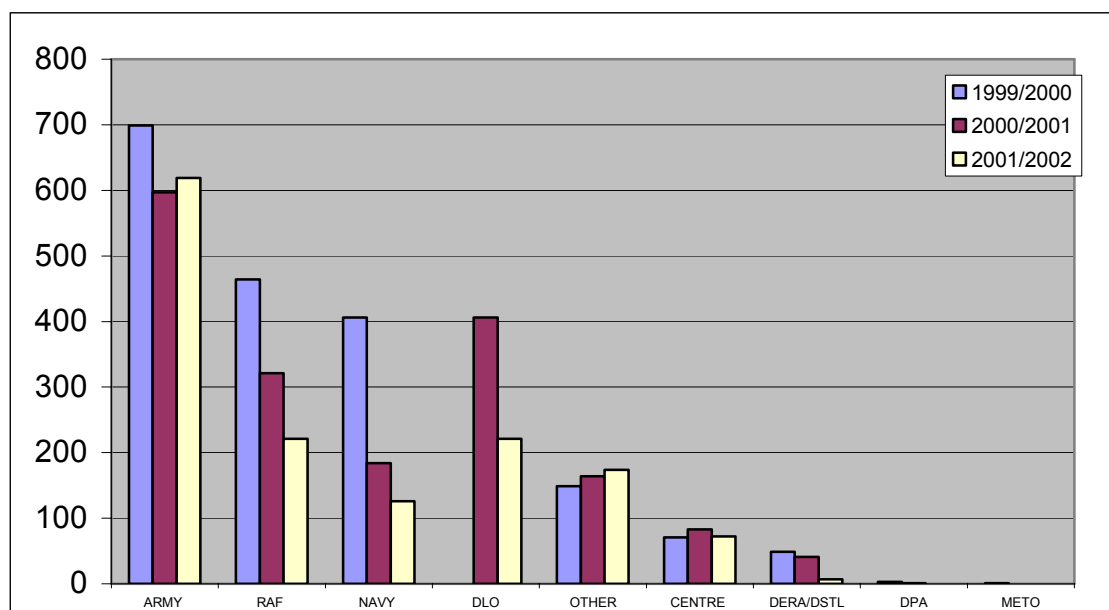
The Defence Ordnance Safety Group (DOSG) undertake audits aimed primarily at assessing compliance with MOD's Major Accident Control Regulations (MACR), the MOD equivalent of the Control of Major Accident Hazards (COMAH) Regulations, at qualifying sites only. The audits include some examination of SHEF management and during the report year there has been close co-operation between DOSG and the SHEF Audit Board, a DOSG representative now attending Audit Board meetings as a non-executive member. The aim is to ensure that units that have recently been subjected to a conventional SHEF audit will not have that aspect of its management system examined again during a MACR audit.

## Statistics

### ACCIDENTS AND INJURIES

The following statistics have been taken from the MOD CENTRAL accident database and cover both Service and civilian injury events, the classification of which equates to those reportable in the UK to the Health and Safety Executive (HSE) under The Reporting of Injuries Diseases and Dangerous Occurrence Regulations (RIDDOR) 1995. The 2001/2002 figures may be subject to minor change as events under investigation are added to the database.

The graph showing major and serious injuries by sector includes injuries to non-UK employees that would have been reportable, had the event occurred in the UK. For the most part, the graph indicates the MOD sector in control of the location where an event occurred, although it should be noted that some events included in the 'Other' totals took place in public areas (e.g. foot patrol in Northern Ireland). The graph showing the age and sex profile of injured persons includes all UK Service and civilian personnel. The combined figures for major and serious injuries to civilian staff will be used to establish the injury rates for the Revitalising Health and Safety (RHS) targets set by the Health and safety Commission (HSC).



**Total Number of all Major and Serious Injuries by Sector**

#### 1999/2000

Service	Strength	Major	Rate Per 100,000	Serious	Rate Per 100,000
ARMY	109,880	96	87.4	355	323.1
NAVY	43,294	32	73.9	117	270.2
RAF	54,954	32	58.2	229	416.7
CIVILIAN	107,520	36	33.5	628	584.1
<b>Grand Total</b>	<b>315,648</b>	<b>196</b>	<b>62.1</b>	<b>1329</b>	<b>421.0</b>

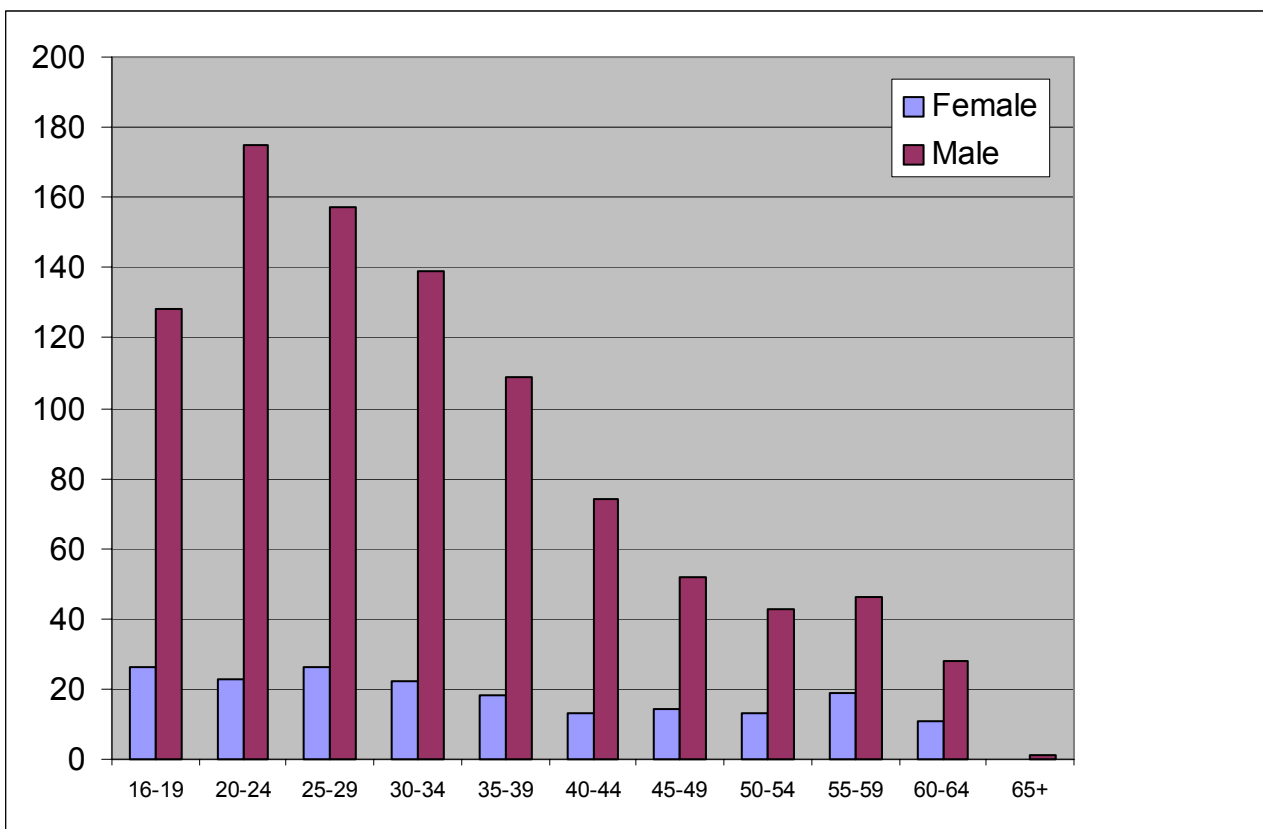
2000/2001

Service	Strength	Major	Rate Per 100,000	Serious	Rate Per 100,000
ARMY	109,314	82	75.0	374	342.1
NAVY	45,567	33	72.4	120	263.3
RAF	54,273	38	70.0	235	433.0
CIVILIAN	105,728	44	41.6	587	555.2
<b>Grand Total</b>	<b>314,882</b>	<b>197</b>	<b>62.6</b>	<b>1316</b>	<b>417.9</b>

2001/2002

Service	Strength	Major	Rate Per 100,000	Serious	Rate Per 100,000
ARMY	109,266	92	84.2	373	341.4
NAVY	41,877	26	62.1	109	260.3
RAF	53,298	18	33.8	147	275.8
CIVILIAN	97,716	29	29.7	411	420.6
<b>Grand Total</b>	<b>302,157</b>	<b>165</b>	<b>54.6</b>	<b>1040</b>	<b>344.2</b>

Major and Serious Injury Rate per 100,000 for UK MOD Employees



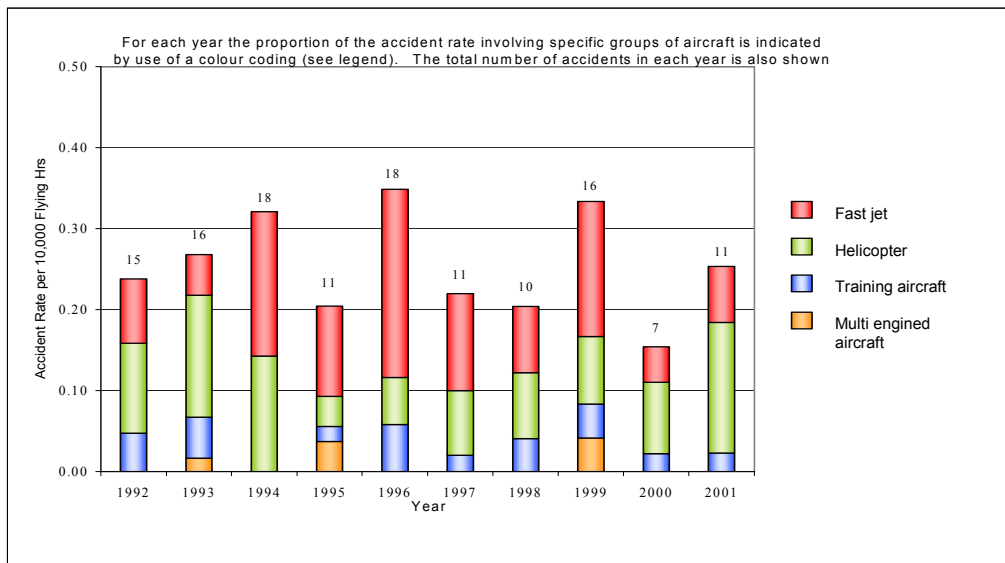
MOD UK Employee Major and Serious Injuries by Age and Sex for 2001-02

**AIR ACCIDENTS**

Fatalities resulting from aircraft and parachuting accidents during 2001 are presented below together with, in graphical form, the aircraft accident rate covering the period from 1992 to 2001. Whilst there is a perceptible downward trend in the accident rate over the decade, the upturn in the rate and the number of fatalities this year indicates there is no room for complacency.

Fast Jet Fatalities	1
Helicopter Fatalities	3
Training Aircraft Fatalities	0
Multi Engined Aircraft Fatalities	0
Parachuting Fatalities	0

**Number of fatalities due to tri service air accidents during 2001**



**Tri service Cat 4/5 Air Accident Rates 1992 - 2001**

**FIRE**

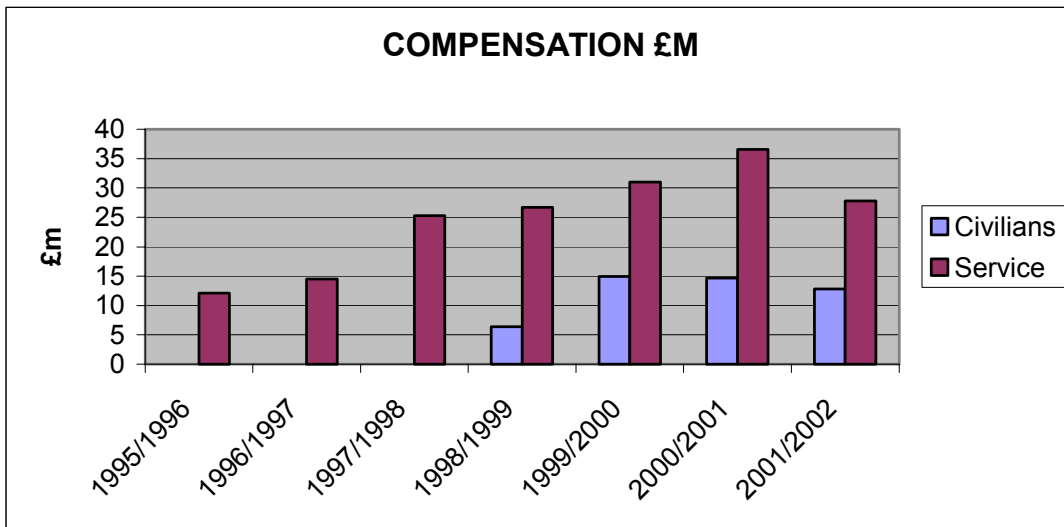
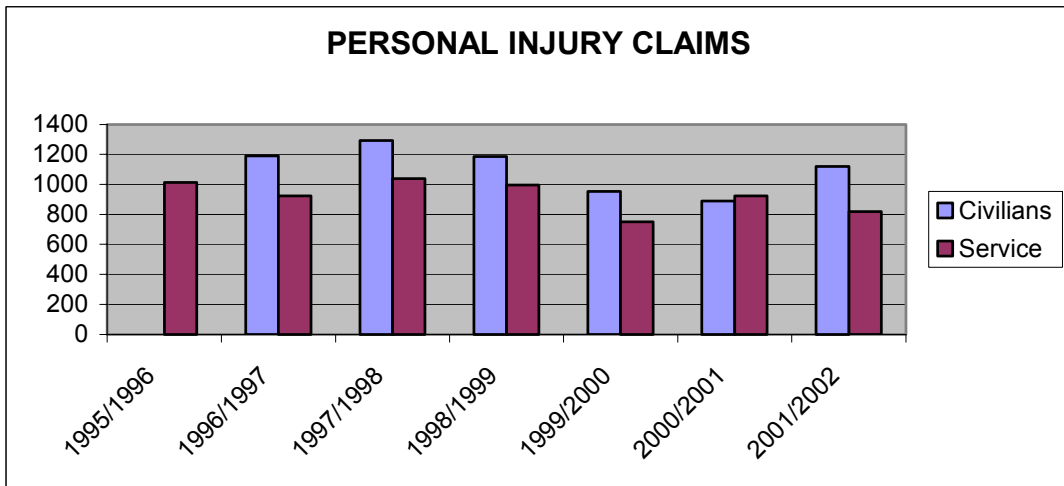
Generally the Department has suffered fewer fires during the current reporting period, although this may be attributable to the fact that the system of reporting is now more defined and focused. However, while the total number of reported major fires (i.e. with losses to MOD of more than £3000) has decreased, the trend is not reflected in terms of financial loss. Furthermore, although there were no deaths as a result of fires, there was an increase in the numbers injured, 39 compared with 28 in 2000/2001, mainly due to the effects of smoke inhalation.

The table below shows the overall statistics related to major fires for FY 1999/2000, FY 2000/2001 and FY 2001/2002.

	<b>No of Major Fires Reported</b>	<b>Losses Due to Major Fires</b>	<b>Injuries due to Major Fires</b>	<b>Fatalities Due to Major Fires</b>
<b>FY 1999/2000</b>	155	£1,918,445	9 Service 5 MOD Civilian 9 Civilians 2 MOD Fire Service	2 Service 2 Civilians
<b>FY 2000/2001</b>	125	£1,201,668	15 Service 6 MOD Civilian 6 Civilians 1 MOD Fire Service	Nil
<b>FY 2001/2002</b>	105	£1,791,141	23 Service 3 MOD Civilian 10 Civilians 3 MOD Fire Service	Nil

## Claims

The total number of personal injury claims received by the Department and its commercial claims handlers during Financial Year 2001/2002 were respectively 1121 for civilians and 819 for Service personnel. Compensation paid totalled £12.8M for civilians and £27.8M for service personnel.



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## Reports from SHEF Areas

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### THE ROYAL NAVY

Overall, the RN SHEF management performance is assessed as satisfactory. This is based on the results of internal audit using the format of the MOD SHEF Audit Manual and self-assessments within the RN High Level Budget areas.



**BR 9147 Navy Sector Safety and Environment Management System.** This BR, which details the Navy Sector top level management system covering all SHEF and 'functional' safety and environment management, organisation and arrangements was issued during the reporting period.

**SHEF Audit.** The MOD SHEF Audit Manual was issued August 2001. This document sets out the process for conducting SHEF Audits across the Budget Holder structure. The Navy Sector SHEF Management Systems continue to be subjected to internal audit and inspection and action plans are in place to correct discrepancies.

As mentioned earlier in this report an audit was conducted by Second Sea Lord and Commander in Chief Naval Home Command (2SL/CNH) of Flagship Training Ltd's (FTL) SHEF Management System. Overall the system was assessed as sound and considered to be operating very well. However the audit identified areas where there was some communication breakdown between FTL and the Key Customer Technical Services, which oversee and monitor the performance of FTL. Work is in hand to correct deficiencies.

**Accidents and Injuries.** Consolidated statistics for all MOD Service and civilian personnel, including the RN, are set out in the first part of this report. During the year the RN convened the following Boards of Inquiry (BOI):

- April 2001 - HMS Fearless in Portsmouth Dockyard. Navy diver drowned. The BOI concluded that fatality was due to drill failure (operator error). The HSE investigated the accident and the Coroner's Court recorded a verdict of accidental death.
- March 2002 - Two German Petty Officers were fatally injured during a boat transfer between a Rigid Inflatable Boat (RIB) and HMS Cumberland. Three RN personnel survived the same accident.
- July 2001 - Kyle of Lochalsh. During a trials dive testing 'diving tables' a diver ran out of gas. The HSE has investigated the accident but has yet to report. The Procurator Fiscal is investigating the need for a fatal accident inquiry.
- March 2002 - A diver died during a training dive at the Defence Diving School in Horsea Island. A BOI concluded that the fatality was due to operator error. The HSE investigation has yet to be completed. A MOD police civil inquiry is also taking place.
- March 2002 - Bogen Norway. Royal Fleet Auxiliary Sir Galahad reported the death of a Chief Petty Officer who died of asphyxiation after being trapped. The circumstances that led to his death are still being investigated.

As a result of the diving fatalities, the RN has initiated a complete review of the Diving Safety Management System by a full time investigation team. The team will report by the end of September 2002.

**Occupational and Environmental Health.** Key RN achievements for 01/02 include:

- **Health Strategy for the Naval Service.** The development, endorsement and issue of a Health Strategy for the Naval Service (HSNS). The HSNS is the Naval Service's element of the Surgeon General's Health Strategy for the Armed Forces (HSAF) and provides a framework for the protection and maintenance of health essential to improve the Operational Capability (OC) of the Naval Service. Improvement in OC can be achieved by identifying the factors which impact on the health of Naval personnel and their families, and the interventions required to promote and maintain their health and effectiveness. Work will take place to implement the actions identified in the Strategy during the next reporting cycle.
- **Health surveillance.** The HSNS also covers the principles of health surveillance, and is supported by a draft strategy and guidance on Health Surveillance for the Fleet. This is currently being refined by the Institute of Naval Medicine and will be issued in 02/03.
- **Food Safety Management - JSP456A.** The provision of substantial support in the production of JSP 456A, which was issued in Jan 2002 and which details MOD policy and procedures for food safety management and replaces single Service management policies.

Other important Occupational and Environmental Health issues during the reporting period were:

- **Communicable Disease Control.** The prevention and control of communicable disease in Naval personnel remains a high priority. Increased operational activity, together with deployment to areas with a high health risk, has raised the importance of accurate preventive deployment health briefs and effective control procedures. A review of current procedures is being undertaken.
- **Occupational and Environmental Health Support to Deployed Forces.** The provision of effective occupational and environmental health support on operations and exercises is an essential requirement of Joint Medical Doctrine. The successful deployment of Naval Environmental Health Officers on operations and exercises during the year has emphasised this important role, which will be further developed in 02/03.
- **Potable Water.** The contamination of the water systems of some ships in 01/02 has resulted in considerable effort from Naval Medical Officer of Health (Fleet) (NMoH(F)) staff to control and resolve the cause of contamination. Several contributing causes were identified including contaminated pipe-work, inadequate filters and the quality of water being supplied abroad. Corrective action has been completed.

**Fire Safety Management (Ashore).** The Fire Risk Assessment Methodology (FRAM) has been fully implemented across the RN estate, and is now subject to routine audit. The MOD Fire Safety Management Plan (FSMP) is being implemented with a projected completion target date of March 2004. The total number of FSMPs completed to date are 90 high risk buildings, 684 medium risk buildings, and 440 low risk buildings.

## THE ARMY

**Command and Control.** Reflecting the need to clarify individual responsibilities, particularly in respect of equipment safety, both Chief of the General Staff's (CGS) and Commander in Chief Land's (CinC Land) Safety and Environment Protection Statements have been heavily revised and duly signed. In parallel, greater direction on SHEF responsibilities within the chain of command is shortly to be included for the first time in both the Land Command Plan and in CinC Land's Letters of Delegation to senior commanders. The Army Safety Health Environment and Fire (SHEF) Action Plan for 2002/03 has in turn been developed to contain more specific targets for action at Higher Level Budget (HLB) level during the coming year.



**SHEF Performance and Audits.** D SEF Pol undertook a SHEF Management audit of Land Command in the period October to December 2001, for the first time covering all three SHEF management disciplines. The audit produced an overall rating of 78% and provided a number of helpful and positive findings. In February this year Chief Environment and Safety Officer (Army) (CESO(A)) conducted a SHEF audit on 4<sup>TH</sup> Division who achieved an evaluation of 75%. As a result of the recent agreement with CESO(MOD) that Service Authorities will in future become responsible for developing and setting their own Questions and System Requirements for audits of Basic Level Budget (BLB) areas, an Army Working Group has been set up to develop and trial the Army proposed BLB questions.

**Environmental Management System (EMS) Implementation.** Implementation has begun on 43 sites. Implementation on all regular Army sites is scheduled for completion of one third in 2002, another third in 2003, and the remainder in 2004. EMS implementation on TA and other small sites will be carried out (if required) in 2005. Site Travel Plans, if required, will be formulated as a result of each site EMS.

**SHEF in Operational Theatres.** A Customer Service Agreement has been set up between the Chief of Joint Operations (CJO) and the SHEF Support Organisation covering SHEF Support to Operational Theatres. The aim is to establish at what point any deployment is sufficiently mature to require SHEF support additional to that already provided by Environmental Health Officers (EHO). CESO(A)'s staff have been liaising with interested parties with a view to providing co-ordinated advice in theatre, should this be required by the local commander. The Army has taken specific tri-Service responsibility for the Balkan and Sierra Leone theatres.

**Advice to Commanders.** CESO(A) staff have recently published a handy pocket-sized Aide Memoire to assist the junior commander, in particular in preparing training risk assessments. It also includes an accident and incident reporting flow diagram. The Aide Memoire supports the issue last year of the Army's Commander's Guide to Health, Safety and Environmental Risk Management (ERM), which was well-received.

**Reducing the Burden of Injuries in the Army.** The Tri-Service Injuries Working Group has examined the problem of injuries in military personnel in considerable detail and made a number of proposals to reduce the burden in the future. It highlights the importance of the Chain of Command in injury prevention, and emphasises the need for a cultural change across the Services. The Training and Exercise Medicine Advisory Group held a tri-Service Training Injury Prevention conference at RMA Sandhurst in Mar 02 at which the papers presented clearly identified that training injuries continued to cause significant morbidity for military personnel.

**Incident Reporting.** CESO(A) staff are continuing to refine the business case for the establishment of a Land Incident Notification Cell (LINC), a 24-hour single point of contact to which units will telephone to report accidents and injuries and receive instant advice. It is intended that the Cell would then take on the administrative burden of CHASP (Central Health and Safety Project) reporting and alerting interested parties such as the chain of command, investigating bodies and, in the case of equipment failure, safety boards. The Cell will maintain a database to track remedial actions taken, produce trend analysis and, through proper archiving, support CL(F&S) Claims by providing background information with respect to claims against the MOD.

**Training Safety.** The Land Accident Prevention Team (LAIT) annual report which deals with all Army training accidents is disseminated Army wide. The report covers lessons learned and best practice. In FY 2001/02, 174 incidents were investigated by LAIT. Of these, LAIT deployed to 57 of them, including 6 deaths. These consisted of 2 killed in ammunition-related accidents, 2 in an accident where a Challenger overturned, 1 electrocution on overhead power cables on a railway, and 1 equestrian fatality in London. In addition to the 6 fatal accidents, there were a further 7 where LAIT provided assistance to the investigative authority on the site.

**SHEF Training.** During 2001, an initial Army Training Review and Scoping Study into health safety and environmental training for the Army was undertaken. This review identified three levels of training which are now being fully explored as part of a Training Needs Analysis (TNA) within the Army for Service and civilian personnel at all levels. This is due to report in mid-2002.

**Pollution Incidents.** Radioactive contamination at the old workshop site in Aldershot has been cleared up and work has started on cleaning up tritium contamination at the Donnington sewage works. Widespread but very low level radioactive contamination was discovered at the Kinnegar Logistic Base in Belfast. No action needs to be taken provided that there is no change of use. A radioactive survey of Kirkcudbright Training Area (formerly a tank gunnery experimental range), designed to identify areas contaminated with Depleted Uranium shot, was completed in March 02. The report has not yet been issued.

**Land Quality Assessments.** The Army is responsible for over 80% of the MOD estate. The circumstances in which it is Army policy to carry out a Land Quality Assessment LQA are when land is in disposal, when transfer between TLBs takes place, and when there is known or suspected contamination.

**Conservation.** The main problem during the year was the outbreak of foot and mouth which had a serious impact on the Army Training Estate's (ATE) capacity to deliver training, and which also inhibited environmental and conservation issues on the training estate. Work on the Integrated Land Management Plan (ILMP) continues with 8 ILMPs already produced, and advice being offered to other areas of MOD on the ILMP processes. The ATE is directly involved with the funding programme in support of the Rural Element of the Estate Strategy. On the conservation side, the active work of the numerous Conservation Groups continues under the guidance of Defence Estates Conservation. In particular the Hankley/Thursley Conservation Group, which is part of ATE Home Counties, won the Silver Otter Trophy for 2001 for their work on the environmental management of a World War 2 structure called the Atlantic Wall.

**Crown Censures.** There was one Crown Censure (shooting accident) and one Crown Improvement Notice (brake servicing procedures) during the year.

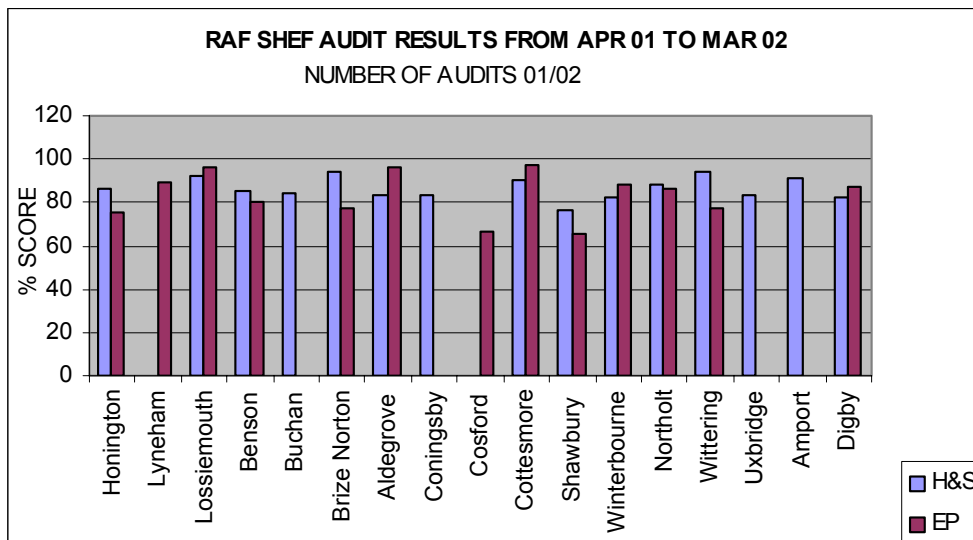
**Fire.** The provision of a deployable fire and rescue (F&R) capability is the core output of the Army Defence Fire Service (Army) (DFS(A)). This capability is synonymous with Fire Risk Management (FRM). The SHEF audit of the LAND TLB recognised that for Fire Safety Management there was a robust and efficient organisation in place maintained by the DFS(A). During the reporting period support was provided to 5 Military Operations and Exercise Saif Sareea II. DFS(A) personnel also

provided support to Operation FRESCO and Operation PENNYWORT. A total of 2073 FSMPs have now been completed, representing 79% of the Army Estate.

**Energy Management.** During the year Army activity has been primarily directed to implementing improved structures and procedures to maximise efficiency; provide better visibility of energy activity; improve consumption data; maximise the opportunity for benchmarking; optimise cost control and provide for a re-valourised baseline post SDR to reflect the consequent structural changes to the estate arising from the restructuring of UK Mainland from 5 to 3 Districts; restructuring of Territorial Army Volunteer Reserve Association (TAVRAs); creation of DLO; demise of the Quarter Master General (QMG), and the creation of the Single Army Estate Focus. An Army Utilities Management Team was created in December 2001 to translate government and Departmental high-level policy and targets into Army utility management policy, set targets and report on performance. Progress includes the recruitment of 15 of a planned 24 Energy Managers (ENMANs); installation of metering systems; £1.5M of funded Spend to Save measures; introduction of an improved management system for consumption and emission statistics; identification of RAF Monitoring and Targeting Bureau System for electricity to improve consumption validation and reporting, and refining further baseline re-valourisation for future measurement.

**THE ROYAL AIR FORCE**

**SHEF Audit.** The RAF has undertaken 17 Health and Safety Management and Environmental Compliance audits during the reporting period, using the D SEF Pol Audit Code of Practice. Environmental Management System audits are due to replace Environmental Compliance audits from April 2002. The performance indicator ratings are shown in the chart below.



**De-icing.** Many RAF stations have converted from Konsin, a glycol-based de-icer that can harm the aquatic environment, to Clearway 3, a less hazardous acetate-based de-icer. 73% of RAF stations now use Clearway 3 and it is hoped that all will do so by 2002/03.

**Environmental Management Systems (EMS) Implementation.** Over 70% of RAF stations have a functioning EMS in place and 3 stations, RAF Sealand, RAF Valley and RAF St Athan, have achieved accreditation to ISO 14001 as part of their business case.

**Land Quality Assessment Progress.** During 2001/02, the Command Scientific Support Branch (RAF) have completed nine Phase 1 studies as part of their 4-year rolling programme to cover the RAF estate. These have been completed despite the constraints imposed by the foot and mouth crisis and the priorities placed on the RAF by the Strategic Defence Review (SDR). The RAF has also introduced a policy to meet the requirement of local authorities, under the newly introduced Contaminated Land Regulations 2000, for information on possible contamination of the RAF estate.

**Awards.** During the year, the RAF received the following awards:

Location	Award
<b>Health and Safety</b>	
<b>RAF Buchan</b>	Retained the Scottish Health at Work Gold Award.
<b>RAF Leuchars</b>	Awarded the Royal Society for the Prevention of Accidents Gold Medal for Occupational Safety & Health 2001.
<b>RAF Neatishead</b>	Received a Regional Award from the HSE in response to the European Week for Safety & Health 2001.
<b>Environmental Protection</b>	
<b>RAF Coltishall</b>	Received the Energy in Buildings & Industry Award for Energy Manager of the Year 2001.
<b>RAF Manston</b>	Achieved a good result from Thanet District Council following their appraisal of smoke emissions from the fire fighting training area, due to the AEA technology commissioned by the station.
<b>RAF Spadeadam</b>	Received Gold Award from the Carlisle Environment Business Network based on the ISO14001 standard for small/medium size organisations that have good EP practices, and for the various conservation projects on the estate; these include the border mires regeneration project, the North Pennines Black Cock re-introduction programme and Red Squirrel watch.

**Environmental Pollution Incidents.** The following environmental pollution incidents were recorded in the reporting period (until March 2002). RAF Spadeadam: a fuel tank dropped during operations, resulting in contamination and remediation; and a fuel tanker crashed resulting in contamination and remediation. RAF Stafford: a sewage incident resulted in contamination and remediation. RAF Innsworth: a contractor-initiated diesel spill resulted in pollution to nearby brook. RAF Coningsby: a fuel spill led to the pollution of a nearby watercourse; however due to a prompt reaction by station personnel and contractors, contamination was kept to a minimum.

**Conservation.** RAF Leuchars, in partnership with Fife Council Ranger Service and Leuchars Primary School, continues to maintain the Leuchars nature trail. The Station Environmental Protection Officer at RAF Bentley Priory regularly attends the Harrow Nature Conservation meetings in support of the management of Bentley Priory Local Nature Reserve.

**SSSI Status/Condition.** RAF Fylingdales are currently working with English Nature and North York Moors ecologists on the management of the Sites of Special Scientific Interest (SSSI). RAF Barnham in consultation with English Nature is working to maintain and enhance the SSSI within

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the site so as to ensure the protection of a lichen. RAF Pembrey Sands, in conjunction with the Countryside Council for Wales, have developed a management plan to help maintain and enhance the surrounding area and SSSI.

**Travel Plans.** RAF Boulmer and RAF Marham have undertaken a station survey to look at the feasibility of introducing travel plans. RAF Brize Norton are in the process of establishing a travel cell to advise personnel on the most efficient and effective modes of transport. RAF Lossiemouth have implemented a cycle track from the station to the married quarters at Elgin, helping to increase the number of cyclists by at least 50%. RAF Spadeadam and RAF Winterbourne Gunner are currently working on travel plans.

**The Major Accident Control Regulations.** The Major Accident Control Regulations (MACR) are the MOD equivalent of the COMAH regulations. A total of 11 out of 15 stations have successfully achieved endorsement and the remaining 4 stations will be re-assessed by April 02.

**Waste Management.** 45% of RAF stations with offices of over 50 staff, in response to a recent survey, confirmed that they have implemented paper recycling and waste minimisation initiatives.

**Environmental Training.** Training remains high on the list of priorities and personnel with significant environmental responsibilities have been encouraged to attend the Environmental Protection courses at RAF Halton. During the reporting period the 11 modules were attended by a total of 701 RAF personnel. Furthermore, RAF Halton provides environmental training pan MOD and 6,565 MOD personnel attended either the EP modules at RAF Halton or one of the travelling road-shows conducted by the RAF Halton trainers.

**Health and Safety Management** Health and Safety awareness was raised during European Health and Safety week with many RAF Stations being involved in events and organising interactive presentations. RAF Fylingdales Safety Week revolved around topics concerning defensive driving, home fire safety, occupational health, domestic food hygiene and basic health and safety.

**Health and Safety Training** Health and safety training, like environmental training, remains high on the list of priorities and personnel with significant health and safety responsibilities have been encouraged to attend a number of health and safety courses at RAF Halton; the approved NEBOSH Certificate course at Tidworth College; and the radiation protection course provided by TUV Product Services. During the year these and other courses were attended by a total of 1638 RAF personnel.

**Utility Management** During 01/02 a baseline for RAF water consumption was established indicating annual consumption of just over 7 million cubic metres based on the figures for 00/01. Work is in progress to set targets for reducing water consumption and a programme of comprehensive reviews of Utility Management (UM) has begun at RAF Stations. Each review covers over 70 value-added activities that have a direct impact on utilities consumption. These reviews are aimed at developing a framework for best practice to be integrated into RAF UM Policy. To date 14 RAF stations have been reviewed, representing approximately 40% of the RAF. The RAF is planning to set up a central UM monitoring and targeting support unit with the aim of establishing a robust data collection system that will support both stations and commands.

**Fire.** After relocation from RAF Benson to RAF High Wycombe, the new Command Fire Officer reorganised working practices to provide a better customer interface and increase outputs. A number of new officers were posted in to assist in this process and given regional and specialist responsibilities.

During the reporting period the backlog of formal staff visits to operational fire services has been reduced and some 60% of inspections of units have been achieved to date. Fire Safety advice

and guidance to the RAF Infrastructure Organisation (INFRA) project managers and consultants has been a high priority.

A number of RAF firefighters and vehicles were deployed to Operation Saif Sareea II in Jul 01 and provided fire cover for the airhead. In Aug/Sep 01 Operation FRESCO (Liverpool) was initiated, providing emergency fire cover during industrial action; Command Fire Staff played an important role in the deployment of Defence Fire Service Officers, airmen, RAF firefighters and equipment. Two members of the Command Fire Staff were at all times in the Police control centre advising on the deployment of resources. In Jan 02, RAF firefighters and vehicles were deployed to Kabul Airport in support of Operation Veritas where they continue to provide fire cover at the airhead.

The domestic fire vehicles fleet across the RAF estate has reached crisis point with many of the vehicles 20 years old and suffering from poor reliability. Consequently, a number of stations are relying on spot hire, and in some cases stations have purchased second-hand vehicles from the local authority fire service and are having to fund servicing and repairs locally. Command Fire HQ Strike Command (STC) first prepared a case for replacement domestic vehicles in 1996. Since then the case has been raised many times without success. It was agreed at a meeting in Jan 02 between those directly involved that the situation was untenable and needed to be addressed as a matter of urgency. A number of short and long term solutions were discussed and the Airfield Vehicle Branch (AVB) RAF Brampton have now agreed to take total control of the domestic fleet problem and will be asked to report their strategy for replacement vehicles in the coming year.

The Formal Staff Visit (FSV) programme is due to be completed by mid 02. From Apr 02 Command Fire will be integrated into the SHEF audit programme, after which the FSV programme will be streamlined to deal with operational efficiency and associated performance indicators only.

Overall the RAF Fire Service is assessed as generally satisfactory with a small number of areas which require further development work and action in the next reporting period.

## THE DEFENCE LOGISTICS ORGANISATION

During the year the Defence Logistics Organisation (DLO) has worked with D SEF Pol to build on the progress reported last year, make further progress on issues of fundamental importance, and consolidate the effectiveness of the SHEF Focal Point framework.

A new contract for the provision of Occupational Health Services (OHS) to MOD civilian personnel, mentioned above in the account of the work of the SHEF Board, will be announced in May 2002 and will run from 1 September 2002. Through membership of the MOD OHS Reference Group, DLO made a positive contribution to the Statement of Requirements (SOR), detailing the type of OHS that the contractor will provide.



The revised JSP 375, the MOD Health and Safety Handbook, which is the DLO's source document for the management of health and safety, was published in October. The DLO provided members for all the panels set up to rewrite the JSP. A supplement was also published by the DLO, describing aspects of health and safety management unique to the DLO.

**Audit** The DLO has also been a major contributor to the continuing evolution of the MOD Audit Manual. Business Units are using the manual and contributing to its development. The DLO verification strategy, which describes the way the DLO will measure performance, was implemented in the reporting year and three elements of the organisation have so far been subject to the review procedure. A full programme of reviews will be carried out during the next reporting year.

While Business Units will be carrying out audits in accordance with the manual, the DLO strategy is that audits will not take place at the TLB level. Instead, an annual assessment of SHEF performance will be carried out as published in the DLO SHEF Performance Measurement and Verification Strategy referred to above. This methodology provides assurance to CDL whilst acknowledging the delegated authority, autonomy, and risks and responsibilities of SHEF specialists and duty holders in the Business Units. At the same time it will reduce bureaucracy through reducing the layers of audit. A key part of the verification process is a one-day review with the primary and SHEF focal points, including a visit to the management board member responsible for safety.

**Fire.** Convergence and harmonisation of Fire Safety Management Plans (FSMPs) continued, with information and documentation being received from other TLB Focal Points. Work is continuing, in conjunction with Area Fire Prevention Officers (AFPOs), to establish the extent to which FSMP has been implemented across the estate. However, completion of the process meeting the requirements of the Fire Precautions Workplace Regulations 1999 as amended, was not achieved in March 02 due to resource difficulties. At the present time, 73% FSMP's have been completed, final completion target date now Mar 03.

On reorganisation the DLO inherited a significant number of completed Fire Risk Assessment Methodology (FRAM) assessments from the management areas previously responsible. The purpose of FRAM is to identify a level of protection appropriate to the strategic and monetary value of assets and facilities. The process has recently been the subject of review by the Fire Protection Association (FPA) following internal audit. Once improvements have been agreed, it will be carried forward for completion across the DLO estate.

**Staffing.** Business Units (BU) have sought to address the SHEF resource problems resulting from continued DLO reorganisation reported last year. While progress has been made, there remains a net shortage of competent staff. The difficulty is primarily in recruiting and retaining new staff who are required to obtain formal qualifications, particularly in health and safety, and who then leave for more lucrative jobs in industry. This has had an adverse effect on the organisation's ability to manage SHEF effectively this year, and will continue to do so.

**SHEF Performance in the DLO.** The lack of audit programmes within some BUs has affected CDL's ability to measure compliance. This reflects the shortage of SHEF resources and the disruption and effort of reorganisation.

**Legislative Compliance Costs.** New SHEF legislation continues to be developed, particularly in the areas of health and safety and the environment. There is a consistent load which impacts strongly on the DLO. Various Integrated Project Teams (IPTs) will have to consider the effect on lead time procurement programmes for spares and components such as alternative solders. Dangerous Substances and Explosive Atmosphere Regulations (DSEAR) and changes to asbestos legislation will require BUs to conduct surveys and introduce registers for asbestos in buildings. The Physical Agents Directive (Noise) and the Physical Agents Directive (Vibration), dealt with elsewhere in this report, will also have an impact. At present, the cost of compliance is absorbed by the business but an undeclared lack of resources could result in the DLO being unable to comply in future. To avoid this, the cost of compliance needs to be properly articulated within the DLO and other TLBs, in order to inform future debate within MOD and with other government departments taking the lead in negotiations.

**Land Quality Assessment.** DLO faces potential remediation costs for cleaning up land contamination in support of estate rationalisation. Further contamination due to inadequately maintained estate infrastructure, or legacy issues, is a potential business risk. Some HLB areas have been less successful than others in respect of Land Quality Assessment (LQA) Status

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reporting, which means that the extent of risk cannot yet be established and a funded DLO remediation strategy developed.

**Energy Management.** Failure by all HLBs to comply with energy efficiency policy and targets means that energy cannot be properly managed, a complete picture cannot be reported to the DEFRA, and potential savings cannot be realised. Provision of required consumption data per HLB ranged between 0% and 90% in terms of completeness with no HLB being able to provide FY99/00 baseline figures. This situation is a result of the nature of the DLO i.e. a new, complex and unsettled amalgam of other Service support functions/establishments coupled with a lack of manpower and financial resources. Actions are in hand to correct the deficiencies.

**Equipment Acquisition.** As required in the Secretary of State for Defence's Policy Statement on the Management of Safety and Environmental Protection in the MOD, there is a need to conduct Environmental Impact Assessments (EIAs) for both new and in-service equipments in order to define environmental risks and to provide for appropriate mitigation. As both DPA and DLO IPTs are subject to these requirements, the issue of EIAs will need to be tackled in the forthcoming programme for interoperability between the Defence Procurement Agency (DPA) and the DLO, to ensure that streamlined systems are put in place and that these in turn feed the systems being developed for operational commanders.

**Rail Safety.** The railway business is an increasingly important part of MOD's strategic movement capability. The Defence Railway Executive (DRE) exists to provide the MOD with a rail operating capability. The Department has no exemption from national railway safety legislation and the DRE is currently awaiting HSE clearance of its Railway Safety Case (RSC). Within the DLO, there were no significant accidents or incidents during the reporting period. However there were, unfortunately, two serious incidents leading to two fatalities associated with military activity on foreign railway systems. Although these incidents were not connected with the DLO and those concerned were not railway staff, they underline the importance of continuing the provision of safety training to all MOD staff involved with railway operations.

Current concerns relate to a shortage of specialist rail training staff and facilities, the provision of training for container/rail wagon loading, and the fact that the DRE has yet to produce a full Environmental Management System (EMS).

Successes during the reporting year included: increased awareness of the importance of rail safety training, resulting in more and better focused training delivered to military and civilian personnel; the compilation of a detailed and accurate asset register, enabling more targeted management attention to be given to environmental and safety issues; significant investment in the replacement of worn-out track in exchange sidings at Bicester; the completion of a programme to eliminate all loose-coupled (non-air braked) internal-use wagons at Bicester, thereby reducing risk of runaways and collisions; and, the purchase of two "Minilok" road-rail prime movers to replace the ageing UNIMOGs in order to deliver safer operation and greater operating efficiency in depots.

Pending the outcome of the HSE's deliberations over the RSC, the MOD's rail safety is assessed overall as satisfactory.

**Fuel Safety.** The Defence Fuels Group (DFG) meets its Fuels safety responsibilities in three ways. It publicises and distributes civil legislation and military policy through the medium of JSP 317 and JSP 319; checks that this policy is being followed at unit level through a series of licensing inspections; and monitors fuel spillage incidents through a reporting system that is reviewed to identify trends.

The MOD-wide management of fuel safety is secured through two committees, the Defence Fuels & Lubricants Committee which co-ordinates all fuels-related activities, and the Environment Safety

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& Training Sub-Committee which co-ordinates MOD Fuels policy pertaining to the environment, safety and training.

The DFG achieved its aim of rewriting, printing and distributing the new 4<sup>th</sup> Edition of JSP 317, the Joint Service Safety Regulations for the Storage and Handling of Fuels and Lubricants, at the beginning of 2002. This has been a major achievement, having taken some 2 years to rewrite.

A review and amendment programme has been established to ensure that the publication remains accurate. DFG have also established a Working Group to review JSP 319, the Joint Service Regulations for the Storage and Handling of Liquefied Petroleum Gas (LPG), in line with current legislation and industry best practice.

One HSE Prohibition Notice is pending for the MT refuelling facility at Princess Royal Barracks Deepcut. However, remedial action has now been taken.

**Food Safety.** Defence Catering Group (DCG) has lead responsibility for the production of food safety policy within the DLO. The ultimate responsibility for ensuring food safety, whether the provider is a contractor or service staff, lies with the unit Commanding Officer. Strategic and policy guidance on food safety is provided by the Defence Food Safety Management Committee, which includes representatives of the Food Standards Agency and Local Authority Environmental Health interests, as well as interested parties in MOD.

JSP 456A, Defence Food Safety Management, became the manual of Departmental food safety policy in Jan 02 and has been well received in the MOD catering community. Codes of Practice to support it have been produced for use by Service personnel who have to prepare their own food, without the support of trained chefs, and for purchasing food without specialist advice and support. The establishment of a single food safety focus in DCG has strengthened the Department's relationship with the Food Standards Agency and the Defence Home Authority, and DCG continue to build on this.

The Performance Indicator (PI) mechanism, based on inspections by Service catering and environmental health staff continues to mature. While there have been lapses, usually as a result of a lack of attention to detail and basic management practices at local level, there have been no breaches of food safety legislation leading to statutory enforcement action during the reporting period.

## THE DEFENCE PROCUREMENT AGENCY

The Facilities Management Group (FMG) is responsible for Occupational Health, Safety and Environment support to the whole of the DPA, and other agency staff occupying Abbey Wood. Occupational hygiene monitoring and fire advice is provided by the Safety Services Organisation (SSO) under a Customer Service Agreement (CSA).

The FMG SHEF Office have published two documents, on the Management of Safety, Health & Environment in the DPA, and Health and Safety at Abbey Wood, to provide guidance to staff and contractors and to the agencies sharing the site such as the DLO and WSA. The SHEF Website has been updated and rationalised, is monitored by the Safety Office, and is subject to continual updates.

To assist in the dissemination of SHEF information, each Integrated Project Team has a nominated Local Safety Adviser (LSA). Extending their duties to include the environmental aspects of SHEF, including Environmental Management Systems, is being considered and training will take place in June 2002.

**SHEF Performance and Audit Results.** The DPA was subjected to a TLB Audit by D SEF Pol during July and August 2001. This highlighted several deficiencies and the audit score was in the lower quartile of TLB scores. Corrective action was undertaken and when the site was audited

again in March 2002 the audit score had improved from 59% to 85%, placing the DPA in the upper quartile of TLB scores. An action plan from this re-audit is being prepared to increase the score further.

Seven internal audits were carried out during the last reporting year on the following IPTs and Support Groups: Facilities Management Group; Attack Helicopter IPT; Attack Submarine IPT; Mobility IPT; Auxiliary Oiler IPT; Strategic Tactical Radio Systems IPT; and Defence Ordnance Safety Group. The results showed mainly that management systems were in place and some fine-tuning was required. It is planned to undertake more audits in the next year, utilising the new BLB SHEF Audit procedures issued recently by D SEF Pol.

**EMS Implementation.** Over the last reporting year, the DPA have made good progress in the compilation of an EMS. Milestones achieved include the research for and compilation of a site-specific Environmental Manual, due for publication in draft form in June 2002; the identification of local SHEF representatives; and the construction of a programme of Environmental Risk Assessments. The target date for full implementation of the DPA Environmental Management System is mid-2003.

**Pollution Incidents/ Enforcement Prohibition Notices.** Within the grounds of Abbey Wood is a lake which acts as a collection point for storm water from the car park drains before it is released into the local water courses. Over the last year there have been reports of a slight contamination of the lake by hydrocarbons. Although oil interceptors are fitted, the maintenance regime combined with the heavy rainfall towards the end of 2001 was considered to be responsible for the contamination. None of the local watercourses was affected. The site Establishment Works Consultant (EWC) is monitoring the situation and the maintenance regime has been increased to ensure the oil contamination is eradicated.

**Land Quality Assessments.** A study to establish the existence of any contaminated land in DPA ownership will be completed in the next year. At present, there are no known contaminated areas.

**Buildings/Utilities Management.** The buildings and utilities are controlled and maintained under a Total Facilities Management (TFM) contract provided by Serco Defence. Together with the Site Services Manager (SSM) and the EWC, they are responsible for ensuring the plant and equipment is maintained correctly and that energy saving innovations are implemented. The DPA Environmental Adviser, in the role of Energy Manager, co-ordinates the energy management plan and gives advice. The groundwork for the plan has been completed this year and it is expected to have it fully working over the next few months.

To assist in monitoring utilities consumption, Serco have installed software on the Building Energy Management System that will automatically check machinery performance and the metering systems attached. It is hoped that meaningful data will be produced within 6 months for inclusion in the energy management plan.

A trial was arranged at the end of the year to establish the feasibility of reducing water consumption in the site urinals. Two biological systems (Ecobug and Envirofresh) have been installed in separate areas to test the utilisation of waterless urinals. Results of the trial are expected in the middle of 2002.

**Travel Plans.** The DPA has a green travel plan and a post of Travel Plan Co-ordinator, which should be filled in mid 2002, has been established.

**Waste Management.** Waste management is a service provided under the TFM contract. Serco employ a nationally recognised waste recycling management company, whose reclamation levels are significantly above the requirements of EC Directive (94/62) on packaging and packaging waste. Last year's figures for waste managed are:

General Waste	313 tonnes
Paper	370 tonnes
Cans	1300 kg
Glass	Nil
Fluorescent tubes	550 kg

To increase recycling the installation of a paper disintegrator has been planned and designed and is due for installation in the next year.

**Conservation/Biodiversity.** Abbey Wood covers approximately 98 acres of land, with a large proportion being landscaped. The grounds are maintained through the TFM contract which is written to include biodiversity considerations. Grassed areas are graded from formal lawns to natural areas and cut accordingly. The natural areas are left long and wild to encourage wildlife. There is an active voluntary environmental group on the site who regularly monitor the grounds, record the wildlife, and advise on improvements.

**Health and Safety Management.** The Safety Office has undertaken all risk assessments on site, storing them on the Knowledge Base to enable access by all personnel. At present, there are no known significant risks to control.

**Occupational Health.** Abbey Wood is served by civilian and military Occupational Health (OH) Nurses who work closely with the Safety Office. Over the reporting year they have been actively involved in advising on workplace conditions, particularly Display Screen Equipment (DSE), and health awareness, in particular smoking. Many DSE Assessments have taken place and training to increase the number of assessors has been well received.

**Legislative Issues.** Noise emitted by the fire alarm sounders was perceived to be excessive. A survey undertaken by the EWC confirmed this and adjustments were commissioned which lowered the levels of all sounders to ensure compliance with the Noise at Work Regulations (NAWR)1989.

**SHEF Training.** Courses during the year included induction courses for new joiners; Display Screen Assessor training; and Health Safety and Environment awareness courses for senior management, well attended by the Executive Board. A further 23 Local Safety Advisers been successful at the IOSH-accredited Managing Safely course at RAF Halton. Managing Safely and environmental courses will be provided in the coming year at Abbey Wood. Fire Safety training will receive a major overhaul over the next few months.

**Fire Risk Assessment Methodology.** The Fire Risk Assessment Methodology (FRAM) was introduced for Abbey Wood in February 1999 and no amendments have been made. Fire Safety Management Plans (FSMPs) for all the buildings in Abbey Wood (17 in total) were completed over the last reporting year. The FSMPs are monitored by the MGS Guard Service and weekly reports of defects made to Serco, the Site Services Manager and the Safety Office.

## CHIEF OF JOINT OPERATIONS

This report covers the three separate Overseas Commands: British Forces Cyprus (BFC); British Forces Falkland Islands (BFFI); and British Forces Gibraltar (BFG). Following an audit of SHEF in Operational Theatres in 2001, mentioned earlier, recommendations are being implemented to ensure that SHEF issues can be reported on for the whole of the Chief of Joint Operations (CJO) area. These include giving the SHEF Support Organisation (SSO) the authority and responsibility

for the co-ordination of SHEF support to deployed forces, calling on single Service support as necessary.

Organisation	Audit Result	Notes
CJO SHEF Audits		
Falkland Islands SHEF audit (April/May 2001)	93%	

#### SHEF Performance and Audit Results

**Environmental Management.** In general, audits have shown that environmental management lags behind its health and safety counterpart. Health and safety systems have had time to mature, whilst Environmental Management Systems (EMSs) are relatively new and suffer from understaffing and underfunding. However, each of the three Commands is active in implementing an EMS, with BFG having taken on temporary staff to get the work started.

MOD policy is to apply UK standards where reasonably practicable and in addition to comply with host nation standards. All three Commands suffer to some extent from the effects of being a MOD base in countries where environmental standards and legislation differ from, and are generally lower than, those of the UK.

Logistical solutions continue to be sought to problems caused by specific regulations. For example, the Transfrontier Shipment Regulations 1994 commit producers of special waste who wish to return it to the UK for disposal, to notify the countries through whose territorial waters it could pass. This acts as a disincentive to contract companies to ship waste to the UK for processing, and is a particular problem for BFFI because of its distance from the UK.

**Health and Safety Management.** BFG and BFC have specific problems with control of contractors, because they recruit locally employed civilians and place contracts with local contractors whose health and safety culture usually differs from that of UK contractors. Nevertheless Commands are meeting the spirit of the Control of Contractors regulations in ways that combine policy requirements and local practices.

**SHEF Training.** Training courses run by SSO during the year included an EMS workshop in BFFI, health and safety training for senior staff and middle management, and a course on managing safely in BFG. A wide variety of SHEF training is also provided in-house by the local Health and Safety and Environmental Advisers, and also by other providers such as Department of Specialist Management Training (DSMT) at RAF Halton, and the Army School of Logistics.

**Fire.** The Fire Risk Assessment Methodology (FRAM) process used to identify fire protection measures for strategic assets remains suspended pending the outcome of the Fire Protection Association's review of the FRAM programme. FRAM Phase 1 data gathering is 100% complete for Cyprus, Gibraltar and the Falkland Islands and the data continues to be reviewed and updated pending the outcome of the review.

Good progress is being made on the implementation of the Fire Safety Management Plans (FSMP) used to identify risks to life safety and secure compliance with the Fire Precautions (Workplace) Regulations 1997. The majority of buildings now have an FSMP in place and the audit programmes are maintained at 100% completion to maintain fire safety standards through the re-inspection of premises. New airfield crash fire and rescue tenders have been successfully

introduced at RAF Akrotiri, Gibraltar and the Falkland Islands. A new fleet of domestic fire vehicles is operating well in Cyprus and the replacement of domestic fire appliances for Gibraltar and the Falkland Islands is being planned.

Fire safety improvements have been completed at Gibraltar's Kings Lines, including new fire detection, fire compartmentation and fire doors. The new airfield fire fighting water main project is due to start this financial year. CJO Fire Brigades continue to provide a high level of fire service support. Gibraltar won the SSO Fire Brigade Annual Technical Efficiency Award. In Cyprus, work on the new fire station at Ayios Nikolaos has started with a 40 week construction programme and construction is due to start soon on the new station at Episkopi.

A preliminary SHEF audit of the HQ Northwood site, which becomes the responsibility of SSO on 1 Apr 02, has been carried out, works service projects have been allocated Project Fire Officers, and a Fire Officer has been appointed to the Northwood Public Private Partnership (PPP) Evaluation Team.

## CENTRE TLB

The main focus for the Centre TLB (CTLB), which consists of 15 Agencies and 80 Basic Level Budget areas, lies in a small number of buildings in the centre of London with agencies sited at other locations, from Defence Bills Agency (DBA) in Liverpool to Royal Hospital Haslar at Gosport.

Organisation	Audit Result	Notes
CTLB SHEF Audit		
Finance Director	Postponed	Insufficient auditable material at HLB. Assistance has subsequently been provided by SSO and audit will now take place in early 03.
Defence Bills Agency (DBA)	63%	
Disposal Services Agency (DSA)	77%	

### SHEF Performance and Audit Results

The audit scores show reasonable systems in DBA and Disposal Services Agency DSA, but with room for improvement, particularly in the area of environmental management.

**Environmental Management.** Environmental management across the CTLB continues to lag behind H&S management due to lack of resources. In particular, there is currently no focus for sustainable development or environmental management systems within the CTLB, though the imminent appointment of a CESO(Centre) will go a long way in resolving this issue.

**Health and Safety.** After 11 September an anthrax alert tested the procedures for the distribution of information and risk assessment in the CTLB. Although for the most part both operated effectively, there were some areas where staff did not receive the necessary information or received it from a variety of sources, and further work to refine the focal point system is under way.

**SHEF Training.** Courses held during the year included H&S workshops for focal points in St Giles Court; DSE assessor training given to staff in DBA and DPA Abbey Wood; a Manual Handling course for staff at Abbey Wood; risk management workshops given to staff at RH Haslar; and EMS workshops at St Giles Court.

In general terms the take-up of health and safety training, particularly for line management, in the CTLB has been poor. To combat this low response rate, raise awareness of Safety, Health and

Environment (SHE), and produce an increase in course attendance, and as a part of a general publicity package, SSO is developing a web page and will publish a series of newsletters.

**Fire.** The establishment of the London-based SSO Fire Officer post has improved the standard of fire safety in the London area by providing a central focus for all fire-related matters. The Fire Officer provides specialist fire advice to all the staff in London, as well as to the St George's Court Refurbishment and Main Building Redevelopment Projects.

The Fire Risk Assessment Methodology (FRAM) process used to identify fire protection measures for strategic assets remains suspended pending the outcome of the Fire Protection Association's review of the FRAM programme. The FRAM process will continue once the review has been completed and D SEF Pol have confirmed its acceptance for use.

Good progress is being made on the implementation of the Fire Safety Management Plans (FSMP) with the majority of buildings now having an FSMP in place. All FSMPs are audited by SSO Fire Officers at 1, 3 or 5 yearly intervals, depending on the risk category. Computer-based Fire Awareness Training has been implemented in most buildings and training packages are continually reviewed and updated.

The general standard of fire safety is good and the regular no-notice building fire evacuation drills have improved staff reactions and helped to test the building evacuation procedures. However, there have been instances of staff and managers failing to accept responsibility for fire safety and allowing standards to deteriorate. A recent fire in Northumberland House, with the probable cause being smoking-related, has highlighted the need to enforce the strict control of smoking and the maintenance of high housekeeping standards. Fortunately no-one was injured.

The Crown Premises Inspection Group has renewed the Fire Certificate for St Giles Court following improvements to the fire safety measures as part of the Decant Project. All remaining buildings have Fire Certificates in force except for Main Building and St George's Court, which will be issued with new Fire Certificates once the buildings have been fully re-occupied.

## **SURGEON GENERAL'S DEPARTMENT**

A quinquennial review of the Defence medical Agencies and other key elements of medical provision (the Medical Quinquennial Review - MQR) was completed in 2001/2

The MQR concluded that:

Surgeon General (SG) should be formally empowered, on behalf of Vice Chief of the Defence Staff (VCDS), to exercise strategic oversight of the Defence Medical Service (DMS) by means of an annual medical services delivery and investment plan.



All elements of the DMS must be focussed on the delivery of the two key Defence medical outputs, i.e. a trained and deployable operational medical capability and the provision of effective healthcare to ensure a fit Service population.

The Medical Agencies should be re-aligned and restructured so that their outputs are aligned with the two key outputs, and to enable them to achieve continuous quality improvements in performance. The Defence Secondary Care Agency is to be disestablished with responsibilities for commissioning secondary healthcare transferred to Surgeon General's Department (SGD), whilst responsibilities for personnel placement are to be transferred to a new enhanced Defence Medical Education and Training Agency (DMETA). In line with this the SGD is being restructured with

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Directorates focusing on the two key outputs, supported by Medical Policy and Finance and Secretariat Departments.

**SHEF - Joint Working.** SGD has been liaising actively with MOD departments and other government departments (OGDs) to provide advice, assistance and support where necessary. Within MOD, for example, the following collaborative work has been undertaken:

With Service Personnel Policy (SP Pol) leading, SGD has been working in support of the Injuries Steering Group (ISG) which was established to take forward initiatives proposed by the Injuries Working Group (IWG), which is part of the Armed Forces Overarching Personnel Strategy (AFOPS), on an initiative to raise the number of effective personnel for operational deployment.

In addition to routine committee work, SGD has assisted DSEF Pol with work on depleted uranium (DU); halon alternatives; civilian radiation worker compensation scheme, and civilian Occupational Health (OH) provision.

**Policy Formulation.** As well as the clinical direction given by the department, SGD has been actively involved in the development of policy across all SHEF areas. SGD has provided specialist advice and guidance in the following areas:

***MOD Occupational Health Advisory Committee.*** This committee has been established under the chairmanship of the Directorate of Medical Policy (D Med Pol). Its primary purpose is to provide a focus for the formulation and development of advice on all occupational health matters affecting the MOD.

***Civilian Occupational Health (OH) Provision.*** In a joint undertaking by DSEF Pol and SGD, the Directorate of Management and Consultancy Services (DMCS) was commissioned to examine the provision of civilian OH. Subsequently, work has been undertaken by both parties to establish SORs for future OH contractors. Work is also in progress to develop a medical standard for civilian workers who deploy on operations.

***Depleted Uranium.*** Extensive work is being carried out by SGD in liaison with a number of MOD departments and OGDs on the issue of DU screening/surveillance policy.

***Environmental Issues.*** The Department has also been active in contributing to the generation of policy documents looking at environmental industrial and radiation hazards. SG's particular contribution has been to ensure that environmental policies take into account the short term effects on individual health, as in some cases seeking to comply with environmental best practice can pose a risk to individuals implementing the environmental policies.

***Specialist Advice and Monitoring.*** Specialists in public health, occupational medicine and environmental health have provided strategic HS&E advice and operational hygiene monitoring services to commanders across all areas of activity in the UK, Germany, Balkans, Sierra Leone, Afghanistan and other theatres, covering such diverse issues as lead, asbestos, DU, radiation, foot and mouth disease and immunisation.

***Force Protection Policy.*** Medical policy in this area has been reviewed. Policies have been developed to protect health by reviewing immunization and malaria prophylaxis policy.

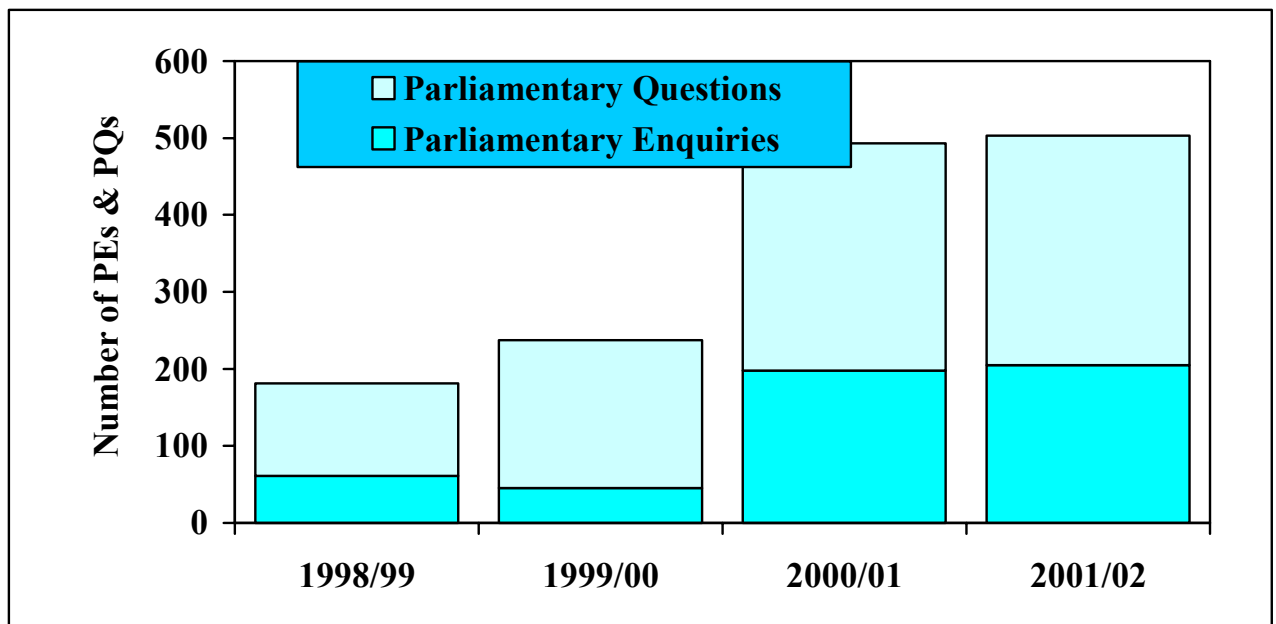
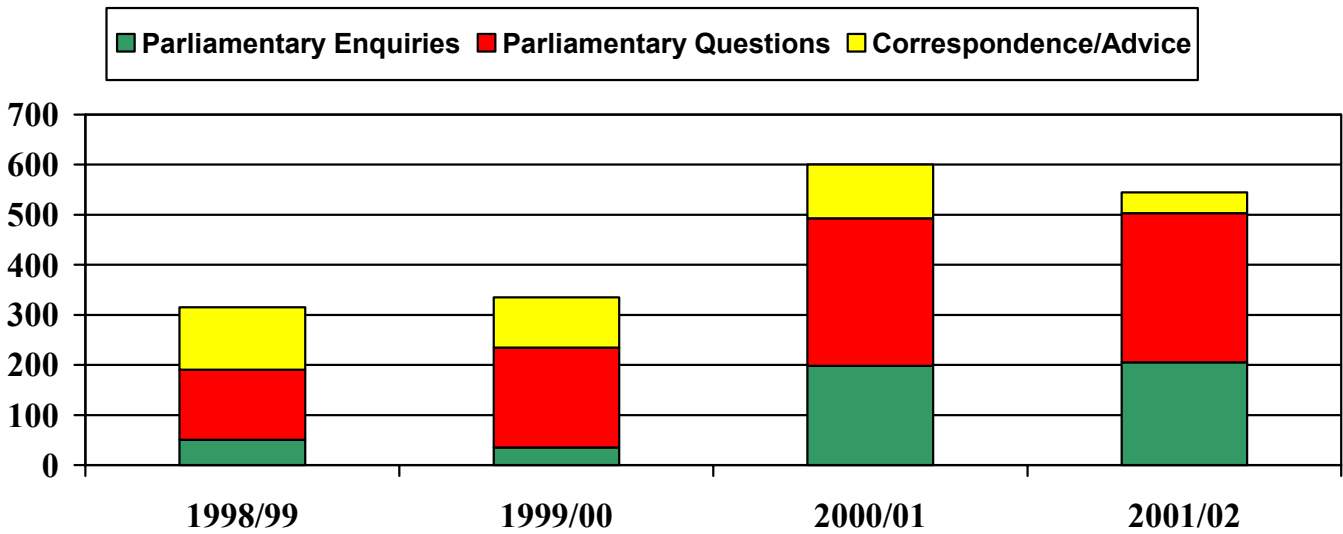
**Health Surveillance.** SGD has commissioned research from Dstl to develop robust, deployable systems for health surveillance. During Phase 1 of the project, work was contracted to Birmingham, Leicester and London Universities and scoping reports were submitted for evaluation in Nov 00. Phase 2 has involved further work by Leicester and London University and the former have issued an interim draft report with the London report expected in late 2002.

**PART 2**

**SHEF POLICY DEVELOPMENT**

## Ministerial Business

The volume of Ministerial and Parliamentary business on SHEF issues handled by the Directorate of Safety, Environment and Fire Policy has remained high overall, with a modest increase in Parliamentary Enquiries (PEs) and Questions (PQs) from 493 last year to 503 this year, but a reduction in official correspondence from 107 last year to 47 this year. The two charts below respectively show the total business handled over the last four years and, separately, the total number of PQs and PEs.



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## National Policy Initiatives

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### GREEN MINISTERS

Following the General Election in June 2001, the remit of the Cabinet Committee on the Environment (ENV) was strengthened to move away from simply co-ordinating sustainable development issues to monitoring and reviewing the impact of Government policies on sustainable development. To support ENV more effectively in this role, the Green Ministers' Committee was upgraded to a formal sub-Committee of ENV (ENV(G)). ENV(G) has a much stronger focus on policy than its predecessor, and is monitoring work by all Departments to ensure that sustainable development is integrated into core business processes and decision-making.

A detailed work programme has been developed for ENV(G) to address sustainable development across Government in the short and long term. This includes:

- Ensuring sustainable development priorities are reflected in Spending Review (SR) 2002;
- Highlighting the need for greater use of integrated appraisal;
- Agreeing a revised model framework for sustainable development on the government estate;
- Promoting wider awareness of sustainable development throughout government departments; and
- Publishing departmental sustainable development strategies by 2003.

The Third Annual Report from Green Ministers, launched on 27 November 2001, highlighted examples of good practice and innovation, including MOD's work on Environmental Management Systems (EMS) and renewable energy projects. The next report from ENV(G) will address sustainable development in Government, concentrating on the environmental and social impacts of the activities of departments.

New cross-government targets to be agreed by ENV(G) will require departments to achieve significant improvements in their sustainable development and environmental performance. These will be published over the next year, covering the following areas:

- Environmental Management Systems
- Travel
- Water
- Energy
- Waste
- Procurement
- Biodiversity
- Estates Management
- Social impacts

The targets are not intended to be prescriptive, and departments will be able to decide for themselves the action to be taken.

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## SUSTAINABLE DEVELOPMENT

The importance, which the Government attaches to sustainable development, has been clearly highlighted by the Prime Minister's personal commitment to attend the World Summit on Sustainable Development in Johannesburg in September 2002. It was also reflected in the launch on 13 March 2002 by the Rt. Hon Michael Meacher MP, Minister of State for the Environment, of the second Government Annual Report (2001) on Sustainable Development. This builds on the strategy for sustainable development for the UK, published in May 1999, and Government commitments to report annually on progress towards sustainable development.

The report:

- Stresses the goal of delivering sustainable development;
- Underlines the importance of reporting as a driver to meeting commitments;
- Draws attention to the range of activities taking place at different levels and sectors of government and society, and in partnerships; and
- Reports progress against headline indicators.

Across government, all departments, including MOD are expected to contribute fully to sustainable development by:

- Integrating sustainable development into policy making;
- Improving the performance of the Government Estate; and,
- Promoting understanding of sustainable development.

By its very nature, MOD's Mission to defend Britain, its overseas territories, its people and interests, and to act as a force for good by strengthening international peace and security, addresses the objectives of sustainable development. Without International peace and security, the basic prerequisites for the achievement of sustainable development cannot after all exist. The Department is already making a positive contribution to the Government's sustainable development indicators through a whole raft of existing environmental and social initiatives, either directly generated from the earlier agenda set by ENV(G) (formerly Green Ministers), or which are already well developed such as health and safety, diversity and so on. MOD also took forward a number of new initiatives during the year.

**Spending Review 2002.** Reflecting the Government's intentions, a major action for the Department was to ensure that sustainable development was fully incorporated into our bids for Spending Review (SR) 2002. This involved producing a Sustainable Development Report to accompany the Analysis of Resources. MOD conducted a full sustainable development appraisal of its SR 2002 bids and produced a report in March 2002, explaining how the integrated environmental, social and economic elements that make up sustainable development had been appraised.

**MOD's Sustainable Development Strategy.** Despite the considerable work MOD has already undertaken in support of sustainable development objectives, many of our activities to date have been conducted within separate agendas, fully joined-up links to sustainable development having neither been recognised nor addressed. Work has begun, therefore, to bring all these individual

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activities and initiatives together into a coherent MOD sustainable development strategy, linked to a set of social, economic and environmental indicators of particular relevance to MOD business. The following five parallel workstreams have been identified:

- Indicator development based on the Government's model (and including sub-workstreams on procurement and data capture);
- Appraisal tool development;
- Guidance, training, leadership, awareness raising;
- Reporting;
- Review

To oversee the overall strategy and the work of the individual workstreams, it is planned to set up a sustainable development steering group representing the main stakeholders in MOD.

**Other MOD activities supporting Sustainable Development.** These include the following:

- MOD officials contributed fully to the development of the [Framework for Sustainable Development on the Government Estate](#) and the cross-government targets. The Framework, together with a first suite of targets for Environmental Management Systems, travel, and water consumption was launched in July 2002;
- An expanded chapter on sustainable development has been published in JSP 418, the Environment Manual, and a detailed outline of the importance of sustainable development has been placed on the MOD's Intranet Knowledge Network;
- Preliminary work has been conducted on a MOD-specific set of sustainable development indicators;
- Environmental training has continued across the Department, based primarily on a suite of courses run by the Department of Specialist Management Training at RAF Halton;
- We have published in JSP 418 guidance on the conduct of environmental appraisal of policies, and environmental impact assessments of operations and projects;
- MOD has been involved in the social aspects of sustainable development, in the form of regional and educational initiatives. The Department has also undertaken other programmes relevant to sustainable development covering diversity, Investors in People, sick absence, housing, listed buildings and community and voluntary support.
- Defence Estates has published the Appraisal Handbook for Sustainability and the Environment (also mentioned in the Estate Strategy section of this report), which has been widely distributed and is available in electronic form. This handbook provides practical guidance on the conduct of sustainability appraisals in relation to developments on the defence estate. The handbook is supported by a comprehensive training programme.
- MOD has begun to introduce sustainability criteria in the selection of construction contractors. A two day industry workshop has been held and a number of contracts are being let where industry's ability to deliver sustainable projects has been assessed.

**The Way Ahead.** As demonstrated by the above and other parts of this report, MOD is already making a significant contribution to the objectives of sustainable development. With the support of MOD's Ministers, including Dr Lewis Moonie MP, who is the Department's Green Minister, the 2<sup>nd</sup> PUS, who has been appointed as the Department's senior official responsible for sustainable development, and other senior staff throughout the Department, it is our aim to ensure that the positive progress to date is both built upon and enhanced.

**Future Reporting.** In view of the breadth and cross-cutting nature of sustainable development, it is no longer considered appropriate to continue to report on it in detail in a sub-section of what is essentially a specialised safety and environmental report. In future, therefore, it is intended to report progress on the Department's sustainable development strategy and against a set of MOD headline indicators in a separate dedicated report.

## ENVIRONMENTAL MANAGEMENT SYSTEMS

MOD began the co-ordinated implementation of its corporate Environmental Management System (EMS) on 1 April 2001. This builds on existing systems developed by TLBs and will contribute to many of the indicators identified in the UK sustainable development strategy, enabling us to identify significant environmental impacts and take action to deal with them. The EMS contains five elements: environmental policy, planning, implementation, checking and review.

Each Service or MOD Top Level Budget (TLB) will develop its own environmental management systems, based on the MOD's corporate EMS and the principles of the international EMS standard, ISO 14001. A working group set up to oversee implementation has been reviewing EMS software and the links with the rural EMS and sustainable development. A revised version of the MOD Environmental Management System (EMS) Guidance has been published.

Individual MOD sites or establishments seek certification to ISO 14001 where there is a sound business case for doing so. So far eight establishments have been certified to that standard:

- Army Base Repair Organisation (ABRO) Bovington
- Defence Aviation Repair Agency (DARA) Fleetlands
- DARA Sealand
- DARA Almondbank
- RAF St Athan
- RAF Valley
- Defence School of Transport Leconfield
- Vulcan NRTE Thurso

MOD has remained one of the leading Departments in promoting and developing EMS, and an official from D SEF Pol has continued to chair the cross-Government EMS practitioners group. During the year, this group agreed revised EMS targets as part of the overarching sustainable development framework; identified and shared best practice on EMS issues, including EMS software; reviewed the call-off contract for EMS consultancy; and began to consider how EMS could be updated to include sustainable development issues.

## REVITALISING HEALTH AND SAFETY

The Revitalising Health and Safety (RHS) strategy was announced in 1999, by John Prescott, the Deputy Prime Minister, and supported by Bill Callaghan Chairman of the Health and Safety Commission. The aim of RHS is to inject a new impetus into achieving better health and safety in all workplaces. So far MOD's contribution has included the following initiatives:

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- A fundamental review of the MOD Safety Management System, has been undertaken over the last 2 years. Structural changes have been implemented, putting in place a more coherent framework for the delivery of improved health and safety performance.
  - A rewrite the MOD Health and Safety handbook (JSP 375) was completed in October 2001. The project involved a complete revision of existing health and safety procedures, together with a change in the format of the handbook to one designed to increase the understanding of both managers and employees of what they are required to do to reduce risks. The document has been issued in electronic format on CD and on MOD Web.
  - A Risk Management Working Group has been established. The Group produces a regular newsletter, which is published on MOD Web and is aimed at raising awareness of the types of losses the Department can incur, together with lessons learned. An awareness road show has been presented at various seminars during the last 18 months.
  - A Best Practice Review, mentioned in Part 1 of this report, has been carried out of the Departmental Safety Management System in conjunction with the HSE.
  - An integrated Audit Methodology, also mentioned in Part 1 of this report, covering health, safety, environmental protection, and fire audits has been established and an audit manual produced. Training of auditors has begun.
  - An audit of the Acquisition Process has been completed, the main conclusion of which is that equipment safety, user safety, training and disposal should be handled as part of an integrated safety system from the earliest stages of acquisition.
  - A complete review has been undertaken of the scope and scale of Occupational Health provision for Civilian employees. The new contract will be introduced in September 2002. Services to be supplied will include those necessary for MOD compliance with statutory obligations, such as health assessments; requirements specific to particular sites; health promotion and protection in the workplace; and stress management.
  - A Well-Person Health Screening Programme has been introduced for civilian employees and has been phased in at different MOD locations across the country.
  - In line with the RHS requirement to try to reduce sickness absence, MOD has so far set itself the following two targets:
    - i) To reduce by 10% over 10 years the major and serious injury rate from 609.18 per 100,000;
    - ii) To reduce from 8.5 (1999) days lost per member of staff to 6.6 days lost per member of staff by 2003.

**Crown Immunity.** The conclusions are currently being considered of an inter-departmental working group set up to review Crown immunity from criminal prosecution. Whilst the group took the view that the case for reform had not been made, it was agreed that, if there were to be changes, a pragmatic approach should be adopted. MOD's view is that it would not wish to make a special case for immunity from prosecution for most of its activities but certain operational activities should retain Crown immunity.

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## The European Union

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### TRENDS

The overall level of legislative activity in the European Union has continued to decline, from 787 proposals in 1990 to approximately 400 in 2001. Nevertheless, the Commission consultation with Member States remain substantial with 67 Reports, 89 Communications, two White and five Green Papers being published in 2001.



With the aim of improving the quality of draft legislation, the Commission has begun to involve its Legal Service personnel at an earlier stage in preparing proposals. Looking ahead to projected enlargement of the Community from 2004, there is a major drive to recast, consolidate and codify existing EU legislation, in addition to conducting a similar exercise on the founding Treaties.

The MOD has been working closely with other government departments to ensure that defence concerns are given full attention as early as possible in the legislative process. MOD involvement included attendance at Cabinet Office (European Secretariat) meetings; ensuring that defence interests were not overlooked in developing the European Single Sky policy; participation in the Foreign Office's new six-monthly briefing of Environmental Attaches with a view to working with other Member States to protect common defence interests; representation in EU military and environmental workshops in order to share common interests and problems and to influence and form a consensus with other Member States; and direct lobbying of MEPs to help secure a defence exemption as in the case of the Ambient Noise Directive.

Future topics of potential interest to MOD include EU proposals for modernising and improving work relations; a framework strategy on gender equality; occupational health and safety issues; the White Paper on European Transport Policy in 2010: Time to Decide; and a greater focus on alternative forms of energy generation.

### AMENDMENTS TO EXISTING LEGISLATION

Current legislative proposals of interest to MOD fall into two groups: amending or developing existing legislation, and consulting on proposed legislation. Changes to existing legislation include proposed amendments to the Directive on Asbestos at Work – Protection of Workers at Risk, which aims to bring uniformity of treatment to affected workers throughout the EU, and to the Control of Major Accident Hazards (COMAH) Regulations which expands the list of specified carcinogens and reads across to MACR, the MOD equivalent of COMAH.

### PROPOSED LEGISLATION

This includes legislation arising from the Sixth EU Environmental Action Programme 2001-2010 which will determine the shape and direction of UK environmental policy for the next ten years, deepening the integration of environmental issues into other policies. For example, an initiative that may impact on the procurement of military weapons and equipment, entitled Public Procurement–Integration of Environmental Considerations, is currently the subject of consultation.

The proposed Physical Agents (Noise) Directive, which lays down minimum requirements to protect workers from exposure to noise, will lower the existing permitted levels of noise exposure, and will present some problems of compliance in the case of weapons firing and military bands. There may be similar problems of compliance with the proposed Physical Agents (Vibration)

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Directive, which lays down minimum health and safety requirements to protect workers from exposure to mechanical vibration. While the exposure limits proposed for hand/arm vibration would have little impact, those for whole body vibration could be difficult to meet in the case of some types of aircraft; small powered boats, tracked armoured fighting vehicles and other rough terrain vehicles. The Health and Safety Framework Directive, under which both these draft Directives would be made, contains a qualified military exemption: it will be important to ensure that this is transposed into UK law in an acceptable form. Meanwhile, work has continued to try to find solutions to the difficulties experienced by musicians in complying with the existing Noise at Work Regulations.

Other measures, including the proposed Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment and the now adopted End of Life Vehicles Directive, are likely to have environmental and financial impacts on defence activities in the future.

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## Fire Safety

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### AIRFIELD SUPPORT SERVICES PROJECT AND FIRE STUDY 2000

There are two separate but interlinked workstreams underway within the Department that will affect the future of the Ministry of Defence Fire Service - the Airfield Support Project (ASSP) and Fire Study 2000 (FS2000).

**Airfield Support Services Project.** The Airfield Support Services Project was born out of a recommendation from an earlier Defence Cost Study that suggested that airfield support services had the potential for efficiencies. The Project is investigating whether a Private Public Partnership (PPP) solution would provide both the most viable and most cost effective solution for the provision of airfield support services to the MOD worldwide without compromising operational effectiveness. Originally, it was based on the provision of vehicles and equipment only. However, during the initial Feasibility Study, one of the consortia involved volunteered to provide a wider range of services, manpower as well as equipment, including the total output of the Department's fire safety organisation. Initial approval for ASSP was given on 3 April 2001 and the Invitation to Negotiate (ITN), went out on 20 September 2001 with a return date subsequently extended to April 02. The bids are currently the subject of a comprehensive and detailed evaluation and if found to be satisfactory, and subject to the outcome of the revise and confirmation phase, a comparison against the Public Sector Comparator will be made. If the decision is to go ahead, the project will move to identify a Preferred Bidder with a contract let date in late 2003, followed by a rolling implementation programme during 2004.



**Fire Study 2000.** The study was commissioned to review the output of the Department's current Fire Safety Organisation and develop an optimum strategy for the future management of fire risks, commensurate with maintaining military capability. Subsequently a secondary aim of the exercise has been to inform the public sector comparator for the fire service element of the ASSP. The proposed future organisation embraces all the fire safety support required by the MOD, comprising a single totally integrated service that provides for a more effective and efficient organisation delivering best value for money. The organisation would be managed and deliver its services on the basis of a regional structure (including one for overseas deployments) reporting to and taking direction from a single integrated HQ. The study, although complete, remains the subject of continued discussion with the RAF, regarding costings and the use of sponsored reserves.

In the meantime the MOD's fire safety organisation continues to support the Department's primary output of maintaining military capability, with policy direction from D SEF Pol. Ongoing tasks include the maintenance of support to military deployments, especially overseas, monitoring new or emerging fire safety legislation, and reviewing training requirements and specialist equipment needs.

### OVERSEAS DEPLOYMENTS

In addition to providing support at overseas sovereign bases, the MOD FS is also currently delivering fire safety advice and an operational fire fighting capability at Sipovo and Banja Luka in Bosnia, Pristina and Podujevo in Kosovo, and Bagram Airport in Afghanistan. These commitments are long term with personnel being rotated at regular intervals.

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## SPECIAL SERVICES

These are incidents, attended by the MOD FS, which do not involve fire but which do constitute a risk to life, property or the environment. While most special services are carried out on MOD property or involve MOD personnel, MOD FS does also provide special services in support of local communities. During the reporting period the MOD FS provided a total of 42 major special services as against 143 in FY 2000/2001. Of the 8 deaths, associated with these incidents, all involved non-MOD civilians, 6 being the victims of Road Traffic Accidents (RTAs) in Cyprus. Total minor special services, provided by MOD FS for the reporting period, amounted to 6067 as against 4107 for FY 2000/2001.

## FIRE RISK MANAGEMENT

Fire safety management plans (FSMP) and the fire risk assessment methodology (FRAM) remain the cornerstone of the MOD's fire risk management strategy. Progress to complete the implementation of FSMP across the estate continues, as set out in the reports from SHEF areas in Part 1 of the report. The processes utilised by FRAM are at present under review by the Fire Protection Association, which may lead to adjustments in the computer program.

## TRAINING

The future of the MOD Fire Services Central Training Establishment (MOD FSCTE) at Manston is still unresolved. A feasibility study concluded that a partnering arrangement with the Fire Service College, Morton-in-Marsh would be viable, as would the 'enclaving' of MOD FSCTE at the Fire Service College as a first step. An investment appraisal is currently underway to examine in detail the cost benefits, with completion expected by mid-July. If co-location at the College is shown to be the best way forward, the project team estimate that the initial enclave could be established within 12 months. Some fire service training has failed to meet targets due to financial constraints at the FSCTE due to the ongoing study. Nevertheless, the throughput of students, both service and civilian, was in the region of 1900.



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## Radiation Safety

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### DEPLETED URANIUM

**Environmental Survey in Kosovo.** A radiological environmental survey was undertaken in Kosovo by staff from the Defence Scientific and Technology Laboratory (Dstl) Defence Radiological Protection Services (DRPS) and the Directorate of Safety, Environment and Fire Policy between 13 and 30 August 2001. It was conducted in line with the recommendations of the European Commission of Experts which, in its opinion on the potential hazards of Depleted Uranium (DU) published in March 2001, concluded that in general it would be more appropriate to monitor the environment than individuals. The MOD survey team collected air, dust, water and soil samples from 31 sites including the DU strike site at Waterloo lines. Sample collection concentrated on working areas and temporary field accommodation housing British Armed Forces personnel and the civilian workforce. Approximately 530 composite samples (air, dust, soil and water) were collected during the survey and direct radiation measurements were also taken at the sites to look for evidence of elevated radioactivity. The first results support last year's initial assessment that there is no significant risk to UK personnel in Kosovo from DU residues or caesium 137 contamination. A report will be published later this year.

**Royal Society Report on Depleted Uranium.** Part I of the independent review of DU by the Royal Society was published in May 2001 and Part II in March 2002. Part I of the report concerned the radiological consequences of exposure to DU on the battlefield while Part II dealt with the toxicological effects, the environmental impacts of DU munitions and responses to Part I of the report. The report concluded that the risk from DU to the health of UK Gulf veterans, peacekeepers in the Balkans and armed forces and civilians in current and future conflicts, was in all but extreme cases very low. This bears out the findings of research by such organisations as the United Nations and the World Health Organisation.



**Environmental Monitoring Data from Kirkcudbright and Eskmeals.**

Staff from DRPS and D SEF Pol have produced a report comparing historical environmental monitoring data from the DU firing sites at Eskmeals and Kirkcudbright with guidelines published by the National Radiological Protection Board (NRPB). The report concluded that there was no evidence of DU contamination of seawater and sediment taken from offshore near Kirkcudbright. Some sites at Eskmeals and Kirkcudbright produced soil samples that contained slightly elevated levels of uranium but neither site has consistently produced samples exceeding 10% of the NRPB guidelines. The report will be published in due course by DRPS.

### RADIATION PROTECTION AND RADIOACTIVE WASTE ISSUES

Other radiological protection and radioactive waste disposal issues addressed during the year included maintaining the UK line that the EURATOM Treaty does not apply to defence activities and assisting in the development of the UK national discharge strategy, which covers discharges to the marine environment under the OSPAR Convention.

The need to strike a balance between new regulations and international requirements MOD's ability to meet UK government defence commitments was a major priority. The continuing pressure to reduce environmental radioactive discharges to levels below those that could be justified on an objective balance of detriments and benefits remains a significant issue, and MOD is an active participant in the debate. D SEF Pol will seek to ensure that decisions on regulatory issues are based on rational and consistent criteria, and linked to a transparent decision-making process.

At the invitation of MOD Ministers, the Government's independent Radioactive Waste Management Advisory Committee (RWMAC) conducted a review of MOD's radioactive waste management practices. The review was completed in July 2001, and RWMAC published a report of its findings. (<http://www.defra.gov.uk/rwmac/reports/MODwaste/index.htm>) One of its major recommendations was that MOD should publish a clear statement of its strategy for the management of its radioactive wastes in order to provide MOD employees and others with a clearer understanding of the Department's overall objectives in dealing with such wastes. Earlier this year the MOD published its strategy on the MOD World Wide Web Site ([http://www.MOD.uk/dsef/radioactive\\_wastes.htm](http://www.MOD.uk/dsef/radioactive_wastes.htm)) and internally as a Defence Council Instruction.

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## Estate Strategy

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Following the publication of the MOD Strategy for the Defence Estate, *In Trust and On Trust* in June 2000, which contained a commitment to manage the estate in a sustainable manner and set out the Department's key objectives and goals, Defence Estates (DE) is now leading a MOD-wide programme of work to deliver the tools for achieving them. Key objectives are to achieve rationalisation and consolidation of the estate wherever consistent with operational needs; develop a sustainable management methodology for the rural estate; co-ordinate and develop estate management training requirements for the Department; develop performance indicators for management of the rural and built estate; introduce strategic environmental appraisal procedures across the Department; develop an enhanced estate management information system; and, report annually against the targets we have set.

With regard to strategic environmental appraisal procedures, an "Appraisal Handbook for Sustainability and the Environment" was completed in December 2001 and publicly launched at a Statutory Bodies and NGO Conference held by MOD on 26 March 2002. The handbook is an easy to follow guide on how to carry out a screening exercise to identify the potential environmental, social and economic impacts of proposed programmes, plans or projects. It was initially designed to identify impacts on the defence estate but it provides a very versatile methodology.

MOD has established a Ministerial Environmental and Conservation Advisory Group, under the chairmanship of the Parliamentary Under Secretary of State, which has a specific focus on environmental issues. The group, which includes external stakeholders, is charged with providing authoritative and informed advice in respect of conservation, environmental sustainability and environmental management of the estate. It should also encourage links at a high level with other bodies, ensuring MOD is fully engaged in the development and benchmarking of environmental policy.

One of the key outcomes of the Estate Strategy is the Stewardship Report on the Defence Estate 2001, launched on 22 January 2002. It reviews the Estate Strategy and progress against it, supported by a detailed account of performance against Performance Indicators based on the national sustainable development indicators published in the 'Better Quality of Life' document. A copy of the Stewardship Report and the Estate Strategy can be found on the MOD web site.

### CONSERVATION

Conservation of the natural and cultural resources on the MOD estate was affected last year by the disastrous outbreak of foot and mouth disease which meant that many sites were placed out of bounds, denying access for routine wildlife surveys and the implementation of conservation management plans. The ban on the movement of stock meant that some areas were left ungrazed, while others suffered from overgrazing by captive animals. On the other hand, the lack of human disturbance may have had a beneficial effect.



Good progress was made on legislative matters, with the production of guidance notes on the application of the Countryside and Rights of Way Act and on Appropriate Assessments. The training of those involved in land management continued through a series of courses and Habitats Directive Awareness Days. Much liaison took place with colleagues in the Statutory Bodies, including on the revision of various formal agreements and declarations of intent.

Increasing public awareness of conservation on the MOD estate was achieved through the production of a widely acclaimed edition of Sanctuary magazine and other media events. The Under Secretary of State (US of S), Dr Lewis Moonie MP, presented the Sanctuary Award to the Stanford Training Area Conservation Group to recognise their achievement in restoring and re-creating large areas of lowland heath, a Biodiversity Action Plan priority habitat. The key to MOD's conservation land management is the large contingent of experts who give their time voluntarily to ensure that we are aware of the presence of rare and endangered species. Although restricted in many areas by foot and mouth disease, they continued to provide invaluable advice.

On the archaeological front, good progress was made in identifying and managing MOD's many ancient monuments. A noteworthy event was the publication of English Heritage's definitive work on the Field Archaeology of the Salisbury Plain Training Area.

Exotic species abound on the Defence Estate, including the extremely rare vagrant, the Oleander Hawk Moth, discovered near Bristol, and the uncommon Green-flowered Helleborine, rediscovered on the edge of the Conservation Office garden.



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## **Annex A - Roles of the Functional Safety Boards**

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### **SHIP SAFETY BOARD**

The purpose of the Ship Safety Board (SSB) is to bring together Senior Managers (covering the Duty Holders), regulators and safety specialists to agree ship safety management policy and to provide assurance through the Chairman (Controller of the Navy), to the Secretary of State that MOD shipping activities are safe.

### **DEFENCE AVIATION SAFETY BOARD**

The purpose of the Defence Aviation Safety Board (DASB) is to provide a focus for the wide-ranging issues associated with military aviation safety. Chaired by the Assistant Chief of the Air Staff it is charged with the responsibility for establishing departmental policy, standards and regulations for the management of aviation safety and those hazards to the environment posed by military aircraft.

### **DEFENCE ORDNANCE SAFETY BOARD**

The Defence Ordnance Safety Board (DOSB) provides top level direction on Ordnance, Munitions and Explosives (OME) safety policy and standards to ensure the continual effectiveness of the OME Safety Management System. The Board is Chaired by the Director General (Operations) (DLO) and its membership comprises representatives from all OME safety stakeholders.

### **LAND SYSTEMS SAFETY BOARD**

The principal purpose of the Land Systems Safety Board (LSSB) is to provide top-level direction on safety policy and standards for Land Systems equipment. This involves reviewing and interpreting Land Systems equipment safety policy as derived from the Secretary of State's Policy Statement, and endorsing the safety management procedures and objectives for use by Integrated Project Teams.

### **DEFENCE NUCLEAR SAFETY BOARD**

The purpose of the Defence Nuclear Safety Board (DNSB) is to establish departmental policy, set objectives and standards for, report on, monitor and review all matters relating to management, safety and environmental protection for nuclear systems in the MOD. This includes nuclear and radiological safety for all aspects of the nuclear weapons and nuclear propulsion programmes, including nuclear accident response.

### **DEFENCE SAFETY HEALTH ENVIRONMENT AND FIRE BOARD**

The Defence Safety, Health, Environment and Fire (SHEF) Board, which focuses on people rather than equipment, has three main tasks: to develop the overall safety, health, environment and fire policy for the MOD, monitor its implementation, and oversee the scrutiny of draft legislation. It is supported by a network of Focal Points representing the main MOD management areas.