



**DEFENCE ENVIRONMENT AND SAFETY REPORT**  
**2002-2003**



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**GLOSSARY OF ACRONYMS AND ABBREVIATIONS**

2SL/CNH	Second Sea Lord and Commander in Chief Naval Home Command
ABRO	Army Base Repair Organisation
AD	Assistant Director
AEO	Army Estates Organisation
AESB	Army Environment and Safety Board
AESO	Army Environment and Safety Office
AINC	Army Incident Notification Cell
ALARP	As Low As Reasonably Practicable
ARO	Accident Response Organisation
ASSP	Airfield Support Service Project
ATEX	From the French 'ATmospheres EXplosibles'
ATR	Army Training Regiment
ATRA	Army Training and Recruitment Agency
AVTUR	Aviation Turbine (fuel)
BREEAM	Building Research Establishment Environmental Assessment Method
BRNC	Britannia Royal Naval College
CASD	Continuous At Sea Deterrent
CAWR	Control of Asbestos at Work Regulations
CBMB	Centre TLB Management Board
CBR	Chemical, Biological, Radiological
CB(S+S)	Centre TLB (Security and Safety)
CE	Chief Executive
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)
CGS	Chief of the General Staff
CHASP	Central Health and Safety Project
CinC	Commander in Chief
CINCFLEET	Commander in Chief FLEET
CJO	Chief of Joint Operations
CLM	Command Leadership Management
CO	Commanding Officer
COS	Chief of Staff
CPS	Crown Prosecution Service
CSSB	Command Scientific Support Branch
Customer 1	In an MOD acquisition project, the customer prior to the point where the equipment becomes available to the user and for upgrades whilst in service.
Customer 2	In an MOD acquisition project, the second customer is the appropriate front-line commander-in-chief who will make a customer-supplier agreement for the in-service equipment.
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
DBM	An electronic business management system at DARA
DCDS(H)	Deputy Chief of Defence Staff (Health)
DCI	Defence Council Instruction
DCinC	Deputy Commander in Chief
DCMC	Defence Crisis Management Centre
DCSA	Defence Communications Service Agency
DE	Defence Estates
DEC	Director Equipment Capability
DEFRA	Department for Environment, Food & Rural Affairs
DESB	Defence Environment and Safety Board

DG	Director General
DG CB	Director General Central Budget
DIA	Department of Internal Audit
DMB	Defence Management Board
DMB(N)	Defence Management Board (Nuclear)
DMETA	Defence Medical Education and Training Agency
DMS	Dstl Management System
DMSD	Defence Medical Services Department
DNSB	Defence Nuclear Safety Board
DOSB	Defence Ordnance Safety Board
DOSG	Defence Ordnance Safety Group
DR&CS	Defence Rail and Container Service
DSCA	Defence Secondary Care Agency
DSE	Display Screen Equipment
DSEAR	Dangerous Substances and Explosive Atmospheres Regulations
DSEFPol	Directorate of Safety, Environment and Fire Policy
DSes	Director Safety, Estates and Security (at DLO <i>qv</i> )
DSSG	Driver Standards Steering Group
DSTL	Defence Science and Technology Laboratory
DTMA	Defence Transport and Movements Agency
DU	Depleted Uranium
DWAHSG	Devonport Western Area Health and Safety Group
E&S	Environment and Safety
EA	Environment Agency
EIAs	Environmental Impact Assessments
EIR	Environmental Information Regulations
EP	Environmental Protection
EPP	Equipment Programme Plan
ESMSG	Environmental and Safety Management Steering Group
FAR	Fatal Accident Rate
FLC	Front Line Command
FM	Facilities Management
FMed	Form Medical (usually followed by a numeral to indicate the form)
FOI	Freedom of Information
FRAM	Fire Risk Assessment Methodology
FS	Fire Service
FS2000	Fire Study 2000
FSAP	Fire Service Agency Planning
FSMG	Fleet Safety Management Group
FSMO	Fleet Safety Management Office
H&S	Health and Safety
HLB	Higher Level Budget
HO	Head Office
HofE	Head of Establishment
>HOME	Head Office Modern Environment (the project to refurbish MOD Main Building)
HRMS	Human Resource Management System
HSE	Health and Safety Executive
IMO	International Maritime Organisation
IOSH	Institute of Occupational Safety and Health
JIMSC	Joint Insensitive Munitions Steering Group
KPI	Key Performance Indicator
LFB	London Fire Brigade
LSA	Local SHEF Adviser
LSSB	Land Systems Safety Board
MAP	Management Action Plan
MDP	Ministry of Defence Police
MGS	MOD Guard Service
MOU	Memorandum of Understanding

MSA	Medical Supplies Agency
NARO	Nuclear Accident Response Organisation
NAWR	Noise at Work Regulations
NRP	Naval Reactor Plant
NS	Navy Sector
NSSEMB	Navy Sector Safety and Environment Management Board
NW	Nuclear Weapons
NWP	Nuclear Weapons Programme
OHSAS	Occupational Health Safety Assessment Standard
OSRP	Ordnance Safety Review Panel
PDR	Personal Development Report
PFI	Private Finance Initiative
PJHQ	Permanent Joint Headquarters
PPP	Public Private Partnership
PRV	Pressurised Reactor Vessel
PUWER	Provision and Use of Work Equipment Regulations
RA	Risk Assessment
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurrences Regulations
RM	Royal Marines
RMSG	Restricted Materials Steering Group
ROCC	Review of Officers Careers Courses
RoSPA	Royal Society for the Prevention of Accidents
RTA	Road Traffic Accident
S&EP	Safety and Environmental Protection
SD	Sustainable Development
SDSG	Sustainable Development Steering Group
SEMS	Safety and Environment Management System
SEPA	Scottish Environmental Protection Agency
SG	Support Group
SHEF	Safety Health Environment and Fire
SMART	Specific, Measurable, Agreed, Relevant, Time-bound
SNH	Scottish National Heritage
SofS	Secretary of State
SRP	Safety Rules and Procedures
SSB	Ship Safety Board
SSO	SHEF Support Organisation
SSSI	Site of Special Scientific Interest
STG	Sea Technology Group
TL	Team Leader
TLB	Top Level Budget
TNA	Training Needs Analysis
UAV	Unmanned Air Vehicles
ULC	Unit Load Container
UNEP	United Nations Environment Programme
UOR	Urgent Operational Requirement
USVF	United States Visiting Forces
WLAM	Whole Life Management of Munitions
WRULD	Work-Related Upper Limb Disorders
4Cs	Co-ordinate, Co-operate, Communicate, Control

## FOREWORD

This is the fourth Annual Report to the Defence Environment and Safety Board and in terms of format represents a marked departure from its predecessors. Corporate Governance demands a system of internal control and risk management that, to quote directly from Turnbull: *“facilitates the effectiveness and efficiency of operations, helps ensure the reliability of internal and external reporting and assists compliance with laws and regulations”*. It is the task of the DESB Report to show that such a system is in place for safety management and that it is functioning effectively. Hence, this year’s DESB report has changed in both format and emphasis. Last year’s narrative style perhaps did not adequately highlight the Department’s significant risks and the corresponding system of internal management and control. Similarly, failings and weaknesses were less obvious. In contrast, this year’s report addresses these issues directly, assesses the possible operational impacts and, where appropriate, sets out the remedial action. It is a frank report that acknowledges that risk can never be removed entirely but gives assurance that it is being controlled by a responsive and effective safety management system.

Our responsibilities to the environment are also very important and fall within the same management system; noise nuisance and its control is one example. It should be noted that responsibility for reporting progress on sustainable development has transferred to Defence Estates and is not covered here. A strong theme in the report is the risk to capability from emerging legislation - much of which emanates from the EU and international protocols and conventions - and the difficulties we may face in complying. Accordingly, I have this year sought significantly to strengthen the legislation tracking process both within my own Directorate and more widely across the Department as a whole. Another common concern is the gradual skills loss affecting many parts of the Department. Although this is sometimes addressed by engaging contractors, their involvement in turn introduces a further significant element of risk. Indeed, the Department’s potential liability in respect of its contractors is enormous, particularly in view of the wide range of activities they undertake and the large number of contracts let (more than 40,000 annually). For this reason, an audit into the control of contractors is currently in progress with a view to informing our future handling of this important issue. Similarly, when MOD becomes the contractor, as in the case of its own income generating activities, there is no less risk involved and this too is a prominent concern in the report, which is being addressed by the Defence Wider Markets Policy Group.

Finally, I have decided to write a separate statistical report this year. The DESB report is compiled before annual statistics are fully available and it strikes me as much more useful to present the definitive statistics together with analysed claims data - but later in the year - rather than to offer raw data too soon.

I believe that this report shows that Turnbull’s expectations for the Safety and Environmental Protection aspects of our business are being met. Crucially, it will also reassure those in the front line that our safety and environmental management systems are doing a proper job.

# **PART 1**

## **SHEF AUDIT REPORT**

## **SHEF AUDIT**

### **Auditing Safety & Environmental Management Systems**

This reporting year has seen the introduction of Integrated Management System Audits that focus on SHEF issues. The adoption of the methodology, which has been accepted by the SHEF Audit Board for use throughout the MOD, is a step change from the approach taken previously and points the way for the development of all future audits in this area of management. It also provides a more broadly based assessment of the systems necessary to deliver Corporate Governance than was hitherto available.

The new methodology has been accepted enthusiastically. The Army has encountered practical problems in introducing a common form of audit across all Units and thus has adopted a simplified version at unit level, which has replaced the auditor's assessment with a Yes/No response by the auditee.

The work to deliver the new system has been conducted over the past 12 months by a working group formed by SHEF Audit Board members from the CESO(RN) and CESO(RAF) organisations, working in conjunction with D SEF Pol Audit staff and under the control of the SHEF Audit Board, and has resulted in a complete revision of the MOD SHEF Audit Manual. This represents a striking example of the co-operation that now exists within the MOD Safety Community.

The working group's success was highlighted by the fact that they delivered a sufficiently robust and revised system to the SHEF Audit Board for it to be trialled as part of the D SEF Pol audit of CinC Fleet conducted in Nov/Dec 2002. That audit showed that the basic system was sound and practicable and recommended minor changes, which the working group incorporated. SHEF Audit Board mandated the revised system for implementation in April 2003 at its January 2003 meeting.

### **Aims and Objectives**

The introduction of the system-based approach to auditing was part of a wider revision of the way audits are conducted and reported throughout the MOD. This included an aim to give high level visibility of audit programmes, with all audit authorities reporting their agreed audit programmes to the SHEF Audit Board before the start of the audit year, in order to reduce the audit burden were necessary by combining and/or co-ordinating audit activity.

### **Audit Results**

2002-2003 was a transitional year for all audit authorities with only a limited number employing the full SHEF audit methodology as described in the SHEF Audit Manual; it has not therefore been practicable to produce detailed numerical data at this stage. However, audits that have been conducted using the new integrated approach have identified potential weakness and/or gaps in the SHEF management systems employed by TLB's and Agencies and produced recommendations upon which remedial action plans have been based. In this respect the integrated audits have been shown to be extremely effective and were viewed as a positive driver for change.



Results of audits completed by D SEF Pol during 2002/03 produced the following overall safety management indicators.

TLB/Agency	Evaluation Rating (%)
UK Hydrographic Office (Jun '02)	82
Defence Science & Technology Laboratory (Jul '02)	77.38
Commander in Chief Fleet (Oct '02)	78
Defence Aviation Repair Agency (Jan '03)	79.27
Adjutant General (Mar '03)	90.56

Some common findings highlighted by the audits were:

- **Planning for SHEF Management.** Whilst the Army maintains an extremely effective system of tiered Action Plans that emanate from the CESO(Army) Action Plan, such a disciplined approach to planning is less evident across other areas of MOD.
- **Quality of Risk Assessments (RAs).** The adoption of a common system for the conduct of Risk Assessment is now, largely, universal. However, the verification phase of D SEF Pol audits showed that, at unit/site level the quality of RA's is often variable, with evidence that they have not all been vetted in a thorough way.
- **Integration of Fire into SHEF Management.** There are still areas of MOD where fire safety has not been fully assimilated into SHEF management systems. This was not a universal finding but seemed more a matter of local difficulty.
- **Introduction of the MOD Environmental Management System (EMS).** Whilst effective management systems are now largely in place to deal with safety, health and fire issues, audit showed that most areas of MOD are struggling to cope with the timetable to achieve the requirements of the MOD EMS.

Common findings of audit are an agenda item at routine SHEF Audit Board meetings and are taken for action by committee members at TLB and Trading Fund Agency level.

### Functional Audit

Functional audit is the term given to audits or studies carried out by D SEF Pol and conducted on a single aspect of Safety and Environmental Protection management, usually on a pan-MOD basis, and reported to either the SHEFB or DESB. During the audit year D SEF Pol has undertaken, or commenced, the following functional audits:

- **Safety & Environmental Protection in the Equipment Acquisition Process.** The fieldwork for this audit was largely completed in financial year 2001/2002 but was reported in year 2002/2003.
- **Radioactive Waste Management.** This audit was undertaken and reported during this Annual Report year. The SHEF Board accepted the report in May 2003 and required that an implementation team be formed to take the recommendations forward; this is in hand.
- **Control of Contractors.** Fieldwork for this audit commenced during this reporting year against a set of terms of reference agreed by the Control of Contractors Audit Steering Group. Due to the wide-ranging nature of this audit the final report is likely in FY 2005.

## **Future Developments**

Following agreement between D SEF Pol and DLO to extend the scope of D SEF Pol audits to encompass all aspects of S&EP, rather than the somewhat limited focus provided by the current SHEF audit approach, it was decided that the audit of DLO, planned for June 2003, would be a trial on this basis. Safety in this context is an all encompassing term, including such areas as, equipment, transport, explosive and nuclear safety within its scope.

As a result a working group was set up comprising D SEF Pol audit and DLO S&EP staff tasked with producing proposals for a viable methodology to conduct S&EP audits. The working group concluded in February 2003 that the emerging changes to the SHEF audit system, with its focus on system requirements, would appear to make it a viable vehicle for the conduct of S&EP audits, although there was a recognition that the guidance notes for auditors would need major revision to encompass the wider scope of the audit. However, it was decided that such revision be undertaken after the trial DLO audit.

## **PART 2**

### **REPORTS FROM SHEF AREAS**

## THE ROYAL NAVY

### Overview

The Navy Sector Safety and Environment Management Board (NSSEMB) provides the senior forum to oversee the implementation and operation of a Navy Sector (NS) safety and environment management system. It is chaired by DCINC and attended at 2\* level by representatives from the RN, the Defence Procurement Agency (DPA) and the Defence Logistics Organisation (DLO). This year's report is a summary of a series of inputs from key stakeholders who manage or influence safety and environmental protection across the NS. The accidents and incidents resulting from Op TELIC have not been included in detail in this report as many occurrences are still under investigation or awaiting full report.

### Issues and Risks

Issues/Risk	Mitigation	Remarks
<b>1. Risk:</b> Health and Safety Legislation Compliance.  <ul style="list-style-type: none"> <li>Potential impact on operational capability from future UK, EU and International legislation.</li> </ul>	<ul style="list-style-type: none"> <li>Fleet membership of Defence Environment and Safety management Board (DESB) and its supporting 'functional' safety boards ensures a high level focus.</li> <li>Future legislation monitored by CESO(RN) via the D SEF Pol Focal Points Meeting.</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing risk: monitored by the Fleet Safety Management Group. Appropriate response will be initiated when Central Guidance is received.</li> </ul>
<b>2. Risk:</b> Noise at Work Regulations 1989.  <ul style="list-style-type: none"> <li>RN open to Crown Censure and personnel hearing impairment/industrial deafness compensation claims if NAWR Regulations are not complied with.</li> </ul>	<ul style="list-style-type: none"> <li>Noise reductions for RM bands during rehearsals and practice sessions by ensuring practice rooms comply with JSP 325 and best acoustic engineering practice.</li> <li>Defence Estates tasked to produce JSP guidance for practice rooms and a design and maintenance guide</li> </ul>	<ul style="list-style-type: none"> <li>Being monitored via the MOD Noise Working Group.</li> </ul>
<b>3. Risk:</b> Control of Asbestos at Work Regulations 2000 (CAWR 2000).  <ul style="list-style-type: none"> <li>RN open to Crown Censure and personnel ill health compensation claims if CAWR 2000 not complied with.</li> </ul>	<ul style="list-style-type: none"> <li>A MOD Working Group has been set up to determine the way ahead.</li> <li>Defence Estates actioned to produce MOD strategy to implement CAWR 2000.</li> </ul>	<ul style="list-style-type: none"> <li>Being monitored by the Fleet Safety Management Group.</li> </ul>
<b>4. Risk:</b> Personal Injury Claims Compensation.  <ul style="list-style-type: none"> <li>The 'hidden ' costs of personal injury compensation claims have to be found from the TLB budget.</li> </ul>	<ul style="list-style-type: none"> <li>NS accident/claims reduction strategy to be put in place by 1 April 2004</li> </ul>	<ul style="list-style-type: none"> <li>Being managed by Fleet Safety Management Group.</li> </ul>
<b>5. Risk:</b> Environment Protection Legislation.  <ul style="list-style-type: none"> <li>OC may be affected by restrictions on the movement of</li> </ul>	<ul style="list-style-type: none"> <li>Fleet membership of Defence Environment and Safety management Board (DESB) and its supporting 'functional' safety boards ensures a high level focus.</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing risk: potential impact on the Navy Sector can be assessed on receipt of consultative</li> </ul>

Issues/Risk	Mitigation	Remarks
RN ships and equipment that do not comply with future UK, European and International environment protection legislation.	<ul style="list-style-type: none"> <li>Future legislation monitored by CESO(RN) via the D SEF Pol Focal Points Meeting.</li> </ul>	<ul style="list-style-type: none"> <li>document.</li> <li>Monitored by the Fleet Safety Management Group. Appropriate response will be initiated when Central Guidance is received.</li> </ul>
<b>6. Risk: Bio-Security.</b> <ul style="list-style-type: none"> <li>Possible restrictions on the movement of ships and equipment that do not comply with future UK, European and IMO bio-security regulations and requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Retain current procedures and audit process to ensure performance does not deteriorate</li> </ul>	<ul style="list-style-type: none"> <li>Being monitored by the Fleet Safety Management Group.</li> <li>Bio-Security Strategy paper to FSMG members for comment.</li> </ul>
<b>7. Risk: Ballast Water Management.</b> <ul style="list-style-type: none"> <li>Restrictions on the movement of vessels that do not comply with ballast water management requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Retain current procedures and audit process to ensure performance does not deteriorate.</li> </ul>	<ul style="list-style-type: none"> <li>Being monitored by the Fleet Safety Management Group.</li> </ul>
<b>8. Risk: Marine Environmental Impact Statements (EIA).</b> <ul style="list-style-type: none"> <li>RN unable to comply fully with S of S and CNS policy for conducting EIAs.</li> </ul>	<ul style="list-style-type: none"> <li>RN has formed a focus group to take work forward.</li> <li>EIAs being conducted on a case by case basis.</li> <li>Interim instructions to COs issued 1 April 03 for 3 month trial period.</li> </ul>	<ul style="list-style-type: none"> <li>Being monitored by the Fleet Safety Management Group.</li> <li>Awaiting results of trial</li> </ul>
<b>9. Risk: Environmental Information Regulations (EIR) 2002.</b> <ul style="list-style-type: none"> <li>Possible additional resources to comply with EIR if Fleet is swamped with requests for information that it cannot comply with for operational or security reasons.</li> </ul>	<ul style="list-style-type: none"> <li>Work in hand to establish a joint 2SL/CINCFLEET co-ordination cell.</li> </ul>	<ul style="list-style-type: none"> <li>Response cell will be responsible for co-ordinating EIR 2000 and Freedom of Information (FOI) Regulations.</li> </ul>
<b>10. Risk: Sustainable Development.</b> <ul style="list-style-type: none"> <li>RN is unable to meet the Government's Sustainable Development objectives and targets.</li> </ul>	<ul style="list-style-type: none"> <li>Fleet membership of Defence SHEF Board ensures a high level focus.</li> </ul>	<ul style="list-style-type: none"> <li>Paper to the SHEF Board 19 May 03.</li> <li>Being monitored by the Fleet Safety Management Group.</li> <li>Awaiting MOD targets, strategies and action plans.</li> </ul>
<b>11. Risk: EU Physical Agents (Vibration) Directive 2002.</b> <ul style="list-style-type: none"> <li>RN open to personal injury or ill-health compensation claims if directive not complied with.</li> </ul>	<ul style="list-style-type: none"> <li>D SEF Pol has proposed wording for the directorate that gives the MOD limited exemptions.</li> </ul>	<ul style="list-style-type: none"> <li>Waiting wording of the directive being agreed by the Health and Safety Executive.</li> <li>Being monitored by the Fleet Safety Management Group.</li> </ul>
<b>12. Risk: Revitalising Health and Safety.</b> <ul style="list-style-type: none"> <li>RN is unable to meet the</li> </ul>	<ul style="list-style-type: none"> <li>Fleet membership of Defence Environment and Safety management Board (DESB) and its supporting 'functional' safety</li> </ul>	<ul style="list-style-type: none"> <li>Waiting direction from the Defence SHEF Board.</li> <li>Being monitored by</li> </ul>

Issues/Risk	Mitigation	Remarks
Government's 'Revitalising Health and Safety' targets.	boards, ensures a high level focus.	the Fleet Safety Management Group.
<b>13. Risk:</b> EU Marine Thematic Strategy.  <ul style="list-style-type: none"> <li>Restrictions on RN activities when operating in European seas to comply with proposed marine protection requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Monitor risk via D SEF Pol Focal Points Meeting.</li> </ul>	<ul style="list-style-type: none"> <li>Long term risk. EU strategy to be agreed May 2005.</li> <li>Being monitored by the Fleet Safety Management Group.</li> </ul>
<b>14. Issue:</b> Several RN areas have reported shortcomings with the MOD CHASP accident-recording database. The lack of training has also been identified as a major weakness, compounded by the introduction of Version 2.	<ul style="list-style-type: none"> <li>MOD CHASP Working Group reinstated to manage a revision to the CHASP system.</li> <li>Group to report to D SEF Pol June 2003.</li> </ul>	<ul style="list-style-type: none"> <li>Being monitored by the Fleet Safety Management Group.</li> <li>Response will be taken when Central Guidance is received.</li> </ul>
<b>15. Issue:</b> Control of contractors is an area of concern and likely to be exacerbated by increased contractorisation on implementation of the Warship Modernisation programme and several facilities management initiatives. COs may be held responsible for the actions of contractors.	<ul style="list-style-type: none"> <li>RN has reviewed its operating procedures and processes and assessed as being satisfactory.</li> <li>D SEF Pol conducting a Control of Contractors 'functional' Audit.</li> </ul>	<ul style="list-style-type: none"> <li>Response will be taken when Central Guidance is received.</li> </ul>

## Successes/Key Achievements

- A Diving Safety review has been conducted and highlighted a number of recommendations aimed at improving diving safety within the RN. These recommendations are being implemented. The diving safety organisation has been significantly reviewed; the regulator and operator functions were separated in January 03 and a new military diving safety management system was introduced in April 03. Further changes to incorporate all MOD sponsored diving within the safety management system are well underway and will complete this year.
- Post the grounding of HMS NOTTINGHAM on 7 Jul 2002 vigorous action was taken across the Service to improve standards of navigational safety. This took the form of both an internal review and the advanced procurement of electronic charting systems for all naval vessels. The internal review examined in detail the full gamut of both individual and bridge team training across the Fleet, and concluded that there were areas for improvement. As a result a 30-point action plan was implemented, the key elements of which, including improvements to both individual and team training as well as the introduction routine inspections to deployed units, have now been implemented. In parallel with this, action has been taken to improve navigational safety in the short term by introduction into service of 42 Laptop based electronic charting systems. Supplied to key units these "Navigational Command Aids" enhance navigational safety pending the full introduction into service of the Warship Electronic Chart Display Information Systems (WECDIS) at the end of this year. It should be noted that the last fatalities as a result of a navigational incident were those incurred during the collision and subsequent capsizing of HMS FITTLETON in 1976.

- The recent establishment of the Defence Aviation Safety Centre (DASC) provides a centre of excellence for safety matters. Fleet aviation is represented at all the DASC working groups which inform the Defence Aviation Safety Board (DASB).
- Land Operations: The Royal Marines (RM) have had a high level of activity over the year in both deployed Units and RM Establishments supporting Operation TELIC. They have maintained an overall rating of Satisfactory for their Safety and Environment System Management System, based on internal CINCFLEET audits/inspections and advisory visits. RM Condor was included in the D SEF POL conducted SHEF Audit and no serious shortcomings were identified. Other than the Op TELIC fatalities reported below only one other dangerous event/incident occurring at RM Poole has been reported. Corrective action has been put in place but this is still under investigation by the Health and Safety Executive (HSE). A lessons identified paper will be issued once the HSE investigation concludes.
- Safety and Environment Management has been integrated into the Fleet Corporate Management System.
- Accident Response Organisation (ARO) Operations Manual FSMO/02/02 has been issued and successfully 'tested'.
- A very successful bi-annual RN SHEF seminar was held at HMS Raleigh.
- The new Fleet Safety Management Group (FSMG) met twice during the reporting period with the remit to monitor/progress all safety and environment management risks and issues.
- Safety and Environment Risks have been integrated into Fleet Risks Database.
- D SEF Pol conducted a SHEF Audit of the Safety and Environment Management System for CINCFLEET in October 2002. An overall mark of 78% was awarded using the MOD SHEF Audit Rating System. This was considered to be a satisfactory mark in respect to this being a test of the immature Navy Sector Safety and Environment Management System (NSSEMS-BR 9147).

## Performance

**Health and Safety Executive Crown Censures.** There were no Crown Censures served during the reporting period up to 31 Mar 03. However CINCFLEET has accepted a Crown Censure (28 April 03) on behalf of the MOD following CINCFLEET's failure to control contractors, leading to a road in Portsmouth being left unsafe for public usage. Corrective actions have been put in place; these will be completed when final Health and Safety Executive (HSE) recommendations are received.

**Health and Safety Executive Crown Improvement Notices.** BRNC Dartmouth was served a Crown Improvement Notice for failing to undertake a suitable and sufficient assessment of the risks from asbestos containing materials in the college's buildings and for not making appropriate arrangements for the effective planning, organisation and control of preventive and protective measures in relation to those risks. Devonport Western Area Health and Safety Group (DWAHSG) has carried out a Type 2 survey of BRNC and an action plan has been produced. Remedial works commenced in April 03.

**Health and Safety Executive Crown Prohibition Notices.** July 02 – The HSE served a Crown Prohibition Notice on the Defence Diving School as part of their ongoing investigation into one of the diving fatalities reported last year. The notice required that a standby diver be in immediate state of readiness to dive whenever the school is conducting ships diver training.

**Central Health And Safety Project (CHASP).** Analysing NS accident statistics remains difficult, owing to the differences between MOD and Health and Safety Executive reporting methodology and problems with extracting repeatable NS statistics from the CHASP reporting system. It is not possible to put a high level of confidence in these figures. It is thought that across the MOD only 40% of all accidents are reported. This is in line with Industries performance.

A letter from DCINC will be issued to all Line Managers and their staff, reminding them of their responsibilities under the Health and Safety at Work Act 1974, and in accordance with MOD Policy to report accidents and near misses.

### **Assurance Assessment**

Overall NS Safety and Environmental Protection Management Performance is assessed as satisfactory. Nevertheless, there were 5 fatal accidents to NS personnel and 89 Major/Serious injuries. Encouragingly, the occurrence of serious and major accidents has decreased by 38 % and equates to an incidence rate of 240 per 100,000 employees, which compares favourably with the “industry” accident rate of 617 per 100,000.

Operation TELIC fatalities of NS personnel resulted in 16 fatalities – 1 of natural causes; 1 killed in action and 14 killed through accident/incidents. Details of Operation TELIC accident fatalities are as follows:

- a 21 March 2003 – Eight personnel from 3 Commando Brigade died when a US Marine Corps CH-46 Sea Knight helicopter crashed south of the Kuwait border.
- b 22 March 2003 – Six personnel from 849 Squadron were killed when two RN Sea King Mk7 Airborne Early Warning helicopters collided over the northern Arabian Gulf.

### **Priorities for 2003-2004**

- Improve Safety and Environment Management performance across the NS to at least a Category B assessment in accordance with the MOD SHEF PI. Target date 31 March 2004.
- Continue the drive to integrate Safety, Health, Environment and Fire (SHEF) management systems across the NS by revising BR 9147 - Navy Sector Safety and Environment Management System in conjunction with the functional area leads. Target date 31 August 2003.
- Put in place an integrated strategy to reduce the number of accidents, incidents, ill health and resulting personal injury claims. This is being managed by the FSMG with a target date of 31 March 2004.
- Implement the recommendations contained in the D SEF Pol CINCFLEET SHEF Audit. Report. Target date 31 August 2003.



- The Accident Response Organisation (ARO) Operations Manual FSMO/02/02 enables a graded response to be initiated providing clear central direction to ensure that a coherent plan of action is produced which provides the Commanding Officer on the ground with a single point of contact, whilst maintaining a clear unambiguous command and control structure. A revision of the ARO Manual is to incorporate the Lessons Identified during the accident response to the HMS Nottingham grounding in Australia and the recommendations from the WSA sponsored DIA Audit of Contingency Plans for Emergency Overseas Repairs. Target date 31 August 2003.

## THE ARMY

### Overview

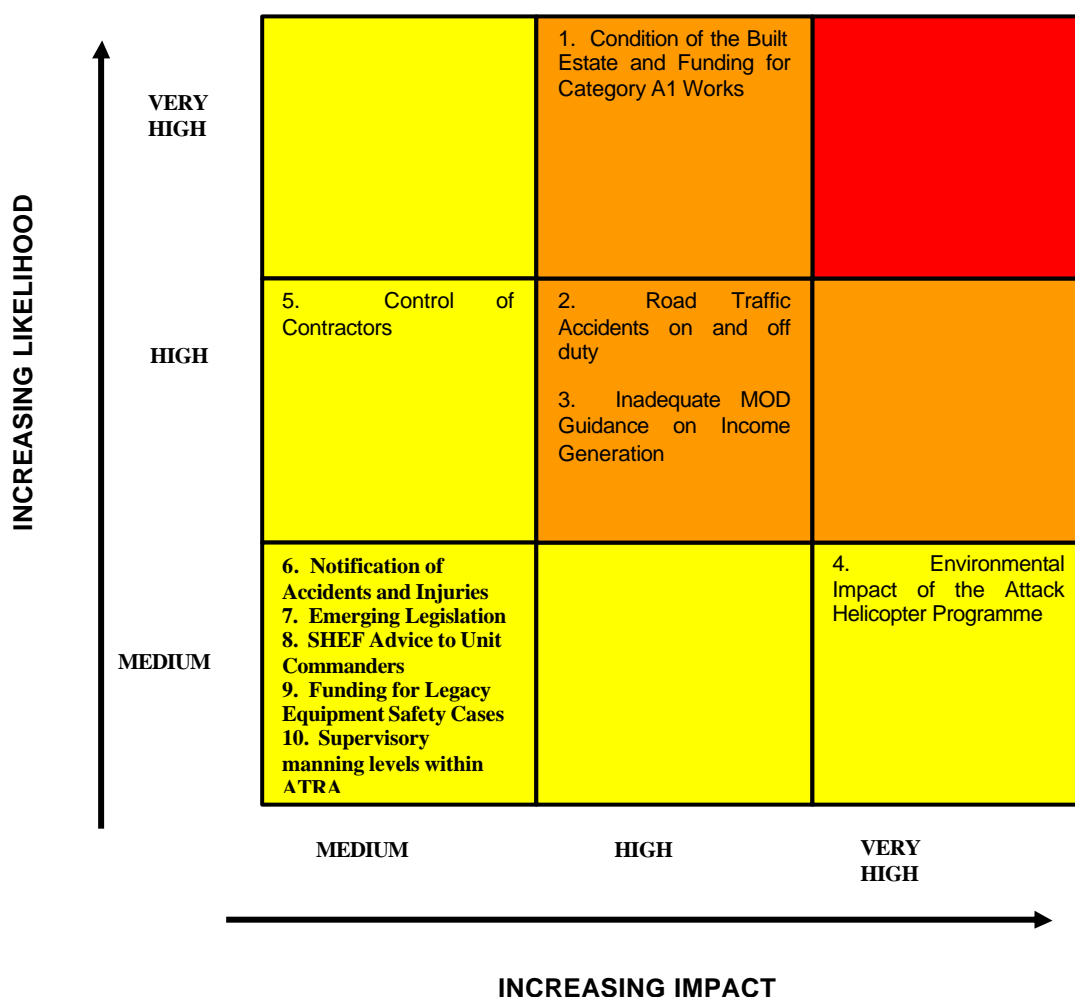
This report, agreed by the Army Environment and Safety Board (AESB) has been constructed against the objectives detailed in the Army SHEF Action Plan 2002/03, for implementation throughout the Army. This is a new and developing reporting process that will evolve gradually. With an unusually busy operational year, at home and overseas, the Army's H&S and EP organisation and arrangements have been shown to be generally sound. While our systems are compliant, the AESB has in hand corrections to a few lapses as part of the continual improvement process.

### Issues and Risks

The top ten SHEF risks, together with the mitigation measures, are detailed below. Mitigation measures have not impacted adversely on operational capability.

Risk	Mitigation	Impact	Colour*
1. Condition of the built Estate and funding for Category A1 Works.	<ul style="list-style-type: none"> <li>Tasking of AEO and TLBs to conduct formal risk assessments where they are unable to undertake the works under active consideration.</li> <li>Outstanding statutory work under constant review by AEO to enable prioritisation and inclusion from current in-year funding where available.</li> </ul>	<ul style="list-style-type: none"> <li>Stringent legislation places greater pressure on available property management funding priorities especially in 4 and 5 Divs. Overall approximately 30% of assets not statutorily compliant which could lead to unsafe working places and accommodation, and the potential for accidents, injuries and diseases together with subsequent litigation from claimants.</li> </ul>	Orange
2. Road Traffic Accidents on and off duty.	<ul style="list-style-type: none"> <li>Advisory lead with DSSG and implementation from TLBs in accordance with the Army Wheeled Driver Training Study to reduce on-duty RTAs</li> <li>Other initiatives such as the presentation by the "Walking Forward Theatre Company" are aimed at younger soldiers who make up the bulk of off-duty RTAs.</li> </ul>	<ul style="list-style-type: none"> <li>Current high levels of RTAs both on and off duty accounted for 40% of Army fatalities during 2002. Financial costs of on duty RTAs represent 20% by volume and value of third party claims settled on behalf of LAND.</li> </ul>	Orange
3. MOD Guidance on Income Generation.	<ul style="list-style-type: none"> <li>COS LAND as Chairman of AESB has issued interim guidance to all TLBs, awaiting outcome of MOD examination of policy framework.</li> </ul>	<ul style="list-style-type: none"> <li>Lack of high level guidance continues to expose commanders at all levels to potential litigation and adverse publicity in the event of accident.</li> </ul>	Orange
4. Environmental Impact of the Attack Helicopter Programme.	<ul style="list-style-type: none"> <li>Project Group established to identify key environmental concerns prior to Conversion to Type Training.</li> </ul>	<ul style="list-style-type: none"> <li>Following High Level Environmental Appraisal for collective training, any failure to comply with the Environmental Impact Assessments required by the Secretary of State could lead to a delay in the Conversion to Type Training and subsequent Introduction to Service of the Attack Helicopter.</li> </ul>	Orange

Risk	Mitigation	Impact	Colour*
5. Control of Contractors	<ul style="list-style-type: none"> <li>DCI issued by D SEF Pol highlighting commanding officer/head of establishment responsibilities under Project Alexander. Unless clarified within all such contracts, this situation will continue to cause confusion and expose Commanding Officer/Head of Establishment to potential litigation.</li> </ul>	<ul style="list-style-type: none"> <li>Changes to the delivery of property maintenance and projects with the introduction of Regional Prime Contracting and other PPP/PFI contracts place additional supervisory responsibilities on CO/HofE.</li> </ul>	Yellow
6. Notification of Accidents and Injuries and after action.	<ul style="list-style-type: none"> <li>Establishment of Army Incident Notification Cell on two-year trial from 1 Apr 03 should improve capture of accident and incident data.</li> </ul>	<ul style="list-style-type: none"> <li>Inability within Army to establish baseline through poor reporting of accidents and injuries (35% only) likely to affect Army's ability to achieve Governmental targets for reduction in deaths and injuries at work by 2004. Poor reporting also affecting ability to prevent similar accidents and to reduce associated claims costs for lack of recorded evidence.</li> </ul>	Yellow
7. Impact of Emerging Legislation.	<ul style="list-style-type: none"> <li>Sub-committee membership within D SEF Pol and LSSB structures to provide Army impact statements.</li> </ul>	<ul style="list-style-type: none"> <li>Inability to assess emerging legislation and to influence Ministerial/Departmental advice to UK drafters will adversely impact upon the Army if implications are not fully examined.</li> </ul>	Yellow
8. Quality of SHEF advice available to unit commanders	<ul style="list-style-type: none"> <li>Paper to be raised by CESO(A) to initiate establishment of stand-alone Unit Safety Advisers.</li> </ul>	<ul style="list-style-type: none"> <li>Expansion of safety and environmental legislative requirements and threat from litigation, amid increasing operational tempo, all adding pressure on CO. Current provision of competent safety advice at unit level judged to be inadequate, leaving CO exposed.</li> </ul>	Yellow
9. Funding for legacy Land Equipment Category B Safety Cases.	<ul style="list-style-type: none"> <li>Based upon ES(Land) D Tech assessment of Dec 02 there are 47 Cat B safety risks not funded. Further investigation to identify such impacts is underway.</li> </ul>	<ul style="list-style-type: none"> <li>Safety cases in respect of all legacy equipment are required by current legislation. Failure to provide could impact on the quality of training available for a given equipment.</li> </ul>	Yellow
10. Supervisory manning levels at Army Training and Recruitment Agency.	<ul style="list-style-type: none"> <li>Review of manning levels being conducted for consideration by APRC in Jun 03.</li> </ul>	<ul style="list-style-type: none"> <li>Review necessary following receipt of Crown Improvement Notice on ATRA by HSE following a near drowning at Winchester. Failure to provide adequate levels of supervision for a given activity is contrary to law.</li> </ul>	Yellow



## Successes

In addition to the reconstituted AESB, the following specific initiatives are noteworthy:

- The formal procedural risk assessment approach to training and operations during Op FRESCO helped to avoid incidents, accidents and personal injuries.
- Environmental Management Systems (EMS) have been established in one third of the Army Estate. The remaining two thirds will be covered in phased plans and we will meet the Government's target dates.
- The Army Incident Notification Cell (AINC) was established in Apr 03 on a two year trial. This Cell will improve the Army's awareness of incidents and accidents.
- The completed H&S and EP Training Needs Analysis (TNA) has been passed to DI Trg (A) for inclusion at induction, senior officer and specialist appointment training sessions. This work has also informed AG's Review of Officers' Career Courses (ROCC) and Command Leadership Management (CLM) initiatives.

- Continuing Professional Development and individual training of civilian staff has resulted in increased membership of professional associations and organisations.
- The introduction of the Army H&S and EP audit self-assessment process at unit level has done much to reduce the bureaucracy associated with the old MOD SHEF audit system. Overall assurance and monitoring will be provided by the audits of the HLBs, carried out by CESO(A).
- In support of Op TELIC, CESO(A) co-ordinated the issue of Safety Instructions for the handling of Depleted Uranium.

## Performance

**Crown Improvement Notices.** The Health and Safety Executive (HSE) has served three Crown Improvement Notices on the Army.

- The first followed a fatal shooting at Ballykinler Ranges in 2001, which required improvements to the planning, and conduct of live firing exercises.
- The second concerned the organisation, control and monitoring of the preventative and protective measures to ensure the safety of those working at Marchwood Military Port during the outload for Op TELIC.
- The third followed a near-drowning at ATR Winchester and required a review of procedures to ensure that risks are adequately addressed and that C2 and instructor manning levels are satisfactory.

The necessary improvements have been made or are in hand, to the satisfaction of the HSE. All these notices apply to the broader training organisations and they have been brought to the attention of the relevant chain of command.

## Assurance Assessment

CGS and the DESB can be assured that robust arrangements are in place throughout the Army for the management of H&S and EP in accordance with MOD policy set by the Secretary of State for Defence. If the balanced scorecard approach were to be applied, overall performance for 2002/03 would be graded as YELLOW.

## Future Objectives

Further improvements will be made to the organisation and arrangements for managing H&S and EP risks. Objectives will be included in the Army SHEF Action Plan 2003/04, which is being issued separately. Specific targets have been set to meet the requirements for revitalising Health and Safety and Sustainable Development Strategies; others will address the following:

- With increased reliance being placed upon contractors, especially within the Estate, measures will be required to ensure their competence, control, co-operation and communication.
- Additional resources will be needed in order to comply with the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 2002 and the more stringent Control of Asbestos at Work Regulations (CAWR) 2002. A case will be prepared by CESO(A).
- Beyond 2003/04, European Legislation affecting engine monitoring and fuel cleanliness will impact on equipment procurement.
- Further progress will be made in refining the advice provided by CESO(A) to commanders on operations overseas, in conjunction with PJHQ.
- Identification of Competent Army Authorities to address specific safety related issues.

## THE ROYAL AIR FORCE

### Overview

SofS delegates his personal responsibility for Safety and Environmental Protection within the RAF to Chief of the Air Staff who in turn delegates to CINC PTC and then to Air Officer Administration (AOA). The RAF lead focal point is Chief Environment and Safety Officer(RAF) (CESO(RAF)). AOA provides the strategic lead through chairmanship of the RAF SHEF Committee, which has met twice in the reporting year. This reporting year has seen changes to the structure of the CESO (RAF) branch, centralising Health and Safety and Environmental Protection policy, guidance and advice at RAF Innsworth and creating combined health and safety and environmental protection adviser posts. This has brought significant benefit with a single point of contact for individual RAF units and a unified audit structure. Throughout the year, the RAF has worked towards providing benchmark data and subsequent data in order to meet the many targets placed on the MOD/RAF under the "Sustainable Development in Government Initiative". In accordance with MOD policy set by the Secretary of State for Defence, RAF stations have individually identified their Health & Safety and Environmental risks and with the implementation of the MOD SHEF Management System, providing units the framework to manage them accordingly.

### Issues and Risks

Risk/Issue	Mitigation	Operational Impact
1. Incoming EU/UK legislation. e.g. Asbestos, Radiation	<ul style="list-style-type: none"> <li>Contribute to the D SEF Pol WG to develop a departmental legislation database that identifies potential impacts on MOD and seeks to influence changes to the proposed legislation during drafting.</li> </ul>	<ul style="list-style-type: none"> <li>Risk that the RAF will be unable to comply with EU/UK legislation &amp; requirements.</li> <li>Potential liability to prosecution or overly restrictive practices during training and exercises.</li> </ul>
2. Control of Contractors.	<ul style="list-style-type: none"> <li>Units implementation continues to be monitored by CESO(RAF) and assistance provided to achieve implementation at all RAF units.</li> <li>In concert with Defence Estates (DE) seek to clarify requirement in future infrastructure contracts.</li> </ul>	<ul style="list-style-type: none"> <li>Failure at some units to implement effective control arrangements for contractors on site could lead to claims against MOD.</li> <li>Prime Contracting will exacerbate situation.</li> </ul>

Risk/Issue	Mitigation	Operational Impact
3. Sustainable Development (SD) in Government Targets.	<ul style="list-style-type: none"> <li>Promote awareness of the importance of SD throughout the RAF, especially at management board level.</li> <li>Capture baseline data within each SD target area and develop strategies to show improvement against targets.</li> <li>Achieve 100% EMS across RAF by 31 Mar 04.</li> <li>Promote SD/environmental appraisals/impact assessments.</li> <li>Provide training for key personnel.</li> </ul>	<ul style="list-style-type: none"> <li>The RAF may not be able to meet SD targets and may not be able to comply with MOD policy.</li> <li>Failure to carry out SD/environmental appraisal could lead to serious environmental consequences/ civil litigation and adverse parliamentary and public interest.</li> <li>Operational training may be affected.</li> </ul>
4. Environmental Noise. (Typhoon)	<ul style="list-style-type: none"> <li>MOD currently reviewing noise compensation policy.</li> <li>Support the MOD Sustainable Development Steering Group in developing an appropriate sustainability appraisal tool that can be used throughout the Department to highlight and mitigate unintended outcomes of policy and equipment programmes.</li> </ul>	<ul style="list-style-type: none"> <li>Risk of further civil claims.</li> <li>Risk that new equipment will have restrictions placed on its use in training due to environmental and nuisance impacts.</li> </ul>
5. United States Visiting Forces USVF /MOD Liability as landlord and employer.	<ul style="list-style-type: none"> <li>Reconciling UK/US legislation and procedural differences for Health &amp; Safety and Environmental Protection.</li> <li>Currently the MOD and USVF are in consultation to resolve this issue.</li> </ul>	<ul style="list-style-type: none"> <li>Lack of a clear definition could impact on MOD liability on these bases.</li> </ul>
6. Lack of pragmatic SHEF management guidance to Commanders in out of area Operations. This may lead to confusion about responsibility or risk aversion.	<ul style="list-style-type: none"> <li>Assist MOD to develop guidance for Out of Area Commanders.</li> </ul>	<ul style="list-style-type: none"> <li>The risk, that lack of guidance will result in inappropriate or inadequate safety measures in "Out of Area" locations.</li> </ul>
7. Inconsistent accident data capture/ follow-up actions and records management.	<ul style="list-style-type: none"> <li>Ongoing review of accident /incident /injury and claims record systems with D SEF Pol and Claims.</li> <li>Ongoing study into investigations of fatal and serious accidents within the MOD by D SEF Pol.</li> </ul>	<ul style="list-style-type: none"> <li>Potential re-occurrence / increase in accidents /incidents /injuries.</li> <li>Increased claims liability.</li> </ul>



Risk/Issue	Mitigation	Operational Impact
8. Contaminated Land. (Legacy issues and fuel contamination)	<ul style="list-style-type: none"> <li>In concert with DE, continue with Land Quality Assessment programme.</li> <li>Continue to work with the Regulatory Authorities in accordance with MOU on land contamination /remediation.</li> </ul>	<ul style="list-style-type: none"> <li>The risk of legal non-compliance, civil litigation and compensation /cleanup costs.</li> </ul>
9. Funding of "spend to save" /Government exemplar initiatives.	<ul style="list-style-type: none"> <li>Tasking of TLBs to conduct formal cost-benefit analysis/risk assessments where they are unable to undertake the initiative under active consideration.</li> </ul>	<ul style="list-style-type: none"> <li>The risk that due to lack of funding /resources, stations will be unable to meet emerging targets and lose an opportunity to save the Department money, meet government targets or lead as an exemplar.</li> </ul>
10. Accidents during income generating activities may expose RAF commanders and others to litigation.	<ul style="list-style-type: none"> <li>Contribute to D SEF Pol policy guidance.</li> <li>Include briefing to future Station Commanders at Defence Academy Shrivenham.</li> </ul>	<ul style="list-style-type: none"> <li>The risk that lack of guidance could result in death or injury exposing commanding officers and others to potential litigation and adverse publicity.</li> </ul>

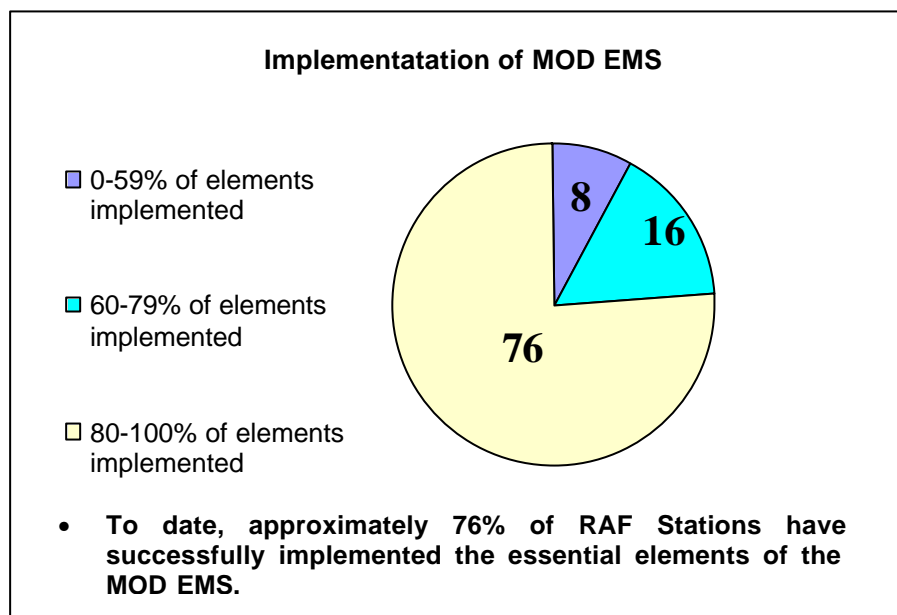
## Successes

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

Station	Awards/Initiatives
RAF Aldergrove	<ul style="list-style-type: none"> <li>Working with the local council to pilot a £200k scheme in recycling domestic waste produced from station domestic quarters.</li> <li>The HSE undertook an inspection that gave a highly recommended report on sound H&amp;S management and best practice.</li> </ul>
RAF Boulmer	<ul style="list-style-type: none"> <li>Became the first RAF station and only the sixth recipient to win the Transco-TNEI (The Northern Energy Initiative) Energy Efficiency Award.</li> </ul>
RAF Buchan	<ul style="list-style-type: none"> <li>The station still retains the Scottish Health at Work Award (Gold) and is awaiting re-accreditation for the Scottish Healthy Choice Award.</li> </ul>
RAF Cosford	<ul style="list-style-type: none"> <li>Received Recognition Certificate from Health &amp; Safety Commission for participating in the 2002 European Week for Safety and Health.</li> </ul>
RAF Fylingdales	<ul style="list-style-type: none"> <li>Awarded the HSE Yorks, Humber &amp; Lincs Area Award during the European Health &amp; Safety week 2002.</li> </ul>
RAF Leuchars	<ul style="list-style-type: none"> <li>Awarded the RoSPA 2003 Gold Medal for Occupational Safety</li> </ul>
RAF Neatishead	<ul style="list-style-type: none"> <li>Won a Health &amp; Safety/Regional Award for Norfolk to reduce driving speeds on and off station. This attracted publicity by BBC Look East.</li> </ul>
RAF Northolt	<ul style="list-style-type: none"> <li>Participated/facilitated in Brunel University EMS Audit course, by providing a venue for students to undertake a "live" audit.</li> </ul>

## Performance

- **Implementation of MOD EMS**



- **RAF Valley** has successfully achieved accreditation to ISO14001 and is preparing for accreditation to ISO18001 this year.
- **4C's Implementation:** To date, 43% of RAF stations have 80%-100% of the 4Cs system in place.
- **Office Waste Recycling:** 62% of RAF stations have implemented office waste recycling schemes.
- **Travel Plans:** Where applicable, 35% of RAF stations have successfully implemented travel plans.
- **Environmental Pollution Incidents** – The following environmental pollution incidents were recorded during the reporting period:

An aircraft crash at RAF Wittering, resulted in fuel/soil contamination but was contained on site, remediation undertaken to EA satisfaction.

A cross-base pipeline at RAF Lyneham leaked significant quantities of AVTUR into the ground, leaking through into the minor aquifer and surrounding land. The station has worked with the EA to recover and remediate and to date this is still ongoing.

At RAF Honington, a visiting unit disposed of kitchen waste through the station storm drain system causing severe pollution to an interceptor. The pollution was contained on site and remediated. Total cost of cleanup amounted to £30,000.

- **De-icing Issue:** The RAF reported last year that 73% of stations had switched from using Konsin de-icer (a glycol based de-icer) to Clearway 3 (an acetate based de-icer). This year, the RAF can now report that 86% of RAF stations are now using Clearway 3.

- **Land Quality Assessment Progress:** During 2002/2003, the Command Scientific Support Branch RAF (CSSB) has completed 12 Phase 1 land quality assessments/studies as part of their on-going 4 year rolling programme to cover the RAF estate.
- **HSE/EA Enforcement:** There were no Crown Enforcement Notices, Prohibition Notices or Crown Censures this year.
- **Training:** During the reporting year, Health and Safety and Environmental Protection courses have been undertaken by both service and civilian personnel:

	Health & Safety (RAF Halton Courses)	Environmental Protection (RAF Halton Courses)	Ionising Radiation (Training carried out by Institute of Naval Medicine)	Non Ionising Radiation (Training carried out by TUV Services)
Number of RAF Personnel Attended:	1340	706	92	60

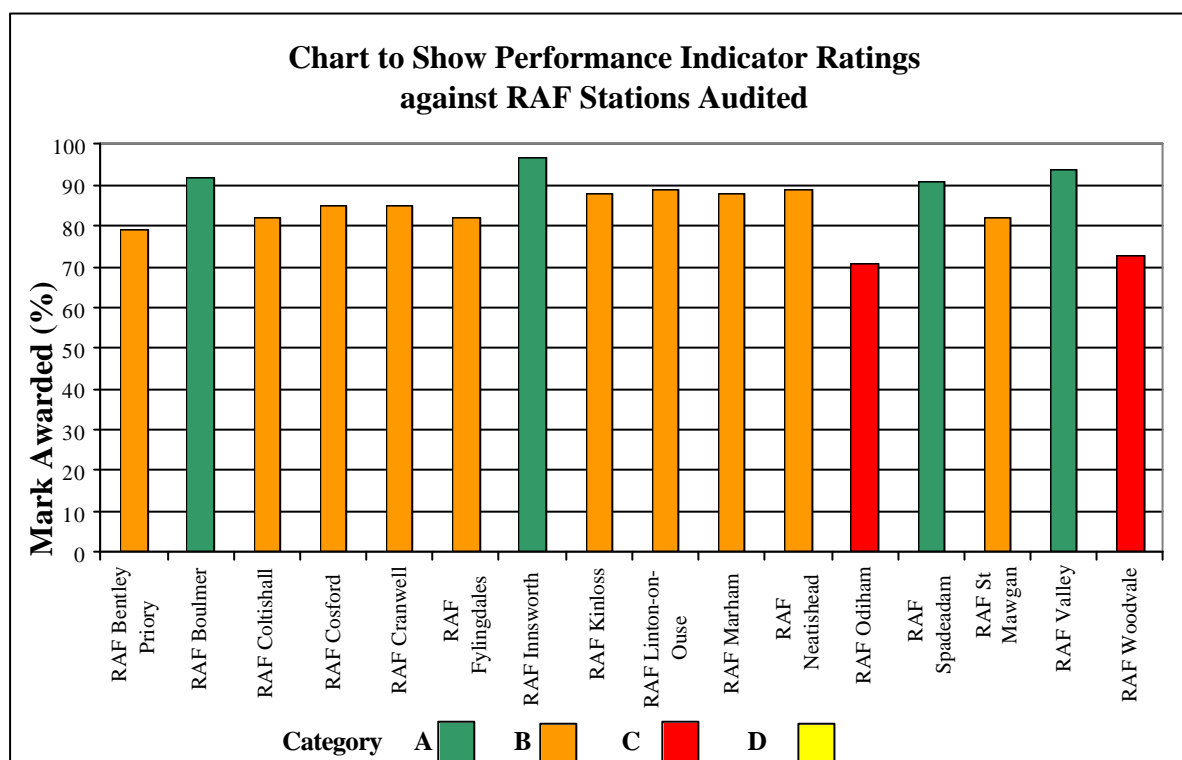
- **Conservation:**

Station	Awards/Initiatives
RAF Barnham (SSSI)	A 5-year management plan has been agreed with English Nature and a budget of £36,000 has been agreed for the forthcoming year.
RAF Donna Nook	Attained National Nature Reserve status.
RAF Kinloss	In concert with DE the Station has completed rural management plans as part of the sustainable rural estate management initiative. Providing one of the four MOD sites piloting the methodology for the MOD strategy for the sustainable management of the rural estates.
RAF Leuchars	The Station continues to work closely with SEPA/SNH and the Fife Council Ranger Service in support of the Protection and conservation of the Eden Estuary.
RAF Lossiemouth	Continuing to maintain links with the Moray Firth Special Area of Conservation Management Scheme.
RAF Spadeadam	Completed a Deer Management Plan.
RAF Valley	Phase 1 site dossier compiled in conjunction with the local council and wildlife groups.
RAF Wittering	Has begun implementing a 5-year management programme for SSSI.

- **Utility Management:** The RAF Bureau Service was formed last year utilising E-Systems to obtain utility consumption data in order to manage and evaluate potential utility savings across the RAF Estate. To date all significant RAF electricity revenue meters are monitored for bill validation as are over 100 Army sites under a partnership arrangement signed in June 02. Over 600 such meter facilities were connected in 02/03 with some 1500 further meter facilities across the RAF's 20 largest stations planned by Oct 03. Although official figures for 02/03 are not all in yet the RAF expects to fully meet its carbon reduction targets and see significant reduction in water figures.

## Assurance Assessment

In financial year 02/03, 16 RAF stations were audited in accordance with the MOD Safety, Health, Environment & Fire (SHEF) Audit Code of Practice. The audit results show that 14 out of 16 of those stations audited were found to have control systems in place and were largely compliant with some fine-tuning required. Where specific problems have been identified, action plans have been raised for all 16 stations and follow up action is being taken to address those issues. The year's performance places the RAF in a strong position to meet DSEF Pol's previous target for all RAF stations to achieve a year on year improvement in SHEF performance, aiming for a minimum indicator of Category A (90% and above) by FY03/04.



## Priorities for 2003-2004

The following priorities have been identified for the year 03/04: -

- Continue to improve SHEF Management across the RAF, providing assurance through audit to at least Category B (80 to 90%) assessment.
- In concert with DE, seek to clarify requirement in future infrastructure contracts and to ensure comprehensive assurance in the control of contractors.
- Complete the introduction of the MOD Environmental Management System (EMS) on the remaining 24% of RAF Stations by 31 Mar 04.

- Continue to raise awareness and develop strategies to meet Government Sustainable Development targets.
- Seek to harmonise remaining inconsistencies between UK and USVF legislation and procedures in Health and Safety and Environmental Protection by 31 Mar 04.

## DEFENCE LOGISTICS ORGANISATION (DLO)

### Overview

Environment and Safety Management within the DLO is implemented through Directors General (DGs) and Chief Executives (CEs) to whom 'Duty Holder' line management responsibilities are delegated. Additionally, DLO-wide 'Discipline Lead' responsibilities exist for the key safety domains within DLO, as follows: Environment and Safety Strategy; SHEF, Explosives, Air Equipment, Sea Equipment, Nuclear, Land Equipment, Fuel, Food, Rail, Transport and Hazardous Material. This report is drawn from the individual safety reports by Discipline Leads that address their respective roles and topical matters. They draw out specific issues and perceived risks to that discipline lead whilst also highlighting successes achieved during the reporting period. Most importantly, they provide assurance of performance and identify priorities for the coming year.

Much has been achieved regarding the adoption of 'lean reporting' across the Department and the format for discipline leads, which has been specified by D SEF Pol, is consistent across all MOD Functional Safety Boards.

This report incorporates the TLB perspective and has been produced in response to criticisms received last year. Key points are drawn out, but readers are reminded that individual reports, available from DLO, contain more detailed information.

### HSE Crown Censure, Prohibition and Improvement Notices

During the reporting year, the DLO was not subject to any HSE Crown Censure proceedings. However a prohibition and improvement notice was served with regard to Legionella and an improvement notice with regard to diving. All 3 notices were lifted by the HSE after appropriate management activity.

### Issues & Risks

Progress has been made in the identification of E&S risks to DLO outputs, and considerable effort has been expended ensuring that the DLO E&S community embraces the ethos of Corporate Governance. Many E&S risks are, quite rightly, managed at the Business Unit or IPT level, with discipline leads consolidating risks at their level. DSES has taken this process a step further and produced an E&S high level risk register shown below. Formal review will occur six-monthly at the Environment & Safety Management Steering Group (ESMSG) and enable better informed direction to be given to line management on the prioritisation of E&S risks and the resourcing required to mitigate them.

The most significant risk affecting E&S performance within the DLO, and reported by several discipline leads, relates to the lack of resource. A lack of suitably qualified SHEF staff in the HLBs means that they have been unable to conduct assurance auditing, whilst two of the equipment pillars report that limitations on funding have resulted in the failure to implement identified safety improvements. In the Land environment this has resulted in Customer 2 being advised that procedural risk mitigation measures need to be imposed, which has resulted in a loss of capability and subsequent impact on training and operational activity. In the air environment aircraft airworthiness has not been compromised but some modifications to enhance aircraft airworthiness in the medium to long-term have not been possible due to lack of current funding. Management mitigation strategies are in place to ensure that this issue does not impact on DLO outputs. Where IPTs cannot reduce equipment risks to

ALARP by means at their disposal, these issues are mitigated in conjunction with Customer 2 by operational constraint and if appropriate, where funding is an issue the matter is considered in conjunction with Customer 1. In the above cases the appropriate Functional Safety Boards are aware of the equipments affected and any operational constraints that have been imposed.

**Table 1 - Précis of Top E&S Risks**

Risk	Mitigation	Operational Impact
1. Lack of Integrated management structure across the MOD nuclear programmes combined with increasingly intrusive legislation and regulation threaten the nuclear outputs of the WSA	<ul style="list-style-type: none"> <li>Mitigating initiatives include the formation of Defence Nuclear Propulsion Board, Review of Weapons Programme management structures; both programmes linked to the DMB(N). Additionally there is robust engagement with OGDs and Regulatory Authorities combined with proactive engagement on emerging legislation and regulation.</li> </ul>	<ul style="list-style-type: none"> <li>Sustainability of UK's strategic capability.</li> <li>Reputational damage to MoD</li> </ul>
2. Failure to interpret E&S legislation in a timely manner.	<ul style="list-style-type: none"> <li>Ensure adequate resources are provided in both time and relevant skill levels</li> <li>Improved visibility and awareness of forthcoming legislation across the DLO by adoption of CESO (MoD) Legislation database and alerts to all Focal Points.</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in operational capability experienced by Customer 2 and FLCs due to the imposition of procedural mitigation strategies.</li> </ul>
3. Major accident involving equipment.	<ul style="list-style-type: none"> <li>Development of equipment Safety Cases for all new and existing equipment/platforms in accordance with DESM programme.</li> <li>Continual review of Equipment Safety Management Systems in the Business Units and IPTs</li> <li>Regular review of Support Solutions Envelope Guidance and input to the AMS.</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in operational capability experienced by Customer 2 and FLCs if equipment is withdrawn from service or its use limited.</li> </ul>

Risk	Mitigation	Operational Impact
4. Failure to conduct Environmental Impact Assessments for new and in service equipment	<ul style="list-style-type: none"> <li>Acquisition community introduce EIAs and Environment Management Systems (EMS)</li> <li>DPA/DLO interoperability</li> <li>EP awareness programme to educate and inform IPTs, co-ordinated by DLO Environmental Awareness Committee.</li> <li>Targets for EIAs to be set and monitored through the DESM working Group.</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in operational capability for Customer 2 and FLCs as the area of operations that equipments can be operated in is severely curtailed.</li> </ul>
5. Major accident involving personnel in buildings or facilities	<ul style="list-style-type: none"> <li>DLO wide investment in safety competencies for all staff.</li> <li>Legislative briefings in all Business Units pertinent to processes and job roles.</li> <li>Effective management of contractors while on site through implementation of the MOD 4Cs system.</li> <li>Improved vetting of the safety competencies and management systems employed by the contractors.</li> </ul>	<ul style="list-style-type: none"> <li>DLO capability to support the FLCs would be significantly affected by HSE censure on facilities.</li> <li>Reputational impact on the DLO and MoD.</li> </ul>
6. Failure to fully address E&S risks when selling into Wider Markets.	<ul style="list-style-type: none"> <li>Issue has been elevated through the MoD SHEF Board.</li> <li>D SEF Pol have agreed to produce a stand alone document, with assistance of Defence Wider Markets Policy Group, re-inforcing the E&amp;S implications to be considered when initiating SiWM initiatives.</li> </ul>	<ul style="list-style-type: none"> <li>Loss of DLO facilities due to fire.</li> <li>DLO ability to sustain support to FLCs significantly affected by HSE censure on affected facilities.</li> <li>Reputational impact on DLO.</li> </ul>
7. Failure to recruit and retain Suitably Qualified and Experienced E&S Personnel (SQEP)	<ul style="list-style-type: none"> <li>Assess extent of problem. If necessary produce a business case to allow for recruitment and retention allowance for E&amp;S staff within the DLO.</li> </ul>	<ul style="list-style-type: none"> <li>DLO unable to provide assurance iaw SofS policy.</li> <li>Reduction in operational capability of FLCs as DLO unable to provided required level of support.</li> </ul>
8. Maritime wrecks	<ul style="list-style-type: none"> <li>Issue has been elevated to DSEF Pol who are interacting with FIN Pol COM1.</li> </ul>	<ul style="list-style-type: none"> <li>Considerable impact on DLO resources which will impact on DLO's ability to support the FLCs.</li> <li>Significant pollution of maritime environment worldwide.</li> </ul>



## Successes

There have been successes within the DLO E&S community, not least the establishment of the Dangerous Goods and Hazardous Materials discipline lead, although work is still required to link the group to a relevant MOD Functional Safety Board.

- The nuclear arena has achieved notable success with a variety of projects ranging from Project ISOLUS<sup>1</sup> to commissioning of D154 and the VALIANT de-fuel. Increased linkages outwith the discipline lead areas have been established, in particular ES (Land) has much improved its liaison with DPA via the Land Systems Safety Office (LSSO), while the Defence Rail & Container Service (DR&CS) team have provided assistance to Other Government Departments (OGDs) with training.
- Significant progress has been made with asbestos elimination in all the equipment pillars of the DLO, and with the production of Safety Cases. Improved interaction with other discipline leads, the DPA and FLCs is a recurring theme demonstrated by all DLO E&S focal points, although it is conceded that there is still much to do in this area.

## Assurance Assessment

This report demonstrates the efficacy of our safety management systems in achieving a number of notable successes. It also, however, highlights significant weaknesses in the DLO capacity to provide full assurance by means of audit that the duty holder responsibilities are being met across the organisation.

There is a growing recognition within the E&S community that E&S risks need to be fully embedded in the assessment of business risk in accordance with DLO Corporate Governance processes. But as with much business change, the speed of progress for such initiatives remains slow. Notwithstanding this and the challenges posed by the long list of priorities facing the organisation over the coming year, the DLO's safety record overall remains good. A strong safety culture prevails and the support afforded by the discipline lead focal points for the Environment and Safety management Framework remains committed. The work on reporting against Key Point Indicators and the understanding of key E&S risks will further assist top management in understanding the nature and extent of E&S risks and in targeting resources to control them.

## Priorities for 2003-2004

The following priorities have been identified for the year 03/04:-

- Agree with Defence Communications Service Agency (DCSA) their role and responsibilities as a discipline lead for IT and communications equipments.
- Develop a strategy to recruit and retain suitably qualified and experienced E&S personnel.
- Further develop the adoption of Corporate Governance across the DLO E&S community.
- Establish, in conjunction with D SEF Pol, a robust system of identifying and assessing the impact on the MOD of forthcoming E&S legislation.

<sup>1</sup> A review of the options for the interim storage of reactor compartments and associated hull and structure of UK nuclear submarines following their withdrawal from service and pending final disposal.

- Improved reporting of E&S performance against SMART Key Performance Indicators (KPIs).
- Improved inter-operability between DPA and DLO.
- Linking Dangerous Goods and Hazardous Stores to an appropriate MOD Functional Board.
- Participate in the first ever TLB E&S system audit by D SEF Pol.

## DEFENCE PROCUREMENT AGENCY

### Overview

This report covers the safety management of the some 7700 personnel working at Abbey Wood and other DPA sites, as well as the management of safety of the equipment being procured by the agency.

The main SHEF Workstreams for 2002/03 have been:

- Process Map SHEF processes
- Rationalise and improve Knowledge Base SHEF information
- Prepare a draft EMS and produce a site Environmental Manual
- Formalise energy management proposals and produce a costed action plan
- Ensure CHASP is fully operational and all accident data is covered
- Complete Environmental Risk Assessments
- Ensure 4C's policy is adequate
- Ensure all IPT's have nominated Local SHEF Advisers and arrange EP training to ensure all disciplines are covered
- Continually improve arrangements and processes in accordance with recommendations given in the 2001 DSEF(Pol) Audit action plan

### Issues and Risks

**Risks Identified:** The DPA has undertaken an extensive H&S and Environmental risk assessment programme with copies being incorporated into our management system. This process has shown that there are no significant physical SHEF risks that will present a major impact on business capability. The following major business risks have been included within the FMG Business Plan together with the specific measurable targets to deliver the mitigations.

Risks Identified	Mitigation	Impact on Capability
1. Failure to comply with legislation & MOD Policy	<ul style="list-style-type: none"> <li>• Robust management system</li> <li>• Identify the extent of responsibility</li> <li>• Monitor and Audit systems</li> <li>• Ensure IPT's &amp; SG's are aware and comply</li> <li>• Ensure SHEF is represented at the correct levels</li> </ul>	<ul style="list-style-type: none"> <li>• Without the mitigation in place, CDP cannot be assured that the DPA operates with a positive SHEF culture</li> </ul>
2. Failure to identify all business units, staff and arrangements for whom CDP is responsible	<ul style="list-style-type: none"> <li>• Identify DPA owned property</li> <li>• Identify and locate all DPA staff operating off site</li> <li>• Visit and audit arrangements for off site personnel</li> </ul>	<ul style="list-style-type: none"> <li>• CDP cannot be assured that all of his staff are afforded adequate SHEF arrangements</li> </ul>
3. Failure to link SHEF to wider DPA Business Plan	<ul style="list-style-type: none"> <li>• Ensure department responsible for the DPA Business Plan are aware of the requirements legislation and MOD Policy</li> </ul>	<ul style="list-style-type: none"> <li>• Visibility of CDP commitment to SHEF will not be apparent.</li> </ul>

Risks Identified	Mitigation	Impact on Capability
4. Failure to conduct audit programme	<ul style="list-style-type: none"> <li>Formulate audit programme</li> <li>Ensure adequate resources to undertake programme</li> <li>Direct resources to audit Abbey Wood &amp; off site</li> </ul>	<ul style="list-style-type: none"> <li>CDP will not be assured that the DPA is following his policy, thus giving a potential risk to the Health Safety and Welfare of his staff</li> </ul>
5. Failure to identify and provide SHEF training for all staff	<ul style="list-style-type: none"> <li>Identify correct level of training for purpose required (from Induction to LSA training)</li> <li>Maintain an up to date database with training details</li> </ul>	<ul style="list-style-type: none"> <li>Awareness of SHEF requirements will not be disseminated to all staff, IPT's and support groups will not have local representation and CDP will not be assure that his SHEF professionals are competent</li> </ul>

## Issues

**Safety Line Air Gun Incident** - As a result of an accident at RM Poole during development trials of a Safety Line Air Gun device being procured by the DPA there is the possibility of Crown Censure action by the HSE.

The incident occurred during development trials of the equipment, which involved modifications to an existing commercial product. During the trials at RM Poole, in September 2002, a compressed air bottle in the equipment 'exploded', resulting in serious injuries requiring hospital treatment to two men, one a contractor the other a MOD civilian employee from RM Poole.

The HSE are conducting an investigation of the circumstances leading to the incident and have undertaken a technical examination of the compressed air bottle in order to understand the cause of the "explosion". The results are not known. The HSE have advised the DPA that they considered that they had enough evidence to proceed with a Crown Censure of the MOD for "failing to adequately manage the health and safety aspects of the project."

Based on an on internal investigation, carried out on its behalf by the LSSO, into the incident and possible safety management factors that may have contributed to it, the DPA will be issuing a lessons learnt paper to IPTs and other safety management areas.

**Restricted Material** - There is an increasing legislative demand for either the restriction or elimination of certain materials substances (Lead, Cadmium, Chromates and more). To control the demands these changes will have on MOD, its resources and its capability, there needs to be a clear and co-ordinated approach to assessing the possible impact of changes, investigating alternatives and leading the Departments response.

The effects for these issues will impinge on the selection and use of materials for many of the systems in service and currently in programme. They will have affect across all of the functional areas in Department. It is therefore essential that a coherent process and plan is put in place ensure all the issues are covered and where necessary co-ordinated with other groups dealing with similar issues (Hazardous Substances, Montreal Protocol) to ensure that there is no duplication of effort. A mechanism is therefore required to:

- investigate the likely impacts,
- investigate or research alternatives,
- to issue instructions and instructions to managers and
- where necessary monitoring results.

In the coming year agreement will be sought to broaden the remit of the current Restricted Materials Steering Group (RMSG) to take on this role, with the authority to instigate and co-ordinate the policy and publish the supporting instructions and guidance. This is needed to deal with future issues in the control and/or the elimination of materials and substances.

## Successes

The outcome of work carried forward from last report is as follows:

- Further enhancements have been made to H&S provision iaw DSEF(Pol) audit action plan
- A costed energy management plan has been completed
- A biological urinal system trial has proved that 'ecobug' can make substantial savings. Further work is required to implement a full scheme.
- A travel Co-ordinator has been appointed to post and a car sharing scheme is being promoted.
- An Environment Manual has been published

Examples of continuous improvement/progress and key achievements

- A training programme for Local Safety Advisers in Environmental Protection has been implemented, enabling them to act as Local SHEF Advisers.
- The precise locations of all DPA off-site staff have been confirmed.
- The audit programme is proving that all IPT's/SG's are considering SHEF issues with the right level of importance.
- The site spill plan is complete.
- Changes to the Knowledge Base have produced a dedicated, easy to maintain information database for all DPA staff and Abbey Wood users.
- The local Accident Reporting system has been fully integrated with the CHASP system. Wider exploitation of data is possible; including cross-referencing to centrally provided claims information.
- This year, the DPA has established the Acquisition Environment and Safety Management Office (AESO) to provide a corporate focus for equipment environment and safety matters. Its first task will be to develop the existing Safety and Environment Management System (SEMS) to reflect current MOD Policy and ensure a consistent approach to safety and environmental matters by projects. The AESO will also lead on the development of a MOD wide Environment Assessment process for equipment procurement and services and lead the MOD Sustainable procurement Working Group.

## Performance

- **EMS Implementation:** the draft plan for EMS implementation has been completed in year; full implementation is planned as an 03/04 Business objective.
- **Pollution/Prohibition Notices/Crown Censures:** None
- **Training:** SHEF Office staff have undertaken further professional training in the following subjects:

MSc in Health, Safety and Environmental Management  
Nebosh Diploma  
Nebosh Specialist Diploma in Environmental Management

Continual Development training for IPT/SG Local Safety Advisers is ongoing with EP awareness training being included. Other training undertaken includes DSE Assessor training and First Aid at Work training.

- **Conservation:** the Abbey Wood Grounds Maintenance contract considers bio-diversity and encourages wildlife to inhabit certain areas of the site. DPA also involved in assisting both with voluntary manpower and monetary funds in an adjacent local nature reserve called Splatts Wood.
- **Initiatives:**

A risk-based approach to business objectives, including SHEF, has been implemented for 2003/2004

The induction training package has been revised.

Environmental Protection training has been provided to Local Safety Advisors.

A benchmarking pilot has been undertaken with with local businesses.

Sourcing of suppliers of Green Electricity will commence in April 2003.  
A programme to Reduce water consumption by urinals is in progress.

Interoperability with on site lodger units (45% of site population) has been achieved.

- **H&S:** H&S awareness and commitment throughout the site is improving. Accidents are of a minor nature and reduced by 25% in comparison with the previous year.
- **FRAM/FSMP:** Every building within Abbey Wood has a dedicated FSMP which is continually monitored, with defects being reported, by the on site MOD Guard Service.
- **Audit results:** 19 IPT's and 1 Support Group have been audited this financial year. Generally, results show that whilst IPT and SG Leaders are considering SHEF and their respective teams are working in a safe manner, Safety Management Systems at team level fall short of the required standard in some aspects.

## Assurance Assessment

Assurance Assessment - All SHEF business targets for 02/03 were delivered. The DPA has good policy documentation to ensure that SHEF is an integral part of the overall business objectives. The SHEF team has worked extensively to ensure all DPA personnel are located, identified and have arrangements in place for their protection. IPT's and Support Groups have in place local arrangements for their respective teams and, where they have staff located remote from Abbey Wood, they are assured that the relevant host unit provides arrangements. The Audit Programme has been successful and shows that generally IPT's and SG's within the DPA do consider SHEF issues along with the overarching business targets but some further work is required to ensure that their Safety Management systems reflect CDPs Policy.

## Priorities for 2003-2004

These future objectives are identified as hard targets within the 2003/04 business plan:

- Develop benchmarking relationships with local industry
- Implement a road safety awareness campaign
- Undertake an exercise to test the spill plan procedures
- Publish the completed Abbey Wood EMS
- Maintain the internal audit programme of SHEF arrangements including on site lodger units
- Initiate audit programme of SHEF arrangements for off site DPA staff
- Establish a Local SHEF Adviser working group
- Update the Safety and Environment Management System used by IPTs for their equipment programmes, including the development of suitable Environment Impact Assessment processes to supplement the safety processes.

## CHIEF OF JOINT OPERATIONS

### Overview

This report covers Chief of Joint Operations' (CJO) area, including the Permanent Joint Operating Bases (Falkland Islands, Gibraltar, and Cyprus), and the Permanent Joint Headquarters (PJHQ) at Northwood. It does not cover any operational areas such as Bosnia, Kosovo, Afghanistan, Iraq etc.

### Risks

Risk	Mitigation/Need	Impact
1. Weakness in environmental management at PJHQ Northwood	<ul style="list-style-type: none"> <li>Working Group addressing issues.</li> </ul>	<ul style="list-style-type: none"> <li>Legal action.</li> <li>Clean up costs</li> </ul>
2. Asbestos waste disposal, Cyprus. Disposal route not identified and storage containers deteriorating.	<ul style="list-style-type: none"> <li>Need to identify disposal route</li> <li>Re-packaging before transportation</li> </ul>	<ul style="list-style-type: none"> <li>Re-packaging and transportation costs</li> <li>Local PR problems</li> <li>Legal action</li> </ul>

### Successes

- The combining of health and safety management systems, and environmental management systems in Cyprus has proved very effective and could be used as an example of best practice. Specifically a single risk assessment form is being trailed for both topic areas.

### Performance

- In Gibraltar and at Northwood courses have been completed (2x Managing Safely, 4x Working Safely and 2x Risk Management), thereby raising the profile of health and safety issues.

### Assurance Assessment

No formal audits of CJO areas have been undertaken in FY02/03, though a follow-up visit to Cyprus took place in November 02. This identified good progress in completing the SHEF Action Plan produced after the last audit.

### Priorities for 2003-2004

The priority for the coming year will be to continue to raise SHEF standards at PJHQ and to prepare for the DSEFPol audit of CJO later in the year.



## CENTRE TLB

### General

In the Central TLB the year saw the transfer to DG CB's HLB of the former SHEF Support Organisation (SSO) from D Sef Pol. In effect this has moved responsibility for advising HLB holders on safety and security risk management to one division – CB(S+S) – to ensure the delivery of a more co-ordinated approach to these important issues across the TLB.

In many ways ownership and accountability for health and safety, both at corporate and individual level across the TLB has, just like security, not featured highly on business unit agendas over the last year. While there has been some progression of recommendations arising from the last D Sef Pol audit of the CTLB (in October 2000), these have concentrated mostly on process, rather than active risk management. This is something the TLB holders have directed must change in the year ahead.

### SHEF Implementation

In the majority of areas in the CTLB, particularly those with higher perceived hazards, the management of SHEF risks is satisfactory and audits have shown compliance with legislation and Policy. In some of the more office-based organisations the inherent risks are lower, but are generally poorly managed. This mainly refers to the lack of robust and comprehensive SHEF management systems, where, for instance, performance targets and procedures for co-ordination and communication with non-MOD staff are lacking. Other examples of areas where audits have shown non-compliance with MOD policy are Display Screen Equipment, SHEF training, and Environmental Management.

By way of mitigation, a CTLB SHEF strategy has been drafted and will be brought to the CBMB for agreement shortly. It will propose a series of initiatives, built on an Action Plan, aimed at resolving the fragmented and variable approach to SHEF management across the CTLB. In particular it will recommend the re-issue of the CTLB SHEF Statement, endorsement of an audit programme to assess and improve performance, and incorporation of SHEF risks into the wider corporate governance agenda. The overall aim will be to improve levels of SHEF awareness and increase accountability at all levels within the CTLB.

## SPECIFIC ISSUES

### DCMC Fatality

A fatal accident occurred in the DCMC, Main Building, on 20 July 2002, resulting in the death of a sub-contractor. Following the accident immediate steps were taken to notify the HSE and TLB holder. An initial investigation took place within 72 hours of the accident, with the results conveyed to PUS, and Ministers. A subsequent Board of Inquiry concluded that the incident occurred due to a lack of familiarity of the high voltage equipment on the part of the MOD staff charged with documenting and operating the safe system of work. Following their own investigation, HSE issued a Crown Improvement Notice, which has now been fully complied with. Significant effort has been undertaken, partly as a result of the Improvement Notice, to drive forward a number of detailed recommendations stemming from a subsequent CB(S+S) audit of practice across the board. A follow-up audit in November will assess the effectiveness of the measures taken.

The possibility of legal action against the Department from the deceased's family remains. The Ministry of Defence Police have completed their investigation and submitted a file to the CPS. A reconvened Coroner's Hearing is scheduled for late September.

### **CBR Head Office Resilience**

The need for increased synergy between health and safety and security has been demonstrated in work to review the vulnerability of London buildings to CBR attack. The review programme has examined all London buildings and has been discussed with colleagues from Porton Down and other Agencies. Some proportionate mitigation measures are now in place (or in the process) and will increase our assurance in a number of areas.

The proactive engagement by the CTLB in reviewing CBR mitigation measures, including emergency exercise management and the introduction of a bespoke course for the London MGS at Porton Down, led the Cabinet Office to request a briefing for Whitehall departments. D CB(S+S) provided this. A similar briefing has also been provided to Departmental Principal Advisers, members of the SHEF board and TLB Security Risk Managers.

Associated work on CBR has included discussions with the London Fire Brigade (LFB) on decontamination planning for any "dirty bomb" attack in and around Central London offices. This work has been particularly useful in terms of engagement with the LFB and has assisted them in understanding MOD Head Office business requirements in the immediate aftermath of any such incident.

### **Assurance Assessment**

Two HLBs and five Agencies (including MDP) have been audited. Significant shortfalls identified were:

- Failure to develop SHEF Action Plans and SMART targets.
- No monitoring of SHEF management system performance.
- Failure to establish adequate Customer Service Agreements with host organisations.
- Use of uncontrolled SHEF documentation.

Most of the HLBs/Agencies audited have failed to produce and implement an Environmental Management System as required by MOD policy. There is evidence of varying degrees of environmental management activities but with no supporting documentation. A number of hazards are being consistently overlooked. Specific omissions include:

- Risk assessments to determine the required scope of emergency procedures
- Process risk assessments e.g. travelling
- First Aid at Work risk assessments

On the positive side, the SHEF audit of DASA delivered the highest performance rating (Category B) across the Centre TLB. The SHEF management system is robust, yet simple and wholly appropriate to DASA's low risk profile. Commitment from the most

senior management coupled with staff commitment promises to deliver the small improvement required to achieve Category A rating.

### Professional Training of CB(SHEF) Staff

CESO(Centre) now holds a driving licence to deliver the IOSH certified occupational safety and health training courses: Managing Safely and Working Safely. This is a valuable resource in the drive to enhance levels of awareness and competence across the TLB and must be exploited fully in the year ahead. Those SHEF staff working for both CESO(Centre) and AD/CB(S+S)Fire have continued to maintain levels of professional competence through either external or internal training. The attainment of the highest level of qualifications is essential to provide customers with the visibility and credibility that they are being offered a professional service with practical and proportionate advice. Recent case law has demonstrated the folly of inadequate health and safety competence.

### Prioritised Risks

Our assessments of prioritised risks is set out below:

Risk	Mitigation/Need	Impact
1. Threat from chemical, biological and radiological materials to London HQ buildings.	<ul style="list-style-type: none"> <li>Safety and security analysis carried out.</li> <li>Building audits performed.</li> <li>Local written procedures issued</li> </ul>	<ul style="list-style-type: none"> <li>Loss of life</li> <li>Business continuity interruption</li> <li>PR issues</li> </ul>
2. Deficiencies in safe systems of work in some areas	<ul style="list-style-type: none"> <li>Action plan produced and implemented.</li> </ul>	<ul style="list-style-type: none"> <li>Business continuity interruption</li> <li>Reputation/PR issues</li> <li>Legal action</li> </ul>
3. Emergency procedures at sites owned or operated by contractors are left to the host organisation.	<ul style="list-style-type: none"> <li>Line management assess third-party management systems and risk assessments</li> </ul>	<ul style="list-style-type: none"> <li>Business continuity interruption</li> <li>Reputation</li> <li>Legal action</li> </ul>
4. Third-party management systems and risk assessments at sites owned or operated by contractors.	<ul style="list-style-type: none"> <li>Line management assess third-party management systems and risk assessments</li> </ul>	<ul style="list-style-type: none"> <li>Reputation</li> <li>Legal action</li> </ul>
5. Environmental Management Systems - slow introduction.	<ul style="list-style-type: none"> <li>CTLB Strategy drafted</li> </ul>	<ul style="list-style-type: none"> <li>Sustainable development targets may not be met</li> </ul>
6. Weak risk management in office-based organisations within the TLB.	<ul style="list-style-type: none"> <li>SHEF Strategy drafted to address variable management across the TLB</li> </ul>	<ul style="list-style-type: none"> <li>Legal action</li> </ul>

There are a number of strategies which are being applied to mitigate the above risks and most of these are contained in the SHEF Strategy (see below). The main aim is to engage more closely with HLB holders and their staffs to ensure they are fully aware of their responsibilities and where they can obtain help in fulfilling them. This requires a more proactive approach on the part of CB(S+S) staff, though the level of proactivity will be dependent both on resources and on other pressures which may arise during the year.

## PRIORITIES FOR 2003/04

There are many challenges for the coming year. The top priority is CTLB Board level agreement to a revitalised SHEF strategy that includes health and safety implementation as a standing item on the agenda of both the CBMB and HLB boards. The strategy will put in place a performance measurement regime that enables the Board, as a collective body, to review levels of health and safety risk, including sick absence. It will address also accident reporting, look to exploit HRMS and reflect work (now in hand) with the Chief Claims Officer to address TLB compensation claims (following the NAO's report).

Other priorities will include the advancement of D Sef Pol's next audit of the CTLB, which is now expected in the autumn. This will assess, in part, the leadership of senior TLB management to SHEF implementation and the quality of SHEF auditing of HLB areas by CB(S+S)SHE auditors. Such work should complement seven audits planned for the 13 HLBs during 2003/04. Elsewhere the TLB will continue to review CBR resilience measures, including emergency incident management. And SHEF support to >HOME will increase considerably, both in terms of liaison with the main site contractor and in the delivery of a training package for the building that addresses personal health and safety practice in a modern, open plan office.

## DEFENCE MEDICAL SERVICES DEPARTMENT

### Overview

A new 3\* Deputy Chief of Defence Staff (Health) (DCDS(H)) has been appointed to head the department and the name changed from Surgeon General's Department to Defence Medical Services Department (DMSD). The Surgeon General's (SG) post remains at 3\* level and SG remains the senior serving medical officer responsible for professional expertise and clinical standards. DCDS(H) has overall responsibility for the coherence of medical outputs and is senior responsible owner of the Defence Medical Services Change Programme.

A new Healthcare Directorate has been set up within DMSD to look at new and more efficient ways to commission healthcare with 'fast-tracking' initiatives. This Directorate will also have an overview of Mental Health and Physical Rehabilitation Services.

The Defence Secondary Care Agency (DSCA) has been disbanded and its residual functions handed over to the Defence Medical Employment and Training Agency (DMETA) and the Director of Healthcare.

The Central Health Records Library has moved from Bromley to Shoeburyness and is now the responsibility of the Director of Medical Policy.

The Medical Supplies Agency (MSA) has been transferred to the Defence Logistics Organisation (DLO).

### MAJOR ACTIVITIES

Activities this year have been very largely in support of various operations in the Middle East. Major operational activity has enabled a review and update of several operationally related policies and procedures from lessons learned. This has included policies in relation to Civilian Occupational Deployment, Depleted Uranium (DU), Malaria Prophylaxis, NBC Protection and Vaccinations. There has also been a better use of occupational health expertise to advise commanders during operations.

In support of the DMSD main aim, which is that "Every Serviceman and woman enjoys a level of health and fitness that is appropriate for the tasks they are required to perform", monitoring of Service Medical downgrading has been introduced using a new form, F Med 7A. This enables a better visibility of health status and causes of medical downgrading that was previously not available.

### RESEARCH

Over the last year DMSD has commissioned significant research into operationally related health surveillance and similar issues including DU and possible factors contributing to Gulf War Illnesses. The research is being carried out by eminent external research organisations including the Medical Research Council, the Royal Society and several Universities.

## **FUTURE DEVELOPMENTS**

Like all Head Office organisations, DMSD is preparing for the return to Main Building. This requires shedding some non-essential and non-HO functions and adopting paperless practices.

Planning for the return of troops (and civilians) from Op Telic and questions related to their Health Surveillance and psychological support are the major issues at present.

## ARMY BASE REPAIR ORGANISATION (ABRO)

### Overview

The report is set against a background of organisational change during our First Year of Trading. ABROs function is to provide in-depth engineering support to the UK Armed Forces. The Agency's principal customers are DLO and LAND, to which we provide land system maintenance and support for fighting vehicles, trucks, radios and small arms etc.

At the heart of the Agency are approximately 2,750 employees based at six main workshops and their detachments. ABRO has concentrated on raising the profile of Health, Safety, Environmental Protection and Fire which has resulted in a 35% reduction in Health and Safety Executive reportable accidents during the past 12 months. Although it is often difficult to fully explain any decreases in accident rates, we believe that the investment in training and inclusion of SHEF as an agenda item at the Executive Management Board, Cascade and Toolbox talks have all contributed to this reduction.

### Risks

Risks Identified	Mitigation/Needs	Impact
1. Hazardous substance spillage	<ul style="list-style-type: none"> <li>Complete implementation of ISO 14001</li> </ul>	<ul style="list-style-type: none"> <li>Interruption to business.</li> <li>Possible environmental damage leading to legal action and clean-up costs.</li> </ul>
2. Exceeding Authorisations.	<ul style="list-style-type: none"> <li>Consider Risk at Planning Stage</li> </ul>	
3. Serious fire.	<ul style="list-style-type: none"> <li>Extend use of smoke/fire detection.</li> <li>Conduct coherent risk assessment of critical assets.</li> <li>Identify critical assets</li> </ul>	<ul style="list-style-type: none"> <li>Interruption to business.</li> <li>Lost assets</li> </ul>
4. Death or serious injury to employees.	<ul style="list-style-type: none"> <li>Introduce safety management system</li> <li>Obtain accreditation</li> <li>Conduct security exercises</li> <li>Increase H&amp;S audits</li> <li>Enforce policy</li> <li>Set PDR targets for all managers.</li> </ul>	<ul style="list-style-type: none"> <li>Legal action/prosecution.</li> <li>Closure or suspension of process</li> <li>Lost confidence/morale</li> </ul>
5. Loss of professional guidance for occupational health.	<ul style="list-style-type: none"> <li>Consider further contract support.</li> </ul>	<ul style="list-style-type: none"> <li>Failure to comply with legislation/ ISO Standards.</li> <li>Failure to maintain satisfactory safety/environmental management systems</li> </ul>
6. Lack of robust safety management system	<ul style="list-style-type: none"> <li>Implementing OH SAS 18001</li> </ul>	<ul style="list-style-type: none"> <li>Accidents in the workplace leading to legal action/ prosecution/ lost confidence.</li> </ul>

## Successes

- Last year approximately 230 Managers completed accredited Health and Safety training. 115 have completed the one-day IOSH Working Safely and 115 have completed the four days IOSH Managing Safely. Senior Managers and Directors have undertaken a one day Directing Safely course, and those responsible for giving internal SHEF training have completed an accredited three day Train the Trainer course.
- This year the maintaining of IOSH training standards for new staff and staff that were not previously available (key managers) has also been arranged. Our Health and Safety Advisers have also delivered an in-house H&S Corporate Training Package for Team Leaders.
- All H,S,EP&F Advisers have obtained or are obtaining a Safety Management Diploma qualification, in addition all Advisers are or will be completing an Environmental Management Diploma. They have also completed Stonebow certificated "Train the Trainers" courses.
- Previously Head of H,S,EP & F and one other Adviser attended the SHEF Auditing course at the Management Training Centre at RAF Halton.
- This year two of the ABRO Health and Safety Auditors have attended the Implementation BSI course for the introduction of ISO14001 and 18000 standards.

To complement the introduction of ISO standards it has been agreed that ABRO will purchase supportive audit software (CHASE) that has been used as an underpinning basis by industry.

## Performance

- ABRO Bovington is one of the first units in MOD to achieve ISO 14001 accreditation. All ABRO sites are now progressing towards this standard and the ABRO Audit team are undertaking an Initial Status Survey. It is hoped that all sites can achieve ISO 14001 standards by end of 2004.
- There have been no Pollution, Enforcement, Prohibition/Improvement Notices or Crown Censures issued during this report year.
- All H,S,EP&F Advisers have obtained or are in the process of obtaining an Environmental Management Diploma qualification. In addition key staff and workforce will be trained to achieve ISO 14001 accreditation.
- ABRO sites in general are mainly industrial units embodied within Stations, Camps and Garrisons. However ABRO Bovington has grass areas where Bee Orchids are now protected.
- There are a number of initiatives that have been introduced during the year. Some have already been mentioned and some are new such as: the HSE's package for European Safety Week on Stress, Cascade briefings containing H,S,EP&F messages, Toolbox Talks and information notices.



- The Balanced Scorecard has been introduced and is in the early development stage. It already includes accidents, number of audits completed, number of lost days and meeting environmental targets.

We are also establishing baseline figures for Sustainable Development targets for energy reduction, recycling of paper/cardboard/wood and waste reduction.

- As previously mentioned the HSE reportable accidents within ABRO has fallen this year by 35%, when compared with Financial Year 2001/2002 performance. This continues the trend over the last 3 years (141, 102 & 66 reportable accidents respectively). The revised 2003/04 objective is now to reduce accidents by a further 5%.
- Unfortunately DFS LAND has had their resources stretched due to the Firemen's industrial action. This has resulted in the routine progress on FRAM/FSMP having been placed on hold until the current industrial action is resolved.

### **Assurance Assessment**

The Chief Executive and Directors are fully aware of their SHEF responsibilities; they take a personal interest in improving SHEF performance throughout the Agency and ensure commitment at the highest level.

- The CE and Directors have recently received "Directing Safely" training accredited by IOSH. Head of H,S,EP&F has a minimum of 15 minutes briefing session on each Executive Management Board.
- Authorisation has been given to produce an implementation plan for the introduction of ISO 14001 and 18000 standards.
- ABRO has set a target to reduce the rate of RIDDOR reportable accidents by 15% by the end of 2003/04, using 1999/2000 as the baseline year. To date we have exceeded this initial target based around HSE's revitalising strategy.
- It should be noted that a reduction in ill health related incidents are more difficult to monitor due to baseline information and historic legacy issues. ABRO has invested in four dedicated Occupational Health Advisers and has recently approved an additional part time post.
- ABRO as a Trading Fund recognises that proactive Health, Safety, Environmental Protection and Fire performance makes good business sense and discharges both our moral and legal duties.

### **Priorities for 2003-2004**

ABRO will endeavour to reduce accidents, ill health incidents, environmental impact and business risks on a continuous basis. This will reduce operational costs and therefore promote stakeholder and customer confidence in a cost effective product.

## Defence Aviation Repair Agency (DARA)

### Overview

This report, agreed by the Company Secretary DARA, has been constructed against the objectives detailed in the 2003/2004 DARA Business Plan, Business Continuity Plan and output from audit report DSEFPol/7/8//13 and recent British Safety Council Reports from DARA Sites. DARA SHEF performance is fundamentally sound, with all of our Sites accredited to ISO 14001 standard and to British Safety council 5 star award. Some improvements are required however to correct some lapses in the management of the SHEF System.

### Issues and Risks

The top ten SHEF risks, together with the mitigation measures, are detailed in the table below.

Risk	Impact	Mitigation	Colour*
1. Compliance with MoD FSMP Policy	<ul style="list-style-type: none"> <li>Crown Fire Standard requirement places great pressure on available funding priorities. Some areas of DARA are not statutorily compliant with the MOD Policy.</li> </ul>	<ul style="list-style-type: none"> <li>Two monthly review of FSMP's by DARA Board in order to prioritize funding for required work. Dispensations asked for on some specified requirements. DARA Insurers advise of requirements of Fire Precautions (workplace) Regulations 1997</li> </ul>	Orange
2. Management of Authorised processes.	<ul style="list-style-type: none"> <li>Failure to manage authorized IPPC, IPC and LAPPC processes could lead to facilities being prevented from operating by enforcing authorities</li> </ul>	<ul style="list-style-type: none"> <li>DARA have four authorized processes. Operators and key personnel are identified and trained in the requirements of the permits.</li> </ul>	Orange
3. Control of Contractors	<ul style="list-style-type: none"> <li>Changes to the delivery of property maintenance and projects with the introduction of Prime Contracting and other Property and maintenance contracts place additional supervisory responsibilities on DARA</li> </ul>	<ul style="list-style-type: none"> <li>Control of Contractor policy and procedures implemented on all sites. These procedures will be reviewed when DARA take on responsibility for property maintenance on all sites.</li> </ul>	Orange

Risk	Impact	Mitigation	Colour*
4. Notification of incidents, accidents and injuries.	<ul style="list-style-type: none"> <li>Inability to establish baseline through poor reporting of incidents, accidents and injuries. Poor reporting also effecting ability to prevent similar accidents and to reduce associated claims costs for lack of recorded evidence. Implementation of REBUS should alleviate this to some point. Issues with CHASP continue to be raised at local site level.</li> </ul>	<ul style="list-style-type: none"> <li>Re-vitalization of health &amp; safety through the medium of implementation of OHSAS 18001 standard. Establishment of DARA Risk Register, which has identified this as an issue.</li> </ul>	Yellow
5. Chemical, Oil and fuel Management	<ul style="list-style-type: none"> <li>New and existing installations require bulk chemical, oil and fuel deliveries on 3 out of 4 DARA sites with the potential to cause health; safety, environmental and fire impact if not adequately managed.</li> </ul>	<ul style="list-style-type: none"> <li>The chemical processes requiring bulk delivery are permitted processes authorized and regulated by the Environment agency under IPPC and IPC regulations. Accreditation to ISO 14001 EMS gives an assurance that processes are compliant. Bulk oil and fuel delivery are identified aspects of the EMS.</li> </ul>	Yellow
6. Emergency response procedures	<ul style="list-style-type: none"> <li>Recent audit picked up lack of adequate emergency response procedures. Business continuity plan details requirement to ensure that emergency response is managed. Crisis Management Teams have been set up on all sites and Crisis management Exercises carried out on some local sites.</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of Business Continuity Plan for 2003 identifies this issue and will be dealt with through re-vitalising health &amp; safety particularly with the implementation of OHSAS 18001 standard.</li> </ul>	Yellow
7. Road Traffic Accidents whilst on duty.	<ul style="list-style-type: none"> <li>A Recent fatality has highlighted lack of policy for driving whilst on duty.</li> </ul>	<ul style="list-style-type: none"> <li>SHEF Adviser to advise on requirements of Driving Policy in partnership with trade Unions and other interested parties</li> </ul>	Yellow
8. Risk Assessment Register	<ul style="list-style-type: none"> <li>Review necessary following receipt of Crown Improvement Notice on DARA Fleetlands for Failure to provide adequate guarding to a schedule 4 machine. The review necessary to ensure that all equipment is compliant with PUWER.</li> </ul>	<ul style="list-style-type: none"> <li>A gap analysis to be undertaken to highlight deficiencies in safety and risk management system prior to the introduction and implementation of OHSAS 18001. The HSE re-visited the site in question and were satisfied with remedial work carried out.</li> </ul>	Yellow
9. Emerging Legislation	<ul style="list-style-type: none"> <li>Inability to assess emerging legislation and to influence ministerial and departmental advice to UK drafters will adversely impact upon DARA if implications are not fully examined.</li> </ul>	<ul style="list-style-type: none"> <li>Sub-Committee membership within D SEF Pol to provide DARA impact statements. DARA SHEF Adviser to include this subject as a standing Agenda item at the DARA H&amp;S meetings.</li> </ul>	Yellow
10. Communication to parent/lodger units.	<ul style="list-style-type: none"> <li>Recent audit identifies issues with SHEF communications to parent /lodger units are inadequate and could effect claim for litigation if not managed</li> </ul>	<ul style="list-style-type: none"> <li>All lodger/parent units to have access to relevant DARA electronic systems to ensure communication and co-operation</li> </ul>	Yellow

## Initiatives

In addition to the report the following specific initiatives are worthy of note:

- DARA are continuously improving the electronic business management system (DBM) to include all aspects of the Business, within this system is a SHEF management system which all personnel have access to for information on Policy, Processes and Procedures. 2003/2004 will see the SHEF system element of the DBM further improved and streamlined allowing ease of use and a good reference tool for all SHEF matters effecting DARA.
- DARA will this year integrate their accredited EMS and British Safety council awards into one accredited SHEF system, which will be compliant with ISO 14001 and OHSAS 18001.
- Continual Professional Development and individual training of staff has resulted in increased membership of Professional associations and organisations, with all SHEF Advisers holding the relevant qualification pertinent to the post.

## Performance

**Accidents/Incidents.** DARA achieved a 40% reduction in accidents/incidents in comparison to nationally published Health & Safety Statistics for 2002. DARA are in process of implementing an electronic Personnel system for the management of personnel and Health, & Safety issues. REBUS is designed to ensure the full capture of information when dealing with personnel issues. DARA intend to implement the accident/incident-reporting element of the system in this Financial Year.

**Crown Improvement Notices.** The Health & safety Executive (HSE) served one improvement notice on DARA. It followed an incident with a three bend rolling machine (for metal work) whereby the operator's gloves became entangled within the machine causing injury to his thumb and two fingers. The machine did have adequate emergency stop buttons and had been risk assessed under PUWER Regulations but the HSE stated that it was inadequately guarded in accordance with regulations 11 of the PUWER Regulations. The HSE gave a timeline of three months in which to correct the deficiencies of the machine, The HSE identified deficiencies were carried out and the machine re-inspected by the HSE Inspector who gave approval for the machine to be re-commissioned.

## Assurance Assessment

DESB can be assured that robust arrangements are in place for the effective management of SHEF across DARA, and our systems management will continue to improve. Our audit by DSEFPol dated February gave us an overall PI of B with a score of 79.27%. DARA will seek to better this score for 2003/2004.

## Priorities for 2003-2004

Further improvements will be made to the organisation and arrangements for managing SHEF matters. Specific targets have been set to meet the requirements for the revitalisation of health & safety strategies; these include:

- The implementation of OHSAS 18001 and the integration to ISO 14001 EMS being validated and accredited by a third party
- With the increased reliance being placed on contractors to undertake works, measures will be required to ensure the competence, control, co-operations and communication. The four C's system has been implemented at all DARA sites, and DARA will build on this to ensure effective control in the future.
- Additional resources may be needed in order to comply with dangerous substances and Explosive Atmospheres Regulations (DSEAR) 2002. Training of staff has begun on the requirements of the ATEX Directive, with further training being planned for 2003/2004.
- Lodger Units are to be given access to the DARA Business manual to ensure compliance with Site procedures.

DARA SHEF RISK REGISTER PART ONE: RISK MATRIX

DARA JUNE 03

INCREASING LIKELIHOOD

VERY HIGH			
HIGH	4. Notification of incidents, accidents and injuries. 5. Management of authorized processes. 6. Emergency Response measures	1. Compliance with MOD FSMP Policies. 2. Chemical, Oil and Fuel management. 3. Control of Contractors	
MEDIUM	9. Emerging Legislation 10. Communication to parent/ lodger units.	7. Road traffic accidents on duty. 8. Risk Assessment Programme	
	MEDIUM	HIGH	VERY HIGH

INCREASING IMPACT

## Defence Science and Technology Laboratory (Dstl)

### Overview

Dstl was formed as a result of the PPP of the Defence Evaluation Research and Agency (DERA) in Jul 01 to enable the sensitive elements of Defence Research and support to wider Government and UK Allies to remain within the Department. In Apr 02 Dstl re-organised its capabilities to focus more on customer requirements and scientific excellence.

Dstl has some 3000 staff located on 15 sites within the UK. Dstl owns 3 sites but is a tenant on the remaining 12, which are owned by QinetiQ or AWE. Dstl has retained Trading Fund Agency (TFA) status since the split with DERA.

### Issues and Risks

All SHEF-related risks have been assessed. At the corporate level there is one SHEF risk and this is derived from Dstl departmental risk assessments and risk registers. The corporate SHEF risk with the 12 departmental risks with their mitigations and impacts, shown as High (H), Medium (M) or Low (L), are given in the table below.

Risk / Issue	Mitigation	Impact
<b>Corporate Risk:</b> 1. Major security or safety incident	<ul style="list-style-type: none"> <li>Increased training, audits, no-notice inspections, awareness and more formal competency requirement for approvals staff.</li> </ul>	(H)
<b>Departmental Risk:</b> 2. An incident which could result in prohibition of any future work by the HSE through failure to implement H&S policy and risks assessments	<ul style="list-style-type: none"> <li>Training plan to ensure staff awareness is maintained through specialist training and refresher courses.</li> <li>Use of appropriately skilled and trained staff only on biological, supertoxic, energetic or other hazardous work</li> </ul>	(M)
<b>Departmental Risk:</b> 3. A serious incident causing harm to the range environment	<ul style="list-style-type: none"> <li>Training, briefings and management effort to sustain staff awareness, coupled to safety procedures.</li> <li>Control of all substances, which are capable of causing the harm, through accounting and proper storage.</li> </ul>	(M)
<b>Departmental Risk:</b> 4. Accidents during travel by land, sea, air and road	<ul style="list-style-type: none"> <li>Ensure compliance with Dstl travel policy by publicising and raising at meetings.</li> <li>Introduce defensive driving course.</li> <li>Whereabouts of staff and details of next of kin available at site level.</li> <li>Monitor threats to overseas travellers and ensure that risk assessments adequately cover the risk and that individuals are aware.</li> </ul>	(M)
<b>Departmental Risk:</b> 5. Major accident attributable to a poorly defined and implemented management system	<ul style="list-style-type: none"> <li>Collate and review accident statistics to determine patterns.</li> <li>Co-ordinated integrated audits. Corrective actions closed out in agreed time.</li> <li>Assessment of management system by independent auditor eg ISO, DSEFPol.</li> </ul>	(M)
<b>Departmental Risk:</b> 6. Serious pollution incident	<ul style="list-style-type: none"> <li>Maintenance of environmental monitoring systems. Plant refurbishment and revision of procedures.</li> </ul>	(M)

Risk / Issue	Mitigation	Impact
<b>Departmental Risk:</b> 7. Terrorist attack either on or off Dstl sites	<ul style="list-style-type: none"> <li>Continuous updates on current threats through bi-monthly departmental talkback.</li> <li>Increased personal awareness.</li> </ul>	(M)
<b>Departmental Risk:</b> 8. Unplanned explosion	<ul style="list-style-type: none"> <li>Strict adherence to Safety, Health, Environmental and Fire (SHEF) policy.</li> <li>Increase remote handling capability.</li> </ul>	(M)
<b>Departmental Risk:</b> 9. Lack of integration in SHEF & Quality area	<ul style="list-style-type: none"> <li>Integration of Group Leaders through monthly meeting. SHEF staff 'away days' undertaken twice yearly.</li> <li>Group leaders to mentor staff.</li> </ul>	(L)
<b>Departmental Risk:</b> 10. Lack of Regulatory Compliance	<ul style="list-style-type: none"> <li>Utilise the resources of an effective and competent SHEF team.</li> <li>Statutory awareness and compliance.</li> <li>Effective oversight to ensure financial probity is maintained at all times.</li> <li>Maintenance of EMIS and EBMS systems.</li> </ul>	(L)
<b>Departmental Risk:</b> 11. Lack of suitably competent staff in SHEF area	<ul style="list-style-type: none"> <li>Review staff through PDA process.</li> <li>Formal targets in PDA.</li> <li>Targeted training.</li> <li>Targeted recruitment and succession plans.</li> </ul>	(L)
<b>Departmental Risk:</b> 12. Loss of HSE licence authorising operation of facility	<ul style="list-style-type: none"> <li>All procedures documented.</li> <li>Staff training &amp; SQEP. Regular internal audits.</li> <li>Use of SPC to monitor performance.</li> </ul>	(L)
<b>Departmental Risk:</b> 13. Road traffic accident causing explosion or spillage	<ul style="list-style-type: none"> <li>Training of drivers.</li> <li>Drivers maximum hours adhered to.</li> <li>Satisfactory traffic control on site.</li> </ul>	(L)

## Initiatives

Dstl has just started a 3-year programme of rationalisation not only to reduce its 15 sites to 3 but also to improve the efficiency and effectiveness of all process and management systems that support the scientific capabilities. The main objective of Rationalisation if to be successful, is that a fundamental change in attitudes and behaviours for the majority of staff will be required.

One of the critical success factors of rationalisation is the integration of the various but disparate management systems, eg, SHEF, Quality, Risk, Audit, Financial, Environment etc into one Dstl Management System (DMS). The objective is not to continue to separate the necessary requirements in their respective components but to ensure that all Corporate Governance requirements are embedded into the various Dstl operations, eg, at project, departmental and corporate levels and that the systems requirements become part of the required culture.

In addition to the rationalisation programme the following related initiatives are worthy of note;

- Dstl has started to implement an Environmental Management System (EMS), which will meet the requirements of ISO 14001, and therefore the MOD EMS.
- Dstl now has corporate SHEF courses for induction, managers and risk assessors.



- A 5-year integrated audit programme and review has been implemented to ensure that SHEF requirements are audited across all Dstl operations.
- Corporate Governance requirements have been established across all of Dstl and risk is continually reviewed at Dstl Board level.
- A competency database has been implemented across all Dstl functions.

### **Enforcement Activity**

In Aug 02 a tragic fatality occurred during a Dstl trial at the Shoeburyness ranges. The following summary of external enforcement activity and their current status is worthy of note;

- An HSE prohibition notice was issued on Dstl. The notice was successfully lifted in Sep 02.
- The HSE intend to prosecute Dstl through a Crown Censure once MDP (CID) and Crown Prosecution Service inquiries are complete. CPS enquiries are on going.
- The HSE and DSEFPol have carried out intrusive (but welcomed) reviews of the safety management elements of the DMS, (policy, process and practice) and are satisfied with the robustness of Dstl in meeting requirements.

A Dstl Committee of Inquiry and subsequent MOD Board of Inquiry were convened. All recommendations were accepted and a CE's Management Action Plan (MAP) was implemented across all operations and this was satisfactorily completed by Mar 03. Completion was verified by independent audit. 2nd PUS monitored the progress of the MAP implementation.

The fatality has had a far-reaching impact on Dstl. A unified methodology for risk assessment is embedded within the organisation, all staff have received relevant training, planned continuation training is in place and now there is greater transparency in all levels of plans.

### **SHEF Incident Statistics - FY 2002-2003**

During the last Financial Year, a total of 324 incidents were reported within Dstl.

#### **Headlines**

Of the total, 309 were reported on CHASP and these breakdown as follows:

1 Fatality (Newlands Battery, Shoeburyness ranges).  
 2 Major injuries (Two fractured wrists, only 1 RIDDOR reportable).  
 16 Serious Incidents (> 3 Days off work, Minor breaks, bad cuts, visits to Accident and Emergency departments etc. 6 of these were RIDDOR Reportable, 2 involved Contractors).  
 253 Minor Incidents (Minor cuts, bruises etc.)  
 37 Near misses (No injury but lessons learnt)

## Trends

Comparison with other Accident rates show that in all areas apart from Fatalities, Dstl is having fewer serious incidents than DERA and other similar UK Sectors.

The Dstl rate for all incidents is higher than UK General industry and DERA, but it is thought that this reflects a good reporting culture rather than a poor safety record. However, the level of reporting throughout Dstl shows variations that are difficult to justify purely on the basis of varying levels of hazards. It is thought that we still have some way to go before it will be possible to compare different areas of Dstl on the basis of accident statistics.

## Incident causes

In common with much of UK Industry, it can be seen from the FY Statistical Breakdown sheet that Manual Handling accounts for a significant proportion (19%) of incidents reported. Workplace issues leading to slips/trips and striking against objects lead to another 25% of incidents.

## Severity spread of incidents

The ratio of incidents is as follows:

Fatal	Major	Serious	Minor/Near Miss	Other
1	2	16	290	15

## DSEFPol Audit

In Jul 02 DSEFPol carried out a routine planned audit of Dstl's SHEF management system and scored Dstl at 77%. It should be noted here that the audit was carried out using the MOD SHEF audit manual, which focused specifically at the detailed requirements contained in JSP 375. The audit manual was not flexible enough to accommodate the integrated management systems approach. The SHEF audit manual has been reviewed and is now a more user friendly SHEF tool and this is welcomed.

## SHEF Assurance

The Dstl Chief Executive, Directors and line managers are fully aware of their SHEF responsibilities. This has been achieved by targeted training or awareness sessions and is assured by independent audit across all operations.

## THE MET OFFICE

### Overview

The Met Office is a Trading Fund Agency currently employing approximately 2200 staff: approximately sixty percent at our HQ site and the balance at some forty sites at various locations in UK and overseas. The Met Office is currently relocating the Headquarters and operations function to a purpose built site in Exeter. The project will be designed, built and managed by a consortium. The activities of the Met Office are principally office based, though some engineering work is undertaken.

### Issues and Risks

The principal risks are outlined below

Risk Identified	Mitigation	Impact on Capability
1. Failure to comply with legislation and MOD policy	<ul style="list-style-type: none"> <li>CE's Policy Statement</li> <li>Management system, with identification of responsibilities and inspection regime</li> </ul>	<ul style="list-style-type: none"> <li>Non - if mitigation in place.</li> </ul>
2. Underdeveloped safety culture/lack of safety awareness	<ul style="list-style-type: none"> <li>Generally low risk office based working environment</li> <li>Mandatory training for senior managers</li> <li>Monitoring through inspection regime</li> <li>Competent assistance and advice from Safety Team when required</li> </ul>	<ul style="list-style-type: none"> <li>Loss of time, particularly due to "RSI" type injuries</li> <li>Cost to business. Emerging "claim" culture</li> </ul>
3. New HQ: a. Non-compliance with Safety and environmental legislation  b. Control of contractors	<ul style="list-style-type: none"> <li>Adoption of DE SRPs and Technical bulletins as safe systems of work by the FM contractor</li> <li>Introduction and maintenance of an EMS</li> <li>Close supervision by the Safety and Security and Property Service teams</li> </ul>	<ul style="list-style-type: none"> <li>Failure to comply with legislative requirements</li> <li>Loss of business resilience</li> <li>Loss of operational capability and inability to provide service to customers</li> <li>Loss of reputation</li> </ul>

### Performance

- During the report period Met Office has not received any Enforcement/Prohibition Notices or Crown Censures.
- The need to supply training for senior staff was identified as a Business Plan Objective in Financial Year 01/02. At the end of the last financial year this was virtually complete.

- An Environmental Management System (EMS) was also a Business Plan Objective for FY 01/02. During FY 02/03 this was used as a template for the EMS for the new HQ building. Should the case exist it could become ISO 14001 accredited.
- Fire risk assessments have been completed for all Met Office sites.
- The inspection programme for FY 02/03 for first time, has concentrated on the HQ locations.
- The new headquarters building has been designed, built and will be maintained to meet the BREEAM "excellent" standard.
- It has been noted that some younger members of staff (under 30 years), have exhibited symptoms of Work Related Upper Limb Disorders (WRULD) directly attributable to Display Screen Equipment use, in many cases due to possible misuse prior to joining the Met Office. Whilst this trend is disturbing and will be closely monitored, the opportunity to reinforce the understanding of the workforce in DSE related issues will be taken during the staff induction process at the new headquarters.

### **Assurance Assessment**

- Accident statistics indicate very few serious accidents during the period, with only four reportable to the HSE under the "three day rule".
- The inspection programme has indicated a good level of compliance from those stations previously inspected. The Headquarters locations, most of which were inspected for the first time, have been enthusiastic and have demonstrated marked improvements when the inspection have been followed up.

### **Priorities for 2003-2004**

- The progress made by providing training courses for senior staff will be built on by extending the attendance requirement to junior grades. This should continue to improve the safety culture within the Met Office.
- The EMS at the new headquarters will be used to monitor and improve our environmental impacts.

## HYDROGRAPHIC OFFICE

### Performance and Assurance

Over the past 12 months the United Kingdom Hydrographic Office (UKHO) has continued to build upon the success of the DSEFPol SHEF Audit undertaken in May 2002. The Audit provided positive feed back to our Chief Executive that we have in place a robust SHEF Management system. The UKHO was also subjected to a Fire Safety Management Plan review undertaken by Defence Fire Service. This also illustrated the sound fire safety related mechanisms in place at the UKHO, with very few anomalies for follow up action.

The UKHO is very proud of its accident record to date (of which the last reportable accident / incident was October 2000), which is underpinned by the Department's commitment to the SHEF philosophy. The UKHO SHEF Statement / Policies all reflect the commitment to the Secretary of State for Defence's SHEF Policy Statement.

Risk Identified	Mitigation	Impact on Capability
1. Litigation arising from unsafe working conditions.	<ul style="list-style-type: none"> <li>• Ensure safe working practices and conditions.</li> <li>• Keep abreast of legislation.</li> <li>• Highlighted at SHEF committee meetings and in the Hydrographic Office Board SHEF monthly report.</li> </ul>	<ul style="list-style-type: none"> <li>• Potential financial impact and/or suspension of facilities by enforcing authorities.</li> </ul>

## **PART 3**

### **REPORTS FROM THE FUNCTIONAL SAFETY BOARDS**

## SHIP SAFETY BOARD

### Ship Safety Overview

This year was dominated by two high profile events; the grounding of HMS NOTTINGHAM off Eastern Australia and the seabed collision of HMS TRAFALGAR during a training exercise. There were no serious injuries in either of these incidents and in both cases the ship design safety margins prevented catastrophic loss, the ship was recovered safely and the submarine returned to base under its own power. Robust action has been taken by Fleet to improve standards of navigational safety, a 30 point action plan has been implemented and 42 laptop based 'navigational command aids' have been supplied to key units. Fitting of the Warship Electronic Chart Data Information System has been advanced and will be installed in surface warships and submarines at the end of this year. A fuller account of Fleet's remedial work is given in the Royal Navy report.

The RN maritime accident rate remains low with only one 'in service' death this year. This occurred during diving training and follows 3 diving deaths in the previous year. The diving safety organisation has been significantly reviewed, the regulator and operator functions were separated in January 03 and a new military diving safety management system was introduced in April 03. Further changes to incorporate all MOD sponsored diving within the safety management system are well underway and will complete this year. While any death is extremely regrettable the RN fatal accident rate (FAR) this year is lower than comparable civilian industry. The HSE (Offshore) and Merchant Navy FAR rates being approximately two and three times respectively that of the Royal Navy.

Overall incident rates in key areas such as shipboard fire and flood are either stable or declining. Significant progress has been made this year in further developing and strengthening the Naval Authority regulatory framework. This year in particular, progress has been made in certification of design and operational arrangements for the key hazards presented by fire and explosives; this will further improve overall levels of ship safety.

Continued development of policy and guidance has been provided to IPTs in the form of JSP 430 (Part 1:Policy and Part 2:Code of Practice) which will improve the overall management of safety within ship, submarine and equipment projects.

### Successes

- JSP 430 "Ship Safety Management – Policy and Code of Practice" has been issued in full in both paper and electronic formats.
- A training CD, designed to improve overall safety culture, has been developed and widely distributed to maritime IPTs. Full attendance has been achieved at ship safety training courses.
- The development of safety audit procedures and the publication of a manual for use in reviewing compliance of Maritime IPTs with JSP 430.
- The continuing development of Naval Authorities, particularly with regard to submarines, through an active Naval Authorities Development Group.
- The creation of the Acquisition and Environment Safety Office within the DPA to act as a focal point for pan DPA safety issues.

- There have been major incidents involving HMS TRAFALGAR and HMS NOTTINGHAM this year. The fact that both these warships survived having sustained considerable damage was vindication of original ship design, maintenance of design intent and equipment integration with crew training and procedures.
- The introduction of the Military Diving Safety Management System.

### **Assurance Assessment**

- Whilst actual audit activity was less than desired the Safeguard safety audit tool has been used to assess the level of safety management activity amongst the maritime IPTs. Each IPT was reviewed twice over the year and results show that IPTs are engaged and actively working to comply with JSP 430.
- The safety case approach has been applied this year to provide assurance for specific operations and exercises notably the recovery of HMS NOTTINGHAM. The NOTTINGHAM incident proved the safety case system noting the satisfaction of the Australian Authorities in the approach to explosive safety and environmental issues.
- Assurance involved in diving activity has been a cause for some concern. The RN are leading in the revision of MOD diving safety management procedures and plan to complete implementation by the end of the year.

### **Priorities for Next Year**

The SSB places a high priority on:

- Implementation by the end of the year of the final phases of the new MOD Diving Safety Management System.
- The development and implementation of a full programme of safety audits of IPTs, using the audit methodologies developed this year. This has commenced and is on track.
- Maintaining intelligent regulation and continuing the development of Naval Authorities (covering key hazard areas of stability, structural strength, escape & evacuation, explosives, fire, propulsion and submarine atmospheric control, watertight integrity and manoeuvring) and their role in the safety assurance process. Substantial progress is being made in the establishment of Naval Authorities, 11 Naval Authorities have been endorsed by the SSB, 4 are fully established and a further 5 will be in operation by the end of this year with the remaining 2 in operation in 2004.
- Continuing to improve the ship/waterfront regulatory interface for ammunitioned warships alongside. A full time post in STG has been established to lead this work and will be filled from August this year.



## Issues and Risks

Risk / Issue	Mitigation / Need	Impact on Capability
<p><b>Risk: Inability to comply with the spirit of civil legislation.</b> Attempts to apply civil safety legislation or standards to ships when these do not take into account the specific difficulties and conditions encountered in the maritime environment. This could lead to, or create, compliance difficulties.</p>	<p>MOD exemptions are applied where appropriate. The concept of the Duty Holder should ensure that all exemptions are fully considered as part of the safety case and meet the principle of ALARP.</p> <p>The Sea Technology Group (STG) and Warship Support Agency (WSA) will continue to seek the support of DSEFPOL to influence legislators and civil safety regulators to ensure that, where possible, new legislation and regulations are applicable to the maritime environment. A process is being developed to establish the applicability of new legislation.</p>	<p>Difficulty in conforming to civil legislation and regulations can place limitations on operational flexibility and lead to additional costs.</p>
<p><b>Issue: Equipment safety cases are not compatible with the Platform safety case.</b> Individual equipment safety cases need to dovetail with the Platform safety case. Platform and equipment IPTs require to exchange safety information. The content and format of data may not be consistent or sufficiently detailed.</p>	<p>Difficulties are fully acknowledged by platform and equipment IPTs. The principle of platform primacy places the lead with the Platform IPT TL.</p> <p>The responsibility of the platform Duty Holder for development of the overall Safety Case and for the equipment duty holder to supply requisite safety information is enshrined in JSP 430 issued last year.</p> <p>Continued experience in developing safety cases will improve the management of the Platform / Equipment interface.</p>	<p>Delay in production of the whole ship safety case could lead to project delay and additional costs.</p> <p>Failure to address the platform / equipment interface satisfactorily will result in a reduction in overall safety standards.</p>
<p><b>Issue: Failure to satisfy MOD safety management requirements during disposal activity leading to loss of public confidence.</b> Specialist organisations managing the disposal of ships and equipment may not fully meet the requirements of MOD or Government safety and environmental policy.</p>	<p>The AESO in DOSG have agreed to conduct a workshop to address disposal in all domains bringing together relevant stakeholders. Intention is to increase the levels of awareness and understanding of disposal safety, clarify Duty Holder responsibilities and propose appropriate revisions to procedures.</p>	<p>Accidents during disposal are likely to damage MOD image and public perception, while incurring additional costs.</p>

## LAND SYSTEMS SAFETY BOARD

### Overview

Increased awareness of legislative matters has widened the Board's scope to include reviewing forthcoming legislative issues. Where appropriate, the Board has taken on the role of assessing and endorsing applications for exemptions from legislation where these are allowed by the legislation. Since the last report, JSP 454, the Procedures for Land Systems Equipment Safety Management, has been reviewed to take into account latest developments and reissued.

With top-level policy and standards developed and in place, the main focus of the Board is now on issues emanating from operational activities. For example, it has been recognised that several friendly fire incidents involving Land Systems equipment have occurred recently in operations. These incidents, and their likely causes, are being investigated, and developments and actions arising from the investigations will be reported in next year's departmental report.

### Issues and Risks

The requirement for formal safety justifications is now well embedded within the system, although considerable resources are still required to generate safety appraisals for the large inventory of legacy equipment involved. With the requirement well understood, the table below summarises the current risks and issues:

Risk / Issue	Mitigation	Impact on operational capability
1. Risk : Meeting relevant forthcoming legislation for vehicle emissions	<ul style="list-style-type: none"> <li>A legislation database has been introduced to improve awareness of new and developing legislation. Activities undertaken by IPTs and other agencies are being co-ordinated to assess the impacts for future emission requirements. This work aims to alleviate the potential conflicts between meeting legislation and operational capability requirements, in order to reduce the potential for exemptions from emissions legislation being sought.</li> </ul>	<ul style="list-style-type: none"> <li>Further demands on vehicle and engine design. The increased reliance on electronic systems to reduce emissions is likely to impact on engine performance and increase operational risk due to either electromagnetic interference or the use of non-standard fuels.</li> </ul>
2. Risk : Environmental guidance	<ul style="list-style-type: none"> <li>JSP 454 has been revised to include environmental guidance including severity definitions to describe the consequence to the environment.</li> </ul>	<ul style="list-style-type: none"> <li>Lack of suitable environmental impact assessments may lead to failure to meet legislative requirements and could cause programme delay or operational restrictions.</li> </ul>
3. Risk : Standard of safety justifications	<ul style="list-style-type: none"> <li>Information on this is contained in JSP 454. Seminars on this issue will be held and further guidance notes generated for IPTs. Continued experience within IPTs in constructing robust Safety</li> </ul>	<ul style="list-style-type: none"> <li>Possible delay to projects, or systems introduced into service with reduced capability until justifications are verified.</li> </ul>

4. Issue : Meeting relevant forthcoming legislation for batteries	<p>Cases will improve the situation.</p> <ul style="list-style-type: none"> <li>Legislation database has been introduced to improve awareness of new and developing legislation. MOD is working with industry to ensure that the appropriate testing is performed on all batteries and sufficient packaging provided for all modes of transport.</li> </ul>	<ul style="list-style-type: none"> <li>Batteries procured that do not meet all civil regulations will have to be transported by military means, under exemption, rather than by civil carrier.</li> </ul>
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## Successes

Successes during the year included

- a review and reissue of the policy, procedures and guidance document for safety management for Land Systems equipment, JSP454. This reflected the latest developments in systems safety management, both within the department and outside, and included safety management arrangements and guidance on demonstrating safety through risk assessments and safety cases.
- the mapping of safety management processes. Process maps are now available to project teams via IT networks.
- the construction of a safety management framework
- the delivery of training modules to over 300 acquisition staff.
- the 4<sup>th</sup> Equipment Safety Assurance Symposium was held in Oct 02. Two hundred delegates attended from MOD, industry, other Government Departments and academic establishments.

## Assurance Assessment

The review of the policies, procedures and guidance for safety management of Land Systems equipment has demonstrated that the policies and standards in place are satisfactory. The reissue of these procedures, together with the publication of the process maps, should enable project teams to better assess the degree of resource required for system safety management against the risk that the system poses, and to deliver safe systems against the Department's requirements.

## Priorities for Next Year

Information and recommendations reported from investigations and operations will continue to be monitored and applied, with particular reference to assessment of trends of accidents and incidents in the Land Systems environment. This will enable the Board to better target priorities into areas that will have the most significant effect or where adverse trends are occurring

Procedures and guidance for project teams are continually under review and one of the outcomes from the process modelling study (undertaken in concert with all functional safety offices) was to assess the requirement for a 'Release to Service' document (presently termed the Operational Safety Statement) and, in particular, the possible need for Release to Service 'Authorities'. The requirement for this will be assessed during the next year, and will

be undertaken as part of an ongoing study of ensuring integration of system safety management with operational risk assessment and safety management.

## DEFENCE AVIATION SAFETY BOARD

### Overview

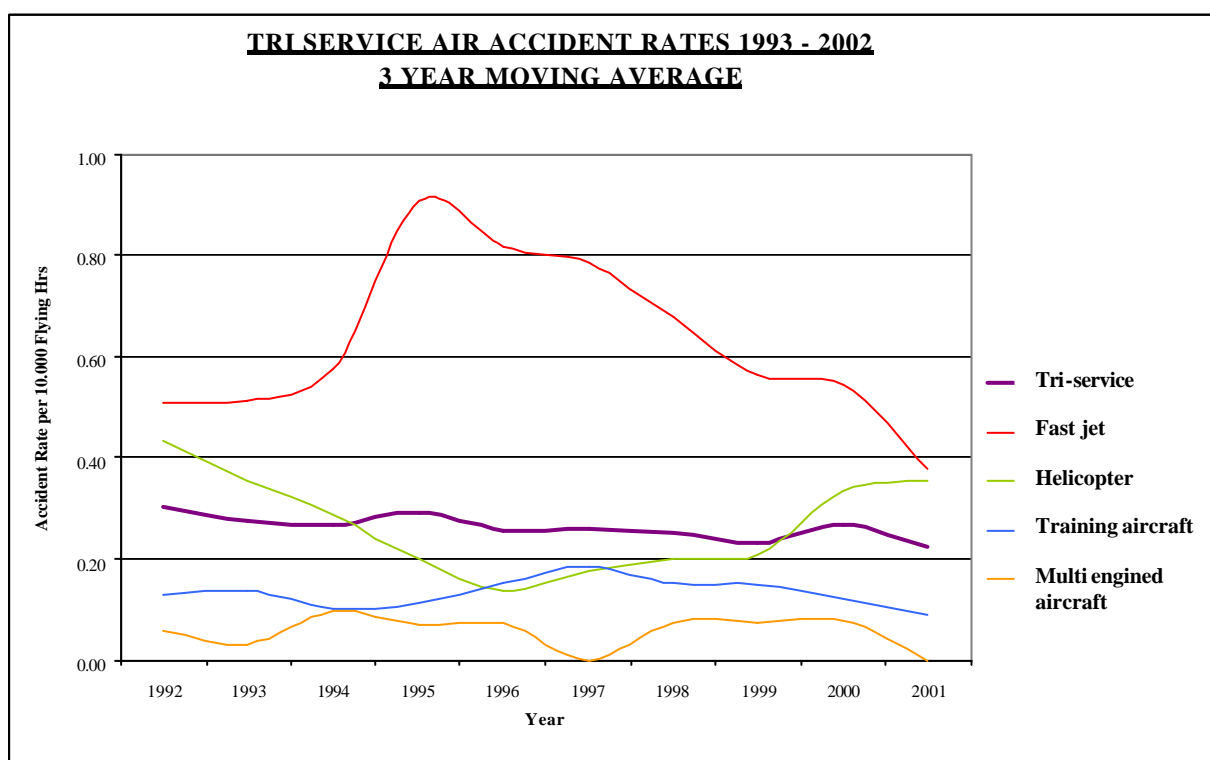
The Defence Aviation Safety Board (DASB) has continued to steer the development of MOD Aviation safety policy and standards and monitor the continued effectiveness of MOD's aviation safety management arrangements. The Assistant Chief of the Air Staff chairs the Board and its membership comprises representatives from aviation stakeholders and other Functional Safety areas. The Board meets twice a year and its annual report covers the year ending 31 Dec 02.

### Statistics

The number of fatalities due to air accidents during 2002 and air accident statistics for the period 1993 – 2002 are presented below.

#### **NUMBER OF FATALITIES DUE TO TRI SERVICE AIR ACCIDENTS DURING 2002**

Fast Jet Fatalities	1
Helicopter Fatalities	2
Training Aircraft Fatalities	0
Multi Engined Aircraft Fatalities	0
Parachuting Fatalities	1



## Issues and Risks

Risk / Issue	Mitigation / Need	Impact on Capability
1. Risk: Increased risk of aerial collision posed by the growing pressures on airspace usage.	<ul style="list-style-type: none"> <li>Positive steps have been taken to ensure that due weight is given to the provision of Collision Warning Systems on those fast jet aircraft most at risk.</li> <li>A robust system is in place for the pro-active management of improvement initiatives in the field of airspace management and the monitoring of the performance of the airspace safety management system.</li> </ul>	<ul style="list-style-type: none"> <li>Limitations and conditions of use, necessary to control safety risks, prevent the realisation of the required operational capability.</li> <li>Increased exposure to safety risks and hence the risk to operational capability of losses due to accidents.</li> </ul>
2. Issue: Inadequate consideration of potential safety enhancements when making investment decisions.	<ul style="list-style-type: none"> <li>The Defence Aviation Safety Centre has developed a new safety enhancement methodology, which entails championing prioritised flight safety enhancements alongside requests for the innovative capability enhancements in the EPP.</li> </ul>	<ul style="list-style-type: none"> <li>Limitations and conditions of use, necessary to control safety risks, prevent the realisation of the required operational capability.</li> <li>Increased exposure to safety risks and hence the risk to operational capability of losses due to accidents.</li> </ul>
3. Issue: The challenge of balancing safety risks against the delivery of operational capability within finite resources.	<ul style="list-style-type: none"> <li>This is a recurring issue. The spending review 2002 settlement should go some way to ameliorate the situation and this will be closely monitored by the DASB over the coming year.</li> </ul>	<ul style="list-style-type: none"> <li>Exposure to safety risks and hence the risk to operational capability of losses due to accidents.</li> </ul>
4. Issue: Refinement of the regulatory regime to enable the exploitation of Unmanned Air Vehicles (UAVs).	<ul style="list-style-type: none"> <li>The task of establishing a programme to facilitate safe off-range flying of UAVs in UK airspace continues, as does work to refine the military regulations and standards covering the design and operation of such aircraft.</li> </ul>	<ul style="list-style-type: none"> <li>Flying of UAVs not permitted outside of military ranges.</li> </ul>

## Successes

- The DASB continues to promote a greater awareness of the need to consider potential safety enhancements when making investment decisions.
- The DASB noted that positive steps have been taken to ensure that due weight is given to the provision of Collision Warning Systems on those fast jet aircraft most at risk. Investment in this important safety feature is key to countering the increased risk of aerial collision posed by the growing pressures on airspace usage.
- Good progress has been made over the year in tackling the DASB's priorities for improving the safety management of UK defence aviation activities.

- The formation of the Defence Aviation Safety Centre (DASC) has provided a better focus for refining policy, standards and regulations than was possible under previous arrangements. A revised DASB supporting structure has been put in place in which the DASC has a pivotal role. The scope of aviation safety has been clarified and this has opened the way to refining and clarifying the details of MOD's aviation safety management system.

### **Overall Assurance Assessment**

The airworthiness of the UK military aircraft fleet is assessed as satisfactory.

The DASB reviewed developments in the field of airspace management, particularly with respect to European Community initiatives and the drive for greater flexibility in the use of UK airspace. Overall the DASB considered that a robust system was in place for the pro-active management of the improvement initiatives and the monitoring of the performance of the airspace safety management system.

### **Priorities for 2003-2004**

- The DASB continues to draw together work set in train in earlier years on aviation safety targets, performance indicators, safety management systems and competencies. Much progress has been made during 2002 and many of these initiatives are expected to bear fruit in 2003.
- Looking further ahead, the task of establishing a programme to facilitate safe off-range flying of Unmanned Air Vehicles (UAVs) in UK airspace continues, as does work to refine military regulations and standards covering the design and operation of such aircraft. Work is also in hand to refine current regulations so as to allow a broader range of MOD's aviation training and support work to be placed with the civil sector.

## DEFENCE ORDNANCE SAFETY BOARD

### Overview

The Defence Ordnance Safety Board (DOSB) met twice during the year. Good progress is being maintained in the development and implementation of a wide range of Ordnance, Munitions and Explosives (OME) safety policy and standards. Considerable experience has been gained in the application of JSP 520 (Ordnance, Munitions and Explosives Safety Management System) and confidence is growing in the positive contribution it is making to the acquisition of safe OME equipment, including evidence from OP TELIC, to be reported next year when investigations are complete. Operation Telic's demanding operational tempo has highlighted the need for more work with operational commands to improve and sustain training levels. A fatal accident at Shoeburyness in August 2002 served to underline the level of risk associated with the handling and use of explosives.

### Issues and Risks

Risk / Issue	Mitigation / Need	Impact on capability
1. Risk: Vulnerability of the munitions stockpile to unplanned stimuli.	<ul style="list-style-type: none"> <li>A policy is in place that requires all new munitions, and all current in-service munitions at mid-life-update, refurbishment or reprovisioning to apply Insensitive Munitions (IM) technology.</li> <li>2 star approval is required to deviate from this policy. JIMSC sub-committee is managing an IM implementation strategy.</li> </ul>	<ul style="list-style-type: none"> <li>Munitions that are not IM pose an increased hazard when exposed to unplanned stimuli or enemy attack.</li> </ul>
2. Risk: Disruption to the movement of dangerous goods.	<ul style="list-style-type: none"> <li>The scheduled update of JSP 445 has been postponed because of delays in introducing EU Regulations into UK legislation; ESTC sub-committee has issued interim guidance outlining the differences between UK and European requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Increased likelihood for movements of OME across European borders being disrupted and/or breaching overseas national regulation.</li> </ul>
3. Risk: Effective management of OME Safety.	<ul style="list-style-type: none"> <li>Performance measures and targets to objectively assess the overall effectiveness of the OME safety management system are being developed as part of the DOSB strategic plan.</li> </ul>	<ul style="list-style-type: none"> <li>Inappropriate levels of OME safety management would result in Time, Cost and Performance penalties.</li> </ul>
4. Issue: Coverage of OME safety topics in the corporate science and technology research programmes.	<ul style="list-style-type: none"> <li>A robust mechanism is being sought by DOSB to influence the scope of future Science and Technology (S&amp;T) work programmes to include ordnance safety.</li> </ul>	<ul style="list-style-type: none"> <li>OME technology could fall behind associated defence technologies.</li> <li>Inappropriate limitations being placed on operational flexibility.</li> <li>Failure to maximise military advantage.</li> </ul>



## Overall Assessment of Safety Assurance

DOSB is confident that major risks are being managed satisfactorily and in accordance with the principles of ALARP. The assurance that the OME Safety Management System is at least as good as that required by UK statutory law has been provided by:

- implementation of the OSRP peer review process, supported by
- the commencement of the OME Safety Management System's Audit programme and
- the introduction of Weapon Systems Safety Cases mandated through JSP 520.

Ongoing work to develop performance measures will provide better tools for ensuring more robust and objective measurement of OME Safety and for setting year-on-year improvement targets.

## Initial Findings from Operation Telic Out-load (up to 31 Mar 03)

At the request of the DESB, the secretary to DOSB has collated the following statistics on the out-load of munitions to the Gulf, prior to 31 Mar 03. Senior in-theatre OME specialists have supplied the following statistics to the DOSB. Statistics on the quantities disposed in theatre, processed, returned, etc, will be presented in next year's report (weights in Gross tonnes).

<b>Total ammunition deployed for land campaign (te) @ beginning of offensive operations</b>	<b>Total number of deployed Unit Load Containers (ULCs)</b>	<b>Total Operational Ammunition Liability</b>
14,200 te ( <i>Net Explosive Quantity = 2500 te</i> ) 72,500,000 items deployed to Land forces	some 13900 ULC - 4,500 pallets of EMF munitions (20,750 m <sup>3</sup> ) - incl. additional 12000 loose boxes deployed (320m <sup>3</sup> )	
Shipping = 6 x Chartered vessels, HMS Ocean, Royal Fleet Auxiliary, HMS Ark Royal (Amphibious Support Role)		1,100 te in approx. 1400 lane spaces
<i>Op GRANBY=75, 000 te</i>		

The rapid deployment afforded an opportunity to trial new mitigation technology for carriage / handling of munitions aboard ships as a positive step for ALARP risk reduction. No reported explosive incidents aboard ship are attributable to the increased levels of munitions carried: a testament to robust onboard explosive safety management.

## Priorities for 2003-2004

Over the next reporting period the following priority issues will be progressed:

- **OME Policy & Standards:** A major review of JSP520 will be carried out towards the latter half of 2003. The review will take account of lessons learnt from implementing the OME SMS and the recommendations arising from the Systems-safety Process Review (SPR).
- **OME Accident and Incident Reporting:** Further work will be undertaken to develop an 'implementation and mitigation strategy' with particular emphasis on how the current accident/incident reporting process can be converged for all three services. In the long-term the intention is to provide a web-based database that can be accessed by all potential users.

- **Whole Life Assessment of Munitions (WLAM):** The WLAM programme, which addresses stockpile management and through life safety issues, is developing important data on through life costs with the aim of assisting OME IPTs and Industry to undertake through life assessments at all stages of the project cycle and in the reporting year.
- **Lessons Learnt from Operation Telic:** The DOSB will consider any findings and recommendations from investigations that are currently underway following Operation TELIC, in Iraq. Appropriate action will be taken to improve safety and operational effectiveness, managed through additions to the DOSB's Strategic Planning Matrix.

## DEFENCE NUCLEAR SAFETY BOARD

### Overview

The DNSB establishes departmental policy, sets objectives and standards for, reports on, monitors and reviews all matters relating to the 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. The safety of nuclear weapons and propulsion systems remain among the Departments highest priorities. Significant progress has been made this year in the management, safety and environmental protection of the Departments Nuclear Programmes. The continued application of stringent safety procedures will ensure the MOD's unblemished nuclear safety record is maintained.

### Successes

- The Defence Nuclear Propulsion Board has strengthened its role, as a forum for the control of the Naval Nuclear Propulsion Programme, and its link to the Defence Management Board (Nuclear) (DMB(N)).
- Development of a strategy for raising the profile of Naval Reactor Plant (NRP) authorisation.
- The successful docking of HMS VANGUARD and the commissioning of the D154 facilities at Devonport.
- The satisfactory introduction of partnering in the Naval Bases.
- Significant progress made on consolidated Authorisation in the Naval Bases.
- Implementation of revised arrangements for the CinC Fleet Nuclear Accident Response Organisation (NARO) to reflect Fleet HQ organisational changes.
- Reduced radiation dose uptake across the Naval Nuclear Propulsion Programme (NNPP).
- Progress on the establishment of the Nuclear Weapon Regulator.
- Endorsement by the DNSB of the Nuclear Weapon Safety Principles and Safety Criteria and the overall model for regulation in the Nuclear Weapons Programme (NWP).
- Progress on implementation of Defence Nuclear Safety Study recommendations.

### Assurance Assessment

The DNSB has a high level of confidence in the continued safe operation and delivery of the Nuclear Propulsion and Weapons Programmes. This confidence is drawn from application of the highest standards of design, construction, engineered safeguards, ensuring competence of staff in operation and maintenance together with robust quality assurance

and regulatory process, internal and external audits, inspections and exercises. Where these have identified shortcomings, management attention has been focused to resolve issues.







### Priorities for next year

The DNSB places high priority on:

- Development of fully integrated long-term Nuclear Propulsion programme and exposure of significant issues to the DMB(N).
- Progressing authorisation of the Naval Reactor Plant (NRP).
- Establishing Long term safety goals for the Naval Nuclear Propulsion Programme.
- Progress the Reactor Pressure Vessel (RPV) integrity campaign.
- Progressing UK Z Berth issues.
- Progressing regulation leading in due course to authorisation in the NWP.
- Drafting of a Joint Service Publication (JSP) for Regulation of the NWP.
- Continuing work to provide a Departmental framework for skills management across defence nuclear programmes.

### Issues and Risks

	<u>Issue/Risk</u>	<u>Mitigation</u>	<u>Impact on Operational Capability</u>
1.	The work to implement authorisation of the Naval Reactor Plant (NRP) continues to prove a major challenge.	Following this year's financial round, the Phase 1 NRP authorisation work will be fully funded, across all stakeholders organisations, from 1 April 03. The recruiting of staff in line with this date has started. Active dialogue to support authorisation continues between NPIPT and CNNRP.	Progress on NRP authorisation is directly linked to securing the right people to fill the new project posts. The processes developed as part of implementing authorisation must be owned by those who will use them, and not by the Implementation Project. Making headroom in already busy stakeholder organisation to take this work forward will be a significant challenge. Failure to achieve NRP authorisation in advance of the planned ASTUTE core load may adversely impact on the ASTUTE programme.
2.	The work to implement regulation and in due course authorisation in the Nuclear Weapons Programme provides significant challenge.	The DNSB has agreed a model for regulation (leading to authorisation) in the Nuclear Weapons Programme.	No impact on capability, however, authorisation will require additional resources from implementers in the NWP: careful planning required to minimise impact.

3.			
4.	The Nuclear Propulsion Programme continues to be significantly affected by the demands of Health & Safety Legislation.	The Warships Support Agency (WSA), Devonport Management Limited (DML) and Regulators are developing management processes, initially for deployment in Devonport, which will allow effective planning and delivery while providing regulatory oversight.	It is expected that development and endorsement of the Devonport Staged Improvement Programme will be a factor in providing greater stability to the planning and execution of the Fleet Time maintenance and Upkeep period programme.
5.	The nuclear programmes are affected by a nation-wide nuclear skills shortage.	Increased use of contractors and consultants has maintained the SQEP resource for the NNPP & NWP. A Strategy has been endorsed by Personnel Director and Second Sea Lord (2SL). A management plan and 3 year business plan is being developed to deliver the strategy.	No immediate impact, but if not adequately managed, an increased threat to Continuous At Sea Deterrent (CASD) and reduced availability of SSNs.
6.			

Serials 3 and 7 redacted using exemption under Section 27 of the Freedom of Information Act 2000

7.	The European Commission case at the European Court of Justice that challenges HMG's line that the EURATOM Treaty does not apply to defence activities.	UK defence has been submitted by Treasury Solicitors. A "what if" study is being undertaken for the Defence Management Board (Nuclear) to identify the impact on Defence of an adverse decision by the European Court of Justice (ECJ).	To be identified through the "What If" study.
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## THE SHEF BOARD

### Overview

The Board met twice during the year and took work forward in the three main areas for which it is responsible: developing overall safety, health, environment and fire policy for the MOD, monitoring its implementation, and overseeing the scrutiny of emerging legislation.

### Issues and Risks

Risk	Mitigation	Impact on operational capability
1. Accident reporting	<ul style="list-style-type: none"> <li>Project to develop new reporting system.</li> </ul>	<ul style="list-style-type: none"> <li>Inadequate reporting leads to difficulty in meeting Revitalising Health and Safety targets to reduce deaths and injuries at work, and inability to learn lessons from accidents.</li> </ul>
2. Investigation of fatalities at work	<ul style="list-style-type: none"> <li>Study into current system includes looking at scope for harmonising Boards of Inquiry procedures and establishing a central register of reports. Recommendations to be put to the Defence Management Board (DMB).</li> </ul>	<ul style="list-style-type: none"> <li>Ability to learn lessons is reduced by absence of central record.</li> </ul>
3. Legislation	<ul style="list-style-type: none"> <li>Action in hand to strengthen tracking process, including appointment of Project Manager to develop and manage the process and the related database.</li> </ul>	<ul style="list-style-type: none"> <li>Possible adverse impacts on MOD if implications of emerging legislation are not identified at an early stage. Ability to influence drafting may also be compromised.</li> </ul>
4. Selling into Wider Markets	<ul style="list-style-type: none"> <li>Specific guidance on SHEF issues being developed as part of wider examination of policy.</li> </ul>	<ul style="list-style-type: none"> <li>Inadequate prior consideration of possible risks could lead to MOD involvement in inappropriate activities, with consequent dangers to MOD personnel and the wider public, bad publicity and possible litigation.</li> </ul>
5. Contaminated Land	<ul style="list-style-type: none"> <li>Develop a strategy for public disclosure and guidance on risk management.</li> </ul>	<ul style="list-style-type: none"> <li>Discovery of contamination on sites already in the private sector could find MOD having to develop policy and respond to questions on the hoof.</li> </ul>

### Successes

- MOD Sustainable Development Strategy.** A Sustainable Development Steering Group (SDSG) will oversee the development of MOD's sustainable development strategy and has been established to promote the integration of sustainable development principles into all decision-making processes across MOD. For Financial Year 2003/04 and future years, reporting on MOD's annual progress on sustainable development will be the responsibility of Defence Estates (DE).
- Climate Change.** The SHEF Board has endorsed the MOD's Climate Change Strategy, the main aim of which is to quantify the Department's contribution to global climate

change, in terms of its total emissions of the greenhouse gases, and guide, co-ordinate and monitor all the Department's efforts to reduce that contribution.

- **Fire Study 2000 (FS2000).** Major stakeholders accepted the FS2000, including the Midway Model for the support of Out of Area Operations, as a workable solution for future Fire Services, which is to be used to inform the Public Sector Comparator for the Airfield Support Services Project (ASSP). A Fire Service Agency Planning (FSAP) Team has been established to develop the savings identified in FS2000 and the risks associated with achieving them. The FSAP Team's submission to ASSP in April 03 has been accepted and used to produce a more robust Public Sector Comparator. The FSAP Team continues to further develop a number of FS2000 issues including the ownership, funding, training and an optimum location for the proposed organisation.
- **Operation FRESCO.** Under Operation FRESCO, the Department provided military personnel for emergency firefighting and rescue during industrial action (withdrawal of fire cover) by the Fire Brigade Union. As part of the Military Aid to Government Departments the MOD trained and deployed military firefighting and rescue teams to provide emergency firefighting and rescue cover for the preservation of life during all periods of industrial action. The civilian Defence Fire Service (DFS) provided trainers and duty of care Fire Officers while the RN and RAF military firefighters provided the lead for the breathing apparatus rescue teams and regional equipment support teams.
- **Fire Services Operations Overseas.** The MOD Fire Service has also delivered fire safety advice and operational fire fighting capability in Iraq (Op TELIC), at Banja Luka and Sipovo (Operation OCULUS), in Bosnia Herzegovina, in Kosovo at Pristina and Podujevo and in Afghanistan at Bagram Airport. The MOD FS also supported the demobilisation programme to retrain soldiers as firefighters in Bosnia Herzegovina in support of the stability pact.
- **Radioactive Materials.** The security and safety of radioactive materials has assumed a greater importance post Sept 11. The MOD has been actively engaged with other Government Departments in negotiations on the International Atomic Energy Agency draft "Code of Practice for the safety and Security of Radioactive Sources"
- **Depleted Uranium.** Work continues to support the Gulf Veterans Illness Unit on issues involving depleted uranium. In June 2002 the report on the "Comparison of Kirkcudbright and Eskmeals Environmental Monitoring Data with Generalised Derived Limits for Uranium" was published on the World-Wide-Web. This study compared the measured uranium levels reported in the environmental surveys, to published guidelines for interpreting monitoring levels. The conclusion was that there was a negligible risk from DU to anyone outside the controlled areas at these sites. The analysis and reporting of environmental samples from the Balkans Environmental monitoring programme has been progressing and it is intended to publish the reports on the World-Wide-Web in the summer 2003. MOD has released information on how much depleted uranium (DU) it has used in Iraq in support of the United Nations Environment programme which is preparing to undertake a study of environmental contamination in post-war Iraq.
- **Occupational Health and Safety.** A new Occupational Health Contract was negotiated and awarded in September 2002 to BMI Health Services Limited. This has a three-tier approach: the first tier to support MOD Policy needs; the second tier to support local needs identified by risk assessment and third tier to support a local requirement.



## Overall assurance Assessment

Assurance was provided through a comprehensive range of SHEF audits, as set out elsewhere in the report.

## Priorities for 2003-2004

The main focus of next year's business will be the mitigation work set out above and also:

- finalising the details of annexes to the Memorandum of Understanding with the Environment Agency;
- overseeing continuing work on the development of a sustainable development strategy for MOD;
- continuing work on the development of a climate change strategy for MOD;
- developing a risk register.
- In the year ahead, the DSEFPol Health Physics Team will be the MOD focal point for the Committee on Radioactive Waste Management charged with delivering a route map for the nation's radioactive waste. The objective is to ensure that the route map accommodates MOD current and future radioactive waste requirements.
- Work has been undertaken with the HSE to determine how to introduce into UK legislation the requirements of the Physical Agents Directives (Noise and Vibration). New dose limits in both Directives impact on essential military activities. The Directives allow these activities to continue and it is essential to MOD business that this be properly reflected in the UK legislation. Work will continue to 2004.
- To ensure that the outcome of the PPP Airfield Support Services Project, including the Fire Study 2000 element of the Public Sector Comparator, will provide the Department with a sustainable Fire Safety organisation to meet future requirements. The objective is to secure adequate resources to provide an in-house capability as a Fire Authority, for Policy development and risk management advice. Also, to ensure that adequate provision is made for the operational Fire Services required for the protection of military assets and to support military operations at home and overseas.

## ANNEX A

**ROLES OF THE FUNCTIONAL SAFETY BOARDS****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 and associated systems. 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.