

DEFENCE ENVIRONMENT AND SAFETY COMMITTEE

SAFETY AND ENVIRONMENTAL PROTECTION ASSURANCE REPORT 2011

REPORT BY THE PROCESS OWNER





INTRODUCTION

1. Until 2011, the Safety and Environmental Protection (EP) Annual Assurance Process Owner's Report was produced on the basis of reports by Functional Safety Boards (FSB). This addressed the position in each of the safety domains, but made it impossible to assess performance by Top Level Budget (TLB). This was a serious shortcoming given that responsibility for delivering safety and EP rests squarely with TLBs. It was therefore decided that from 2011 reports should focus on performance by TLBs. This is the first such report.
2. It is also the first report to have been compiled by the Defence Safety and Environment Authority (DSEA) which has been created by bringing internal regulators outside aviation together to form a central independent internal regulatory organisation. This has enabled a comprehensive overarching view of safety, EP and regulatory compliance to be produced for the first time.
3. The report has been compiled on the basis of self-assessments produced by the TLBs and comments on those self-assessments by the DSEA and Military Aviation Authority (MAA). Where these comments identify weaknesses or non-compliances, a response by the TLB is included, which in most cases indicates that remedial action has been or is being taken.

OVERALL PERFORMANCE

4. Because we have moved from reporting by FSB to reporting by TLB, it is not possible to make a detailed comparison with the previous year's performance. Nevertheless, an overall picture emerges of unchanged performance in terms of delivery on the ground and an overall assurance level of **Limited**. This is defined as "Weaknesses identified in governance, risk management or control framework. Achievement of business objectives is threatened by inadequate management of high category risks".
5. At the same time, most TLBs report safety initiatives, including the adoption of Duty Holder structures, which have been launched at the highest levels. These are very welcome given the importance of leadership and culture in this area. It is too early, however, to expect the effects to be felt. The results in terms of improved safety performance on the ground should start to feed through next year. On the other hand, the shortages of Suitably Qualified and Experienced Personnel (SQEP) reported below will pose a considerable challenge to TLBs' ability to improve performance.

DEPARTMENT SAFETY-RELATED FATALITIES, MAJOR INJURIES AND MINOR INJURIES

6. In 2011 there were a total of 11 safety-related fatalities. This compares with a figure of 9 for 2010. The increase is not statistically significant. Of the 11, 8 were Army fatalities, including an Officer Cadet, and 3 RAF.
7. The 8 Army fatalities were as a result of: 2 deaths in a tent fire at Camp Bastion, Afghanistan, one parachute collision whilst adventure training in California, one gunshot wound whilst on live firing exercise in Kenya, one negligent discharge in Afghanistan, one head injury when a logistics support bridge collapsed during training in the UK, one gunshot wound whilst training at Lydd ranges, and one thrown from a horse at Sandown racecourse. The latter 3 are subject to investigation by the Health and Safety Executive (HSE).
8. For the RAF, one was the result of a Road Traffic Accident during Op Ellamy in Italy, one was an air accident involving a Red Arrows Hawk at Bournemouth Air Show and one was from an





on-ground ejection involving a Red Arrows Hawk at RAF Scampton. The latter 2 are subject to a Service Inquiry convened by the Military Aviation Authority (MAA).

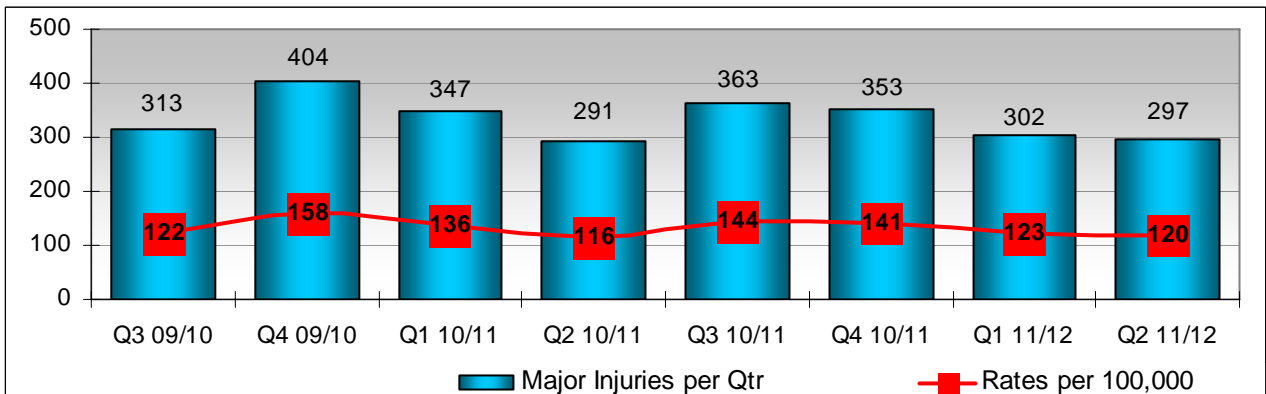
9. The graph below presents both the number and the rates per 100,000 of UK Armed Forces safety-related deaths during the period 1st April 2007 until 31st December 2011.



Figures for 2011/12 are for 1 Apr 11 – 31 Jan 12

* Crude rates for population at risk which includes UK regular Armed Forces and MOD Civilians

10. The numbers of major injuries / illnesses (excluding fatalities) are shown below.



Source: DASA using AINC, IRIS, NSINC, RFA

MOD civilian personnel are defined as MOD civil servants (Industrial and Non-industrial).

Excludes battlefield injuries (WIA), off-duty RTAs and Cadets

Includes reservists


Crude rate for population at risk

Rates for Q1 and Q2 2011/12 are provisional and may change as further incidents are reported and as additional information on existing injuries / illnesses is received

11. DASA has advised that there is no discernable trend indicating an increase or decrease in either fatalities or major injuries over the periods indicated.

PAN-DEPARTMENTAL ISSUES

12. Specific TLB issues are set out in their individual sections. A number of issues cross TLB boundaries. Chief of these is **SQEP**, which is raised as a serious concern by almost all TLBs and regulators. TLBs have reported the following figures which show percentages of SQEP posts filled against the total requirement. Separate work is in progress to assess the impact of these shortages.

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- a. DE&S - 75%
 - b. DIO - 73%
 - c. Army Command- 78%
 - d. Air Command - 64%
 - e. Navy – 93%
 - f. CTLB – 76%
 - g. CJO – 76%

13. From the Air Safety Regulator's (MAA) perspective, overall, the TLB reports provide further strong evidence of the urgent need to quantify and assess the impact of the significant extant SQEP shortages across the Department, which exhibit strong potential to increase. Moreover, it is likely that currently the associated impact and risks are underestimated, as there is a bias in some reporting to focus on posts related directly to safety assurance, whereas significant risks also reside in the SQEP shortages in technical, training, operating and supervisory roles.

14. **Dangerous Substances and Explosives Atmosphere Regulations (DSEAR).** The **Fuel and Gas Regulator** has reported widespread non-compliance with DSEAR across the Department. DSEAR is a legislative requirement, the purpose of which is to protect people from dangerous substances which could cause a fire or explosion. DSEAR requires that risks from such substances are identified, assessed and then eliminated or reduced.

15. The most obvious area in which DSEAR affects MOD is fuel and gas. Of 238 fuel sites across the UK, 151 have not had DSEAR risk assessments. It is probable that the risks to petrol facilities have already been largely mitigated by the measures that TLBs must take to comply with separate internal regulation, but formal risk assessments must nevertheless be carried out. The issue goes much wider than fuel and gas, however, and applies to all activities involving substances which could produce explosive atmospheres, including explosives handling areas, vehicle, aircraft and ship maintenance areas, woodwork shops, welding bays and paint spraying areas.

16. The full extent of how DSEAR affects MOD is not yet known. DIO is in the process of scoping the issue with TLBs and will submit a report to the Defence Infrastructure Board in the autumn.

17. **Shortcomings in the production of Safety Cases** have been highlighted by Army Command, and the Ordnance, Munitions and Explosives, Maritime and the Land Systems Safety Regulators in this report. Safety cases are also raised as an issue by the Nuclear Regulator in its annual assurance report. Safety cases are of crucial importance since they set out the risks involved in using an equipment and the mitigations. Without an adequate safety case, the Duty Holder cannot fully understand and, therefore, mitigate the risks. For this reason, Haddon-Cave placed great emphasis on the importance of safety cases.

18. **The division of responsibility between the DIO and TLBs for infrastructure** has been identified by most TLBs as a key concern. If we expect Duty Holders to be responsible for risk to life, it is a fundamental requirement that they should receive assurance from the DIO that infrastructure made available to them is safe, fit for purpose and compliant with regulation. The mechanism for achieving this has not yet been identified, but DIO have work in hand.



19. **Under-maintained and deteriorating infrastructure** has been identified as an increasing concern by the DIO, other TLBs and regulators. This has potential implications for both safety and EP. The former is more straightforward to address. At the most basic level an unsafe site can be made safe by taking it out of use. This may, of course, have profound implications for operational capability. Environmental contamination is only identifiable after the event. There have been a number of cases of leakage of fuel resulting in contamination of land and water bodies. This presents financial and reputational risk. MOD has to bear the cost of remediation and land/water bodies can become unusable to surrounding landowners.

TLB AND TFA PERFORMANCE

20. Performance has been assessed against the standard DIA definitions, which are as follows:

- a. **Full Assurance** - The frameworks of governance, risk management and control should ensure effective, efficient and economic achievement of business objectives. Risks that threaten the achievement of that objective are adequately managed.
- b. **Substantial Assurance** - Weaknesses identified in governance, risk management or control frameworks. Achievement of business objectives is threatened by inadequate management of medium or low category risks.
- c. **Limited Assurance** - Weaknesses identified in governance, risk management or control frameworks. Achievement of business objectives is threatened by inadequate management of high category risks.
- d. **No Assurance** - The frameworks of governance, risk management and control do not support effective, efficient and economic achievement of business objectives.

21. Each TLB and TFA's assessment of its own performance is as follows:

Navy	Army	Air	CJO	DE&S	CTLB	DIO	DSG	DSTL
Limited	Limited	Limited	Substantial	Limited	Limited	Substantial	Full	Substantial

The assessments provided by the Functional Safety Boards in 2010 were as follows.

Fuel and Gases	Nuclear	Occupational	Land Systems	Ordnance	Ships	MAA
Limited	Substantial	Limited	Limited	Substantial	Limited	Limited

No direct comparison can be made between the two for obvious reasons, but the overall picture which emerges is one of **Limited** assurance for both years.

PERFORMANCE AGAINST THE SAFETY SUB-STRATEGY

22. The Safety Sub-Strategy was first agreed by the Defence Environment and Safety Board (DESB) in 2010. It consists of 6 Goals based on the HSE Safety Strategy as follows:

- Goal 1 A Learning Organisation
- Goal 2 Leadership & Continuous Improvement

- [REDACTED]
- Goal 3 Competence & Performance Measurement
 - Goal 4 Understanding and Managing Hazards & Risks
 - Goal 5 Recognising, Influencing and Complying with Legislation and Policy
 - Goal 6 Involving People & Effective Communications

23. In 2011 DESB agreed a revision of the Safety Sub-Strategy which included the following maturity model.

Level 1 - Policies, Procedures, Communications, Activities, Accountability and Responsibility are documented.

Level 2 - Post-holders in place, programme of new or changed regime in process.

Level 3 - Regime in place, feedback, quantified measures indicating areas for refinement/development.

Level 4 - Update cycles resulting in measurable improvements toward target performance.

Level 5 - Measurable performance achieved and benchmarked against recognised standards.

Level 6 - High performance maintained through periods of organisational change.

24. It was agreed that by the end of 2012 all TLBs should achieve, or have resourced plans to achieve, Level 4 on the model. This equates to Substantial Assurance and represents compliance with statutory and internal regulation.

25. As part of the assurance process TLBs have assessed their performance against the maturity model. The results are at Annex A. The overall score for each Goal, within each TLB and TFA, is arrived at by taking the **minimum** score reported by business areas to the TLB for that Goal. This ensures that areas of weakness are not camouflaged by a respectable mean average score.

INDIVIDUAL TLB and TFA PERFORMANCE ASSESSMENT

NAVY COMMAND

Self-Assessment by TLB

26. Navy Command's overall assurance assessment for 2011 – **Limited**.

27. The Navy Command Safety and Environmental Report for 2011 provides 2nd PUS and 1SL/CNS with a report of performance and self-assurance against MOD's Safety Sub Strategy Maturity Model across each Domain or major functional safety area of activity in Navy Command with input from DE&S where appropriate.

28. The assurance process across the TLB is generally well established and, in some areas, is subject to direct external examination. The MAA conducted an audit of the Navy Command Aircraft Operating Authority in Oct 11 and the RFA is regulated by the Maritime and Coastguard Agency (MCA) against the requirements of the Merchant Shipping Act and ISM Code, resulting in the award of an annual Document of Compliance. By contrast, the TLB Fuel and Gases Management Team is relatively new.



29. In acknowledgement of the requirements of the MOD Safety Sub Strategy and the Haddon-Cave Nimrod Review, the Navy Board commissioned and endorsed the establishment of the Navy Safety Improvement Programme (NSIP) in December 2010. Its purpose was to identify areas for improvement across the TLB, working with DE&S, to create and embed a Just Safety Culture across all areas of activity. The first phase of the NSIP culminated with the declaration of First Sea Lord's Safety Pledge on 13 October 11 and creation of a revised 2* Operating DH structure to ensure proper management of safety across the full spectrum of TLB activity. The key themes of the NSIP cover: organisation and governance; development of a learning organisation; education and development.

30. This report provides evidence of many examples of high levels of safety and environmental management performance. Significantly, Naval Aviation, Royal Fleet Auxiliaries, Naval Diving, Nuclear, Land Systems and ordnance, munitions and explosives Domain/functional safety areas are assessed at either Full or Substantial Assurance.

31. The NSIP is aimed specifically at addressing those areas still requiring improvement. The most important single theme is improving the consistency of the TLB's ability to learn from experience and develop into a truly Learning Organisation, also spanning across other TLBs. The NSIP is the vehicle to raise the maturity of safety management to the levels required by MOD's Safety Sub Strategy.

32. Considering Navy Command in isolation, levels of safety SQEP are currently assessed as adequate. The Navy Command Review is currently seeking a 25% reduction in non front line manpower and a review of the revised TLB structure will be undertaken to ensure that safety management has not been compromised.

33. The principal risk in the TLB is the Single Hull Tanker, with risk of enforced withdrawal of the RN's operational bulk fuel supply capability due to non-compliance with legislation. This risk has been elevated to the Defence Board.

34. Notwithstanding the areas above assessed at Full or Substantial assurance, the concerns previously raised by the Sea Environment and Safety Board (end-to-end assurance, learning from experience, safety culture), whilst being addressed actively by the NSIP, are not yet sufficiently developed to warrant an increase above Limited Assurance.

Crown Censures, Notices and Other Regulatory Interventions

35. Two Crown Improvement Notices were issued against RNAS YEOVILTON in September 2011 for safety improvements to LPG-fuelled fire fighting training rigs – action on-going.

36. Two internal DSEAR Improvement Notices, two internal training Improvement Notices and one internal Incident Improvement Notice were issued.

37. HMS PROTECTOR is already the subject of an Improvement Notice for diving, and the issue has recently been underlined by the curtailment of overseas dive training and several further incidents.

Regulators' Comments on TLB Self-Assessment

38. **The Air Safety Regulator (MAA)** states that the presumption of 'Full Assurance' for Naval Aviation, versus 'Substantial', is perhaps worthy of academic debate. Nevertheless, this should not detract from a strong Air Safety performance by the TLB during the period in terms of safety





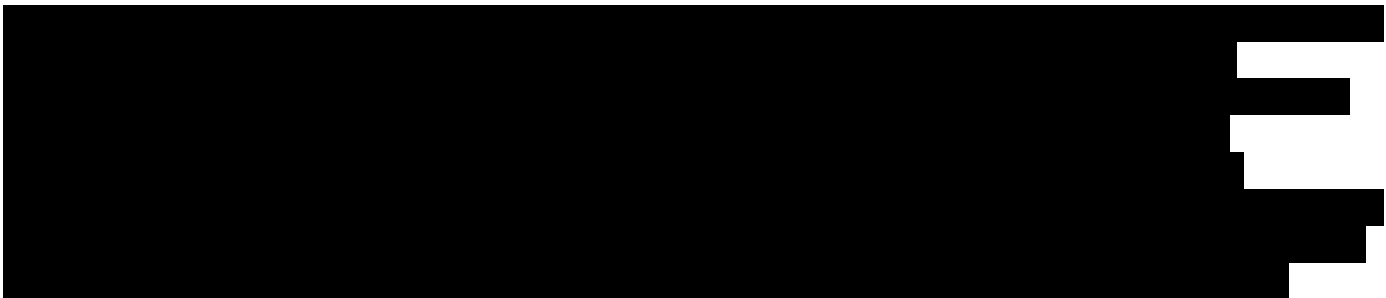
leadership and evolution of their ASMS and practice to reflect changes in the post Haddon-Cave regulatory environment.

39. The **Defence Nuclear Safety Regulator** supports the nuclear element of NCHQ's self-assessment, including an assessment of **Substantial** assurance for the domain, but has concerns about the potential impact of reduced funding, people and SQEP in future.

40. The **Maritime Regulator** supports the maritime element of the NCHQ report.

41. The **Land Systems Regulator** notes that NCHQ has given itself **Substantial** assurance in its domain. While it recognises that NCHQ has introduced improvements, particularly in having established the Navy Command Land Systems Safety and Environment Board, it has not seen evidence that NCHQ has addressed shortcomings identified in the assurance report it provided to the Land Systems FSB in May 11, which highlighted issues of resourcing, training, incident reporting and culture. Until such evidence is produced, the Regulator believes that an assessment of **Limited** is appropriate.

42. The **Fuel and Gas Regulator** assesses NCHQ as achieving **Limited** for its domain. It acknowledges that NCHQ has made significant improvements but is concerned with SQEP shortages. Furthermore, there is concern that some high hazard non-compliances identified during inspections appear not to have been addressed and about DSEAR and infrastructure maintenance.



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ARMY COMMAND

Self-Assessment by TLB

44. Army Command's overall assurance assessment for 2011 – **Limited**.

45. There is a considerable amount of change ongoing in both Defence and the Army Command – much of which will, or may, impact on the provision of our safety (and environment) management system and improvements to safety performance. There are both opportunities and threats wrapped up in this range of change. Until these are worked through then the current TLB assessment is **Limited** but trending upwards.

46. The implementation of a Duty Holder framework with the Army Command has proved challenging, not least against a backdrop of C2 changes, the implementation of Capability Directorates, the Army Inspectorate review of assurance, the demise of the Functional Safety Boards, and wide recognition that the Land Environment is the most complex. The overriding objective has been to ensure that the pre-eminence of the chain of command, and especially the position of Commander Land Forces, has been preserved and enhanced. Matching this requirement while meeting the Haddon-Cave principles has resulted in a proposed 4-tier model of

[REDACTED]

CGS (Senior DH); CLF (Executive DH); delegated 2* officers (Operational DH); and delegated 1*/OF5/OF4 officers (Delivery DH).

47. Safety Performance. The number of reported incidents/accidents and near misses into Army Incident Notification Centre (AINC) continue to rise – as at 1 Dec 11 this stands at 5034 compared to 4300 at the close of 2010. We are still witnessing improved levels of reporting, particularly from operational theatres through PJHQ based upon a better capture of operational safety incidents. Training remains the largest category of incidents (53% by Q3/11) but this figure should be treated with some caution due to some lack of fidelity in assessing activity types on the AINC database (this is being addressed jointly with DASA). As at 1 Dec 11, there have been 6 potentially safety related fatalities in 2011 (5 in 2010) and 18 RTA fatalities (15 off-duty) against a total of 27 in 2010 (20 off-duty). Analysis of RTA fatalities does not support any correlation with recent return from operations. The Command has been subject to two HSE investigations related to fatal incidents in 2011 and anticipates at least one Crown Censure as a result along with that expected in the Cadet Kaylee McIntosh case from 2007.

48. Risks/Concerns. The following risks/concerns are highlighted:

- a. Clarity over the roles and responsibilities associated with the provision of Safe Place following the establishment of the DIO. The DIO/DBR Joint Study Report provides a sound foundation but this will need careful management at site level, especially in aligning responsibility, accountability and resources.
- b. Some equipment has been brought into service without adequate Part 3 Safety Cases. This issue was highlighted by two incidents with the KESTREL mast on Op HERRICK. Re-invigoration of the Capability Integration Working Group (CIWG) following the formation of the Capability Directorates should address this concern.
- c. The provision of SQEP to cover the range of responsibilities placed on Capability Directors/Army Competent Advisors (ACA) will need to be monitored very closely (especially during redundancy programmes) if competent advice is to be provided to the chain of command. Capability Directors are raising this risk through the Army Assurance Board process and CESO(A) will conduct another SQEP audit in Q2/12.
- d. With the demise of the FSBs, we have lost the ready means of capturing the cross-Defence Land Systems risks and issues in a coherent end-to-end assurance process. This is subject to an ongoing study between the Land Systems Safety Regulator, Eqpt Directorate Army HQ and CESO(A).
- e. As the TLB starts to return to contingency, it is important that we have in place a cross-cutting means of identifying and managing our Training safety risks. This matter will be subject to a CESO(A) led review in Dec 11 and the review of the safety governance mechanism (a joint Army Inspector/CESO(A) task).

49. Achievements/Success. The following achievements and successes are noted:

- a. The continued development and effectiveness of the Centre for Army Lessons and Safety (CAL&S) and implementation of the Land Environment Lessons Process (LELP).
- b. The development of the AINC database to include the Army Identified Lessons Management System (AILeMS) and recording of Service Inquiry outcomes.

- [REDACTED]
- c. The hosting of a Safety Study Day in Jul 11 including a presentation by Mr Haddon-Cave QC.
 - d. With PJHQ, the implementation of an Operational Safety information campaign which has raised awareness of this dimension of Force Protection and contributed to a reduction in Disease and Non Battle Injuries (DNBI) figures.
 - e. With DIO, a continuing steady decline in the amount of ordnance, munitions and explosives getting into the waste stream. This has been complemented by an information campaign (posters and radio broadcasts) and direction on the use and management of 'Amnesty Boxes'.

Crown Censures, Notices and Other Regulatory Interventions

50. The following accidents fatalities are potentially safety related and have been subject to HSE investigation:
- a. Jan 11 – RE Sapper killed when a bridge collapsed at Wyke Regis.
 - b. Mar 11 – REME Sgt killed in a fall from a horse at Sandown Racecourse.
 - c. Sep 11 – Fus killed by a gun shot wound at Lydd/Hythe ranges.
51. Cdt Kaylee McIntosh - The Crown Office Procurator Fiscal Service are still considering the Northern Constabulary/HSE report before submitting the findings of the investigation to Crown Counsel. CESO(A) has been informed by the lead HSE investigator that HSE intend to serve a Crown Censure.
52. Three internal Prohibition Notices (one for not decommissioning a Class 1 tank in a specified timescale, and two for Defence Licence & Testing Authority irregularities) and 27 internal Improvement Notices (15 against DSEAR) were issued.

Regulators' Comments on TLB Self-Assessment

53. **The Air Safety Regulator (MAA)** states that the Army TLB Report is light on Air Safety matters, which is a consistent shortcoming in Army TLB reporting. This could create the perception that Army Cmd perceives JHC as merely an administrative responsibility, or that responsibility for JHC Air Safety primarily rests elsewhere. As it is, the Report is limited to reiteration of the outcome of the MAA audit conducted in the previous reporting period, whilst rather glossing over the fact that more than 50% of the Corrective Action Requirements of that audit were outstanding. Not for the first time, the Report highlights concern over manning levels in the JHC Air Safety Team and its capacity to manage 'increasing MAA administrative policy demands'. Whilst the meaning of this phrase is unclear, the statement is nevertheless illuminating. There are, and have been for some considerable time, regulations pertaining to the conduct of Defence aviation, very few of which are new; the requirement for an Air Safety Management System (ASMS), which JHC has had to work hard to create virtually from scratch, has been in existence for over a decade; and other elements of Defence are demonstrating more mature ASMSs and an ability to work within the regulatory framework with the resources available. I suggest, therefore, that the 'increasing workload' may have less to do with the "new regulatory regime" and more to do with playing catch up. Finally, the TLB Report might usefully have reflected that, currently, Comd JHC owns and is attempting to manage 4 of the Dept's 5 strategic Air Safety risks and that 3 of the 6 air platform SIs convened during the period involve

[REDACTED]

JHC units. The emerging findings of these SIs point to selection, training and supervision as areas that will warrant command attention.

54. The **Land Systems Regulator** considers the overall assessment of **Limited** for its domain to be cautious. The TLB's report provides evidence of Substantial Assurance in many areas and action is being taken to address identified concerns and risks. The TLB has been proactive in developing its safety management arrangements in response to Haddon-Cave; organisational change in response to SDSR; and the formation of Capability Directors and their relationship with DE&S. The Regulator will continue to work closely with Army Command.

55. The **Fuel and Gas Regulator** assesses the TLB as achieving **Limited** for its domain. There is a continued requirement for robust implementation of the Fuel Safety Assurance Assessment (FSAA) process, provided via the UK and BFG Petroleum Inspectorates. The **Regulator** is concerned with limited Spill and Incident Reporting. In addition, the number of high hazard entries in the F&G HAZLOG raise concern that high hazard non-compliances identified during inspections appear not to have been addressed. The **Regulator** supports Army HQ's comment that a lack of compliance with DSEAR legislation presents a major concern including wider DSEAR issues that are not fuel and gas related, e.g. Battery Charging Shops, Paint Shops, Welding Bays.

Army Command Response

Fuel Safety Assurance Assessment (FSAA) Process - All TLB issues have been implemented.

Spill And Incident Reporting – Spills and Incidents are properly reported. Reporting to DIO of spills caused by leaking underground pipes and tanks has resulted in a DIO programme to identify redundant fuel tanks in high risk areas (aquifers) and decommission and remove.

High Hazard Entries In F&G HAZLOG – All high hazard entries that are within power of the TLB to resolve have been resolved.

DSEAR – the Army has taken the issue in hand and identified all F & L and non F & L risks held by all Regular and TA Units (by survey/questionnaire to all units (330+ of them). Action has been taken on the 33 high risk Class 1 F & L installations. The Army are now working with DIO on a methodology to address the lower risk issues over the rest of the Regular and TA estate which will be incorporated in a paper to be put to the Defence Infrastructure Board in the autumn.

56. The **Ordnance, Munitions and Explosives Regulator** reports that the TLB is compliant in its domain.

AIR COMMAND

Self-Assessment by TLB

57. Air Command's overall assurance assessment for 2011 - **Limited**

58. The scope of the AIR Safety & Environmental Protection Report has been cast wider than Air Safety alone. Indeed, while flying operations present the TLB's highest risk to life, the significant efforts to manage all aspects of Functional Safety (all non-Air Safety areas) are no less important. Together, these safety elements comprise the integrated 'Total Safety' construct, which recently has been adopted by the Air TLB. The assessments made as part of this DESB

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submission have helped inform this policy initiative, and the arrangement already is in place on, and showing success at, some Main Operating Bases. This work will seek to share good practice for reporting, investigation and audit among the 6 main areas of assurance effort, with the objective of improving the overview and performance of 'Total Safety' at TLB level.

59. Over the last 12 months, there has been substantial progress made in the delivery of Air Safety by the development of effective, post-Haddon Cave governance arrangements within an established Air Safety Management System, and fulfilment of the Command's 2011 objectives in its Air Safety Management Plan (ASMP). For example, the work on cross-Defence Line of Development mitigations to many risks previously thought as being equipment-only solutions, has been most encouraging. And there have probably been more temporary suspensions to flying operations in the past 12 months than for many years as risks have been investigated thoroughly before decisions made to accept an issue as ALARP and Tolerable. Moreover, there has been an abundance of good ideas and methods to analyse hazards and risk developed across the HQ and Units. This is strong evidence of an emerging change in culture and behaviours, which will now be captured in the first 6 months of 2012 through a 'consolidation phase' for the RAF ASMP. Notwithstanding this welcome advancement, there remains much to be done to refine several areas of Air Safety activity from the assessment of limited assurance across Air Command in order to comply with the MOD Safety Sub-strategy.

60. In the SHE arena at TLB-level a report of limited assurance reflects shortfalls identified in governance, risk management and control frameworks, which are an hereditary consequence of the 'stove-piping' of Functional Domains from the previous Functional Safety Boards regime. The ongoing re-development of the Air Safety & Environmental Management System (SEMS) to be complementary to the ASMP will drive and ensure greater coherency, coordination and aggregation of risk and performance management across all safety domains.

61. The remaining Functional areas - Ordnance, Munitions and Explosives, Fuel & Gases, Land Systems and Air Movements - present a diverse level of assurance maturity. These levels range from the more traditional ordnance, munitions and explosives regime, which presents a robust picture of compliance auditing and follow up/remedial audit through to the assurance of Air Movements activity, which remains in its genesis. This range of assurance aligns with the relative risks involved in each activity, with the overall self-assessment for the Air Command as one of LIMITED towards SUBSTANTIAL assurance with action required to increase the level of assurance provided in 2 of 6 specific areas. This assessment has primed work to enable the Air Senior Duty Holder to provide substantial assurance in Safety in 2012 and thereby minimize fatalities, injuries and ill-health to our people and those affected by [all] our activities. On reflection, the more learnt about safety management, the more there is to learn; fortunately, it is clear that there is a considerable amount to be learnt from each other in Air Command. It is concluded that Air Command has made good progress in the establishment of effective safety management processes and performance over the past year.

62. Across the 6 areas covered in the scope of this report Air Command assurance teams have carried out a total of 114 audits during the reporting period, with some further audits being carried out by external agencies on behalf of the TLB. Much of this audit activity, particularly in the Air Safety domain was risk based, with a significant number of the 55 Air Safety audits - 12 Flight Safety and 43 Airworthiness - being carried out at PJOBS and Expeditionary Air Wings. The audit activity remains immature, however, in the Air Movements area with only 2 audits, but with a programme already in place for 2012 and the ever closer integration of the '4-worlds' providing a positive direction of travel.



63. The functional areas of safety were assured in a number of different ways; a total of 40 compliance based audits being carried out in the ordnance, munitions and explosives area producing 5 assessments of unsatisfactory and 3 of marginal. All 8 instances of failure to meet the required standard were subsequently re-visited within 4 months of the original audit. A total of 7 full SHE audits were carried out on units with 9 Radiation Safety visits and 4 MACR audits. In addition, although not responsible for the safety case that supports the operation of Land Systems, Air Command undertook assurance of the engineering standards and practices relating to the maintenance of these vehicles, a total of 43 audits supported this assurance in 2011. In the final area of Fuel & Gas Safety, audit activity is carried out on behalf of Air Command by the DE&S Fuel & Gas Safety Regulator, which has conducted a total of 22 audits within Air Command during 2011.

64. The assessment by maturity against individual elements of the Safety Sub-Strategy Goals is set out in the table below for both the separate functional areas of the TLB and the TLB as a whole; the scores represent a diverse picture. Of note, the Air Safety, SHE and ordnance, munitions and explosives functional areas fair best, with rate of increase undoubtedly being highest in Air Safety. Of the other 3 areas they all share a common theme of good safety work at BLB level, but a need to fuse this information in critical areas such as risk and audit findings at the TLB level. Furthermore, work on implementing an Air-led assurance framework in these areas commenced in the past year, in particular within the Air Movements domain. Indeed, based on the experience of Air Safety and desire to embrace a '4-world' approach, the assessment on Air Movements reflects the deliberate expansion of the scope of safety assurance within Air Command, and as such it remains immature and will be subject of much work in 2012. As a result of the current lack of mature risk integration in these areas the assessment is weakest in Goals 4 and 5, namely those that specifically relate to management of hazards/risks and the coherence of Safety Management Systems at a TLB level.

	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6
Air Safety	3-4	3-4	2-3	3-4	3-4	3-4
SHE	2-3	2-3	2-3	2-3	3-4	3
Ordnance, Munitions and Explosives	5	4	4	4-5	4	4
Fuel & Gases	2	2-3	2	2	2-3	2
Land Systems	2	2	2	2	2	2
Air Movements	2	2	2	1	1	2
AIR CMD	2-3	2	2	1	1	2

The Air Command scoring above represents an assessment following direction to highlight the **minimum** score rather than an average. Meanwhile, experience from the other areas will be focused to assist Air Movement and Land Systems, which are improving quickly.

65. The TLB view across SHE and ordnance, munitions and explosives assurance remains good, with Fuel & Gases more than satisfactory at BLB-level. The TLB's view across Air Safety is that it has improved substantially over the past year, though as ever there is more to be done. The improvements in Air Safety are now afforded a high level of senior engagement, providing confidence that although resources are liable to remain constrained the focus of attention will not be lost in the next year. Action is required to enhance the TLB safety assurance view across Land Systems, Air Movements and Fuel & Gases. Air Command's ability to improve in these



areas has undoubtedly been enhanced by the lessons learnt from improved governance of Air Safety, and the recent adoption of a Total Safety construct.

Issue - The single issue to be noted by 2nd PUS is the resourcing of SQEP.





Risks

66. Safety Risks to be noted by 2nd PUS are as follows:

- a. Mid-Air Collision - Air Safety.
- b. Risk to Life from Road Traffic Accidents, on and off duty - Land Systems Safety.
- c. Controlled Flight into Terrain (CFIT) - Air Safety, known to be a risk of significance, with detail still being compiled into quantifiable Risk to Life assessment.

67. A single Safety Management Risk should be noted by 2nd PUS, is the removal of the IRIS incident reporting system - Functional Safety, though principally SHE.

Assurance Assessment

68. The 6 component areas of the Air Command assurance 'jigsaw' are assessed, based on the DESB criteria, as follows:

- a. Air Safety - **LIMITED**.
- b. Safety, Health & Environment - **SUBSTANTIAL**.
- c. Ordnance, Munitions & Explosives - **FULL**.
- d. Fuel & Gases - **LIMITED** (SUBSTANTIAL at BLB-level).
- e. Land Systems Maintenance - **LIMITED**.
- f. Air Movements - **LIMITED**.

69. The overall assessment for Air Command is therefore one of **LIMITED towards SUBSTANTIAL** with action required to increase the level of assurance provided in 2 of 6 specific areas.

Crown Censures, Notices and Other Regulatory Interventions

70. Two internal Prohibition Notices and 5 internal Improvement Notices (one against DSEAR) were issued.

71. The MAA report is separate to this report.

Regulators' Comments on TLB Self-Assessment

72. **The Air Safety Regulator (MAA)** states that the identified significant shortages in SQEP are a cause for concern. However, it is encouraging to note that Air has prioritized filling key air safety-related appointments at risk and has manned them by accepting gaps elsewhere in the TLB. It is also encouraging to note that technical and operating standards are acknowledged as emerging areas of concern and are attracting Command attention, as these are insidious areas of decline, driven by the operating tempo and drain on resources imposed by sustaining ongoing operations, that pose significant potential risks.





73. The **Land Systems Regulator** agrees with Air's assessment of **Limited** for its domain. It welcomes the TLB's recognition that further work is needed to fully understand the scope of its land systems safety requirements and supports the intention of the Vehicle and Support Equipment (V&SE) Team to address this through the Functional Safety Governance Group (FSGG). The Regulator welcomes Air's intention work with Army HQ, DE&S and the Regulator to further improve the safety and environmental management of land systems.

Air Command's Response – The V&SE role office has made significant progress towards achieving Level 3 Maturity against the challenge of covering 3 discreet functional areas which are applicable at all 32 RAF units – vehicles, generic aircraft ground support equipment and Road Safety. The role office is already receiving comprehensive Road Safety and AINC data, and has recently started to receive 2nd Party Assurance Reports from the HQ AIR Engineering Quality Assurance Team, together with 1st Party Assurance Reports from the units themselves. These, with DE&S and Air Total Safety accident and incident reports, will enable the identification of trends, tracking of remedial actions, and indicate where V&SE should implement follow-up actions and assurance staff visits.

Work continues to 'manage down' the legacy fleet of vehicles purchased by the former HQ STC which are supported by the V&SE RO outwith DE&S Project team input. Whilst all vehicles are COTS purchases, and operated and maintained iaw civil legislation and Defence regulations, they do so without a formal Safety Case Report and Hazard Log. Of the 400+ legacy vehicles initially identified, 48 have been transferred to DE&S "ownership", 50 are due to be withdrawn from service in the next 12 months, 30 are being operated at risk under a temporary Safety Assurance Statement and some 300 have been prioritised to have SCRs and HazLogs produced. It is anticipated that this work will be completed by Apr 13.

74. The **Ordnance, Munitions, Explosives Safety Regulator** notes that the TLB has assessed its assurance level for this domain as **Full**. The TLB reported an assurance level of **Substantial** in April 2011, reflecting weaknesses in SQEP and funding for infrastructure maintenance to mandated standards. The Regulator has not seen evidence to demonstrate that these issues have been resolved and therefore believes that **Substantial** remains appropriate.

75. 

Redacted under FOIA exemption Section 26 Defence

Air Command's Response – the Regulator makes valid points regarding weaknesses in SQEP and infrastructure issues which are being addressed. On this basis we would not object to amendment of the assurance level from Full to Substantial.

76. The **Fuel and Gas Regulator** assesses Air Command safety assurance as **Limited**. Air Command incorrectly cites the Fuel and Gas Regulator as the provider of assurance for Fuel & Gas Safety Management, highlighting a fundamental misunderstanding of the TLB's safety management responsibility. Air Command reports that the Fuel Role Office currently has no



dedicated resource charged with the oversight of F&G safety and assurance. Furthermore, Class A1 & A2 observations detailed in DIO infrastructure inspection reports do not receive the correct priority for rectification, leading to badly maintained infrastructure and legislative non-compliance. In addition, there is a concern that high hazard non-compliances identified during inspections do not appear to have been addressed. There is no centralised Air Command prioritised list of significant issues in an appropriate format. The Regulator does, however, recognise that Air Command is working to understand the division of responsibility between it and DIO and the Duty Holder on issues raised with the safety of F&G infrastructure.

Air Command's Response – HQ AIR transferred the major element of its Fuels Role Office (RO) to DE&S to provide a capability which was subsequently withdrawn. It has now had to be reintroduced and an additional post has been created within the Fuels RO. Work has been initiated to understand the F&G hazards held on AIR units and the Fuels RO now receives regular reports from the Regulator to inform this work. A process for managing hazards has been established and the RO is working with units to develop Action Plans, focussing most attention on the higher category hazards. This remains 'work in progress' and additional work is planned to further develop the communication flows between the FGSR, Fuels RO, units and the DIO and to further mature processes and audit trails.

CJO

Self-Assessment by TLB

77. CJO's overall assurance assessment for 2011 – **Substantial**.

78. Structural changes within Defence will see responsibility for the TLB management of risk, assurance and corporate governance transfer to Joint Forces Command (JFC) on 1 Apr. This will therefore be the final report that the CJO TLB will submit.

79. As a TLB our personnel are often required to work in inherently dangerous locations throughout the world. Personnel are continuously exposing themselves to hazardous activities in order to complete the mission at hand. When combined with austere living conditions, extreme variations in weather and arduous physical exertion the risk of injury is high; UK Health and Safety legislation or policy is adhered to where possible. However, in certain locations this is not reasonably practicable. We have developed an Operational Safety policy to ensure that the risks to UK personnel are kept to as low as reasonably practicable (ALARP). For the Permanent Joint Operating Bases (PJOBs) and Operational Theatres (OT) we have become acutely aware that liaison with other governments is vital in gaining a full understanding of risks posed to our personnel.

80. MOD continues to review the wider aspects of Haddon-Cave which will see the regulatory environment evolve. This includes the implementation of the DH concept across the FLCs and TLBs, and the construct of the DSEA. It is unclear at this time where DH responsibilities will lie, and ultimately this will determine the relationship between CJO and Commander Joint Forces Command but progress is being made and the DH concept is gaining considerable traction.

81. HERRICK 14 was the first tour to have zero accidental fatalities, together with a significant reduction of DNBI. This is a positive indicator that the Operational Safety message is getting across and the safety culture on Operations is beginning to produce positive results. It is vital, as transition begins that we identify any additional risks and continue to work hard to mitigate all risk to ALARP.



[REDACTED]

82. The ageing state of our PJOB infrastructure increases the level of risk this TLB holds; investment is needed to ensure that critical failures do not occur. Unfortunately, this year we have had a number infrastructure failings. We continue to monitor the situation and ensure mitigating measures are in place to reduce the risk to ALARP, a number of PR12 Enhancements have been submitted to further reduce the risk.

Crown Censures, Notices and Other Regulatory Interventions

83. Four internal Improvement Notices (two against DSEAR) were issued.

Regulators' Comments

84. **The Air Safety Regulator (MAA)** states that Air Safety does not attract a high profile in CJO's report and, to a degree, this is consistent with a rather more arm's length approach to this field evident in other areas of PJHQ activity. Previous and ongoing aviation SIs and audits of PJOBs are combining to paint a picture of gaps in supervision, lines of responsibility and accountability, and reporting, all of which will merit attention going forward, particularly as changes in transition to new JFC structures and processes are brought into effect.

JFC's Response – The application of the Duty Holder construct across all safety domains in the new TLB is an on-going issue. Work is in hand to better understand the standard FLC model in a joint environment.

85. The **Land Systems Regulator** agrees that **Substantial** is appropriate. There have been significant improvements in embedding safety management and evidence of good practice being implemented. In particular, the appropriate use of the Operational Dispensation process, where there is a need to use equipment outside its defined safe operating envelope; the reporting of incidents; and the use of DLIMS to record and learn lessons.

86. The **Fuel and Gas Regulator** assesses assurance as **Limited**. The TLB's report is weighted towards UK military personnel and does not take into account the actions of UK contractors, foreign contractors and Locally Employed Civilians who support operations. The Regulator is concerned with a lack of information pertaining to deployed fuel and gas SQEP posts and competence and training levels at British Forces South Atlantic Islands (BFSAI). High hazard non-compliances identified during inspections appear not to have been addressed. On a positive note however, visibility of incidents, near misses and short comings is improving as PJHQ now has greater awareness of incident reporting and all spills are now reported within the monthly return to CJO TLB.

JFC's Response

Contractors And Locally Employed Civilians supporting operations – Contractors are required to meet UK standards as per the contract that they are employed under, and SO2 Job BSN now closely monitors contractor safety in conjunction with SMEs from all areas of safety. PJHQ carry out assurance visits to BSN every 6-9 months to confirm that safety management systems and their implementation are suitable.

Deployed Fuel And Gas SQEP Posts And Competence And Training Levels At British Forces South Atlantic Islands (BFSAI) – training and the deployment of SQEP has featured in CESO audits of BFSAI so it is a known issue. A full audit of BFSAI has just been completed by the Fuel & Gas Regulator, so BFSAI now has a clear way ahead for improvement. FLCs will need to co-operate by ensuring their staff are trained prior to deployment.



High hazard non-compliances do not appear to have been addressed – Following the formation of JFC, the approach to F&G management for UK & PJOB Units will follow that of the former CTLB. CESO(JFC) is working closely with FGSR, CESO (CJO) and Units to develop this.

87. The **Ordnance, Munitions and Explosives Regulator** reports that **there** is a long-standing internal Improvement Notice still outstanding where the BFSAI Mount Pleasant Complex is still addressing the lack of an adequate environmental risk assessment. Issues concerning Kandahar Airfield are addressed in the section of this report which covers Air Command.

JFC's Response

BFSAI - Following a recent site visit by the Regulator BFSAI is now clear what action is required and this will be pursued.

DE&S

Performance Assessment

88. The overall assurance assessment for 2011 – **Limited**.

Executive Summary

89. There were no fatalities due to H&S failings within DE&S in 2011. The rate of major and serious injuries stood at 415 per 100,000 personnel at the time of compiling the report. Our target rate is 350/100,000.

90. DE&S were served with the following Regulatory Notices:

- a. One by HSE – to improve the fire alarm/detection/suppression systems underground at Corsham;
- b. Six by MACR on environmental risk assessments/secondary containment around tanks at Oil Fuel Depots;
- c. Four by the Fuel and Gas Regulator requiring the training of personnel as All Arms F&L Managers (F&L Supervisors) or RAF equivalent.

91. DE&S's Delivery Plan to get to SUBSTANTIAL assurance by December 2012 is based on the MOD's Safety Sub-Strategy and highlights the following areas for action:

- a. SQEP – a key issue for DE&S, role profiles/SQEP standards are therefore being developed and will be measured, monitored and, where possible, acted upon in order to maintain SQEP.
- b. Reduction in manpower – which will require DE&S to describe the “red line” in relation to being safe and professional and the action necessary to stay on the right side of this line.
- c. Interfaces with Front Line Commands (FLC) – where DE&S provide effective, adequate and suitable support to FLC Duty Holders; and must work with the FLC to ensure wide learning and improvements from equipment incidents.



- [REDACTED]
- d. Incident investigation – where improvements have been made but more is needed to ensure that immediate and root causes are identified and lessons learnt.
 - e. Safety leadership – DE&S's aspiration is to be an exemplar safety leadership. The Executive Safety Board is leading work to set and implement behaviours on this.
 - f. Communications – CDM wrote to all DE&S staff to send a clear message about his and the Board's commitment to and expectations on safety. A safety communications strategy will build on this.
 - g. The impact on safety of organisational change – CDM has set out his expectations and described the principles which must characterise organisation change. These are: strong leadership; people not process; sensible process; communications; learning from experience; empowering staff to challenge.
 - h. The changing status of DE&S – presents a major challenge to ensure that any further model has suitable safety governance arrangements.

Crown Censures, Notices and Other Regulatory Interventions

- 92. HM Inspector of Mines served a Crown Improvement Notice (CIN) at ISS Corsham in June, relating to suitable and sufficient servicing and maintenance of fire alarm, detection and suppression systems. This CIN has been complied with to the satisfaction of HM Inspector.
- 93. JSCS Bicester – A Fork-Lift Truck (FLT) reversed and struck another FLT injuring the driver. HSE investigated and regulatory action is now closed.
- 94. LS Bicester – Investigation into work related upper limb disorder remains active.
- 95. Six Oil Fuel Depots have been served with Major Accident Control Regulations (MACR) improvement notices. These relate to lack of up-to-date environmental risk assessments and for permeability of secondary containment. Action plans to remediate these are in hand.
- 96. The Fuel and Gas Regulator-served improvement notices on 4 sites (HMNB Clyde, HMNB Devonport, LCS Ashchurch and LS Donnington). In 3 of these 4 cases the reason was that individuals currently managing class 1 installations had not attended the all-arms fuels and lubricants managers course (or its RAF equivalent), despite having received other training. The applicability of this training to civilians is currently the subject of correspondence between DE&S and the regulator.
- 97. In addition, **DSEA Environmental Protection** is aware of an incident at HMNB Devonport that resulted in a discharge of aqueous radioactive waste in June 2011; the Environment Agency deemed this to be a contravention of the Certificate of Approval. The equivalent of a formal warning letter from the Agency to the Naval Base Commander was issued on the 29th November 2011.

Regulators' Comment

- 98. **The Air Safety Regulator (MAA)** states that, unsurprisingly, the DE&S Report clearly identifies the significant issue of SQEP shortages, ranging “from 8% to 65% in some areas and notable concerns relate to airworthiness, Weapons Ordnance Munitions and Explosives (WOME) and Acquisition Safety Environment. The critical situation is likely to worsen as a result of the impact of VERS”. Separately, CoM(Fleet) has reported that, in response to gapping of key safety posts within his organisation, two of his Team Leaders have handed back their letters of



delegation as a consequence of concerns over their ability to deliver safe and professional equipment and services. There is also mounting evidence of inadequate controls in less obvious areas of DE&S business, with an ongoing Service Inquiry into fuel contamination in the Falkland Islands exposing significant shortcomings more generally in the tracking and handling of airworthiness-related commodities. What is less clear is what impact the SQEP shortages across the TLB are having on the wider delivery of safe and professional equipment and services today and how much risk the Department is currently carrying in these areas, questions that, whilst undoubtedly difficult to answer, nevertheless demand prompt attention. On a positive note, although significantly under-resourced, the assurance efforts of the DE&S Airworthiness Team during the period are undoubtedly adding value and continued investment in this area and should be encouraged.

99. The **Defence Nuclear Safety Regulator** agrees with the nuclear element of the report and would support an assurance level of **Substantial**, but has concerns as to what the impact of reduced funding, people and SQEP will have on the nuclear programme in future.

DE&S's Response - The MOD Head of Nuclear Profession has defined the NSQEP Post Requirement and revised the Nuclear Propulsion and Nuclear Weapon Functional Competence Frameworks into a single Nuclear Competence Framework, allowing better definition of the NSQEP requirement. The Submarine Workforce Management Team (SM WMT) is delivering a range of mitigation actions to sustain the civilian MOD-wide NSQEP capability. These include targeted placement of Apprentices, Graduates and Development Posts, development of a secondment programme, movement of staff on a structured basis to minimise the impact of highly skilled staff retiring, succession planning for critical posts and development of a retention strategy aimed at securing SQEP required for the Submarines programme. SM WMT is working to ensure the interim structure supports a safe and professional submarine operating centre, with endorsement already given to immediately recruit against any safety critical vacancies.

100. The **Land Systems Regulator** supports the assessment of **Limited** for its domain. In addition to the points reported by the TLB there have been two instances where a Kestrel mast collapsed resulting in near misses due to an inadequate safety case and lack of training to dismantle the mast. This is also referred to in Army Command's report. The Regulator intends to audit safety management arrangements. This audit will overlap with a proposed audit of Part 3 Safety Cases in DE&S. The Regulator has witnessed inconsistency in the application of ALARP principles, leading to the introduction of equipment (usually UORs) with non-ALARP risks. This will be examined during the Safety Case audit.

DE&S's response – Kestrel training has been revised. All in-service UOR equipment now has a safety case. DE&S has introduced a new corporate safety performance indicator on ALARP in order to drive forward improvement and change behaviour, and first returns are expected in early autumn. DE&S's POSMS and POEMS procedures provide effective guidance to Operating Centres (OCs) responsible for land systems in establishing safety and environment management systems (SEMS). The S&EP Team holds a quarterly meeting to ensure that good practice is shared across DE&S.

101. The **Ordnance Munitions and Explosives Safety Regulator** concurs with DE&S's assessment of **Limited Assurance**. Several concerns (such as shortage of SQEP, FLC support to Equipment Safety Management processes and Accident/Incident root-cause analyses) have been highlighted but the TLB has not offered evidence of how they are being addressed. DM Crombie and DM Glen Douglas have issues over protection levels given to non-explosives workers which have resulted in Improvement Notices. The rationale utilised in their explosives licences has been challenged. The Ordnance Munitions and Explosives Safety Regulator also



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prohibited an activity at DM Kineton due to lack of a Risk Assessment and adequately documented Safe System of Work (SSoW) although no Prohibition Notice was issued. There is a long standing improvement notice in respect of non-compliant explosives storage at DM Longtown.

DE&S response – DE&S will update procedures to better provide advice on how to identify root cause analysis and to better learn lessons across establishments. Actions are in hand to address the non-conformities at DM Crombie and DM Glen Douglas. The risks are being managed via controls on Explosives Licences issued by Inspector of Explosives DE&S. Improvements have been made at DM Longtown and the only issue still outstanding relates to glazing, which is also being managed via the Explosives Licence issued by Inspector of Explosives DE&S. Removal of the Improvement Notice is believed to be imminent.

102. The **Fuel and Gas Safety Regulator** assesses DE&S's assurance level as **Limited**, compared to DE&S's self-assessment for the domain of **Substantial**. FGSR is concerned that some personnel managing installations are not SQEP. In three of the 2011 Improvement Notices, individuals managing Class 1 installations had not attended the All-Arms F&L Managers Course either at West Moors or RAF Halton. The applicability of this training to civilians is currently the subject of correspondence between DE&S and the Regulator. In addition, there are some areas of legislative non-compliance.

DE&S response - 2 sites have had the Improvement Notices lifted, and discussions are ongoing with the Regulator to agree the necessary actions to have the other 2 notices lifted. On DSEAR, DE&S have undertaken a baseline collection exercise to inform the paper the DIO will submit to the DIB in the autumn.

103. The **Maritime Regulator** supports the TLB's assessment of **Limited** assurance: DE&S has not met its targets for its safety performance indicators, and in both ASE and OHSE audits, the common weaknesses identified in previous years still persist. SQEP is recognised as a key issue specifically flagged as a main issue in the DShips, DSM and Naval Base operating centres. In various areas, the report points to a reliance of DE&S staff on regulators and policy offices to make up for shortage of SQEP in project teams and operating centres. There are also concerns about control of contractors in the Naval Bases and during maintenance onboard vessels (raised as a significant theme in the submarine area).

DE&S response – DE&S have introduced new more targeted Safety Indicators to drive forward improvement and to change behaviour, with first returns expected August 2012. Issues relating to control of contractors are well recognised and D SM is working to preserve its own indigenous capability to deal proactively with these issues against the back drop of the DE&S head count reductions that need to be achieved by 2015. More assurance will be provided through targeted audit activity. On a wider front 1SL has also put out a clear edict as regards safety and the priority this must take in all that Fleet undertakes. A more targeted activity is the 'taking time out for safety' initiative in DE&S and the dockyards and 'tool box' sessions being held with dockyard workers and at ship builders. Training has also been significantly enhanced at Clyde and Devonport through the introduction of mandatory 'passport' training and annual re-qualification. COMF has just commissioned an independent Maritime Safety Study by a team of 6 senior industry and ex-MOD experts to assess safety in the Ships and Submarines Operating Centres.

[REDACTED]

CENTRAL TLB

Performance Assessment

104. CTLB's overall assurance assessment for 2011 – **Limited.**

Executive Summary

105. The CTLB Annual SHEF Report has been compiled based on year-end inputs from the various CTLB Business Units combined with assurance data gathered by CESO(CTLB) throughout 2011.

106. All HLBs/SABUs/Agencies now have at least four SHEP objectives in their Business Plans. Not all have translated those high level objectives into SMART action plans but collectively, those Business and Action Plans form the TLB's SHEF plan.

107. Roles and responsibilities for SHEP are generally well documented in HLB/SABU/Agency SHEP Management System documents, but not all HLBs/SABUs/Agencies have adequately documented their approach to managing SHEP. Lack of clarity over respective Head of Establishment/Defence Infrastructure Organisation roles and responsibilities remains a risk across the TLB.

108. At the end of November only 76% of CTLB SQEP posts (those with specific safety roles identified in their Letters of Delegation or terms of reference) were filled with SQEP people leaving some units without ready access to competent advice. The CESO(CTLB) team has been fully staffed throughout most of 2011 and has been called upon to cover these gaps. The CESO(CTLB) team has continued to deliver IOSH accredited training with 52 senior managers and 98 line managers attending courses.

109. The top risks reported in last year's CTLB report remain much the same this year albeit with some minor changes in the risk ratings. The year has seen improvements in the management of CTLB road safety risks and the commencement of a TLB-wide Stress Project. More Units have reported the risk from unclear HOE/DIO interfaces as a 'red' risk this year.

110. A quarterly performance matrix was used to monitor SHEF performance through the year. This was based on HLB/SABU/Agency self-assessment and CESO assurance data gathered during audits, advisory visits and routine interaction with CTLB business units. The matrix focuses on MOD SHEF objectives and key risks identified by the DESB and by HLBs/SABUs/Agencies.

111. CTLB has implemented formal Environmental Management Systems on all of its sites. Good energy management resulted in the TLB making a significant contribution to the Prime Minister's 10% carbon reduction commitment.

112. Six CTLB SHEP audits were completed with mixed results; some auditees showing improved compliance, others showing deterioration from previous assessments. Main areas for improvement are in senior managers' active involvement in promoting a positive SHEP culture, SHEP planning, performance measurement and review. Over the previous three years average has reduced from 78 to 73%.

Crown Censures, Notices and Other Regulatory Interventions

113. RM Poole - Jun 2011. The Improvement Notice was for DSEAR Risk Assessments to be completed for the Motor Transport Fuels Installation (MTFI) and for upgrades to the fuels interceptors at the Landing Craft Base (LCB).



114. Shrivenham – Feb 11. The Improvement Notice is for a lack of DSEAR Risk Assessments.

115. Credenhill – Sep 11, The Improvement Notice is for a lack of DSEAR Risk Assessments.

116. Pontrilas – Sep 11, The Improvement Notice is for a lack of DSEAR Risk Assessments.

Regulators' Comment

117. The **Land Systems and Ordnance, Munitions and Explosives Regulators** note that CTLB has not considered land systems or Ordnance Munitions and Explosives in its Assurance Report even though Special Forces (SF) are part of the TLB. The Regulators have no visibility of SF safety arrangements and will engage with DSF during 2012 to establish a regulatory relationship with them.

118. The **Fuel and Gas Regulator** assesses CTLB as achieving **Limited** for its domain. The FGSR is concerned that with an otherwise excellent (100%) occurrence of Environmental risk assessments and H&S risk assessments, unit records indicate that infrastructure inspection A1 and A2 observations have not been afforded the correct priority for rectification, leading to badly maintained infrastructure and legislative non-compliance. Additionally, DSEAR non-compliance has resulted in unit level Improvement Notices. It is however noted that CTLB is working to resolve this issue through the co-operation between units and DIO. In addition there is concern that high hazard non-compliances identified during inspections appear not to have been addressed. Although overall SQEP in the TLB is declared as 76%, FGSR records show that this is 50% in F&G related activities.

DIO

Performance Assessment

119. DIO's overall assurance assessment for 2011 – **Substantial**.

Executive Summary

120. Consideration of the impact on safety and EP relationships with user as a result of the transformation from DE to DIO and changes to the business scope has remained a challenge in year. This will continue to be the case as phased transition continues into 2012. Although much has been achieved and we are able to provide an overall Substantial assurance rating, there are some areas of concern. Maintaining statutory and MOD-mandated requirements remains a priority. We are aware of issues surrounding the condition of explosive and fuels and gases infrastructure, for example, and working to address them.

121. Specific achievements or successes include:

- a. The development of the MOD Gas Safety Case (the exemplar) and HSE endorsement; progress with site Gas Safety Management Plans which will, for the first time, secure compliance with the Gas Safety Management Regulations.
- b. Strengthened relations and closer working with organisation that will form the proposed DSEA and the TLB stakeholders as DIO has taken forward the Joint Study into the future management of SHEP arrangements.

[REDACTED]

122. The SHEP challenges faced by DIO range across the operational, technical and personnel scope of the business. In brief the principal challenges are:

- a. DIO Transformation. Responsibility for the delivery of MOD's estate infrastructure and Soft FM is being progressively transferred to DIO. There is a potential for misunderstanding amongst Users of the impact this has on DH and SHEP responsibilities. The DIO/DBR Joint Study and the CESO Working Group is being used to discuss issues and is working to provide agreement over processes for controlled transfer of roles and responsibilities.
- b. Governance Authority. The establishment of the DSEA should provide MOD with an opportunity to address perceived weaknesses in the functional safety authority areas that relate to estate infrastructure domain. The DESB commissioned DBR/DIO Joint Study recommends a single governance authority within MOD for Infrastructure Domain safety, health and environmental protection. Establishment of the necessary structures and adoption of roles can be undertaken using current staff resources.
- c. Dangerous Substances and Explosive Atmospheres Regulations (DSEAR). Historic non-compliance and an unresolved debate about funding responsibility for DSEAR remains an issue, particularly for fuels storage and dispensing facilities and indoor MOD firing ranges. A joint DFG/DIO workshop was held with representatives from all stakeholders. A revised JSP 375 Leaflet 56 has been drafted and circulated by DBR to the TLBs for review and comment. Funding is to be made available for the Industry Partner to develop a programme for DSEAR implementation on the Defence Training Estate where DIO is Head of Establishment.
- d. Suitably Qualified and Experienced Personnel (SQEP). The VERS process is beginning to have an impact on DIO's SQEP for the estate Infrastructure Domain. Approximately 26.5% of SQEP posts were gapped as at 1 Nov 11, a moderate increase from 21.6% on 31 Mar 11. The need to give priority to transformation support for the Next Generation Estates Contracts and other transformation activities has had an impact on DIO assurance activity. However, revised business processes brought about by DIO transformation should enable the remaining SQEP to be more effectively employed. The DIO CESO Team will continue to monitor the situation.
- e. Natural Gas Safety. MOD is making progress towards compliance in respect of the notification from the HSE in 2007 that the Gas Safety (Management) Regulations (GS(M)R) applied to MOD owned gas networks. The first step, a MOD Gas Safety Case, has been completed and the HSE formally gave approval to this on 27 Sep 11. The majority of site-based GSMPs Parts A and B are underway for Regional Prime Contract managed areas. 16 have been completed, 6 surveys are complete but awaiting detailed documentation, and we await the completion of surveys at 45 sites. Significant further progress expected by Jan 12. The remaining area will have surveys undertaken and part A & B completed by Sep 12. Further work is required to establish the requirements for GSMPs for sites in transition that were previously managed by other TLBs and to develop an implementation plan.
- f. Electrical Power Safety. A DBR sponsored review identified issues with electrical power safety, resilience and availability across the defence estate. DIO PTS has prepared a project and resource plan to address the identified shortcomings. Work has started on five of the six work streams identified in the report.
- g. Pollution Prevention (ground water contamination from infrastructure). The legacy of underinvestment in buried fuel pipelines and district heating systems has manifested itself in

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leaking systems and the fracturing of corroded pipes. A Fuel Infrastructure Risk Mitigation (FIRM) Strategy has been produced. This uses evidence from a Fuel Infrastructure Asset Assessment which identified sensitive sites where failure in infrastructure would have the greatest impact on the surrounding environment.

123. MOD Safety Strategy. The main risk to DIO for achieving compliance is the potential for disruption caused by the transformation from DE to DIO. Although statistics strongly suggest that DIO is safe and compliant, DIO's progress in maturity against the model will be slower than desired. DIO will however keep its Safety Strategy Delivery Plan under continuous review and prioritise and allocate resources to make progress.

Crown Censures, Notices and Other Regulatory Interventions

124. DSEA is aware that a warning letter was received from Natural England in November 2011 for degradation of a registered Site of Special Scientific Interest (SSSI) and Special area of Conservation (SAC) at Netheravon airfield.

Regulators' Comment

125. The **Fuel and Gas Regulator** assesses the DIO TLB's safety assurance for this domain as **Limited**. The main areas of concern include a lack of information about F&G SQEP posts, concern that high hazard non-compliances identified during inspections appear not to have been addressed and that Class A1 & A2 observations detailed in the DIO infrastructure inspection report continue to not be afforded the correct priority for rectification, leading to badly maintained infrastructure and legislative non-compliance.

DIO Response –

Lack Of Information About SQEP Posts - DIO have now provided the necessary information.

High Hazard Non-Compliances Identified During Inspections Not Addressed - Review of all F&G Safety Inspection reports has been conducted and all 'non-compliances' have been identified and recorded on action plans. These actions are being monitored to ensure that issues raised are closed out in a timely fashion. Progress on rectification/closeout of actions will be reported to the Regulator quarterly.

Class A1 & A2 Observations Not Afforded Correct Priority For Rectification - A Fuel Infrastructure Risk Management Strategy Project Implementation Plan has been developed which will take forward the recommendations contained in the Fuel Infrastructure Risk Mitigation (FIRM) strategy. This will include reviewing identified defects to ensure they are assigned the correct priority.

DSTL

Performance Assessment

126. Dstl's overall assurance assessment for 2011 – **Substantial**

Executive Summary

127. This has been a very busy year for SHEF in Dstl, with many achievements moving us towards an increasingly proactive safety culture. We have continued to consolidate processes for working with hazardous materials (chemicals, biological materials, explosives etc) with the full cooperation, and involvement, of the staff. The numerous and often conflicting Site/Department

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based SHEF procedures have now been replaced with a united set of eleven coherent processes within 24 intranet pages on the Management System. Staff can now find specific advice within two or three mouse clicks, with each process following our principles of being relatively light touch, yet being comprehensive enough to support the dynamic nature of our activities with these high hazard materials.

128. We have continued to develop the Function in line with the vision of becoming the Trusted Partner to the areas of the business we support. This approach has been adopted by other Functions within Dstl. The trusted advisor concept is starting to pay dividends for the way that the rest of the business perceives SHEF, increasingly seen as helpful providers of advice rather than gatekeepers.

129. Finally we have continued to develop our environmental management system through achieving certification of the Porton Down site to ISO 14001 with the external accreditation authority, identifying some examples of good practice. Maintaining the Certification requires the organisation to demonstrate continual improvement and is not simply doing what we have always done. Certification of all three core Dstl sites has been the culmination of a three year project.

Crown Censures, Notices and Other Regulatory Interventions

130. EA Intervention in April 2011.

131. Defence Fire Risk Management Organisation Fire Advisory Notice December 2011.

Regulators Comments

132. Dstl include reference to a single intervention by the Environment Agency in April 2011 within the report. The intervention was issued following Dstl exceeding its Nitrogen Oxide emissions limits on the incinerator Dstl operates at Porton Down. Investigation traced the problem to incorrect labelling and packaging of material sent to the incinerator of a type of material which incinerator staff are not allowed to check or sample to confirm content. The waste process is being changed to address this and ensure that the problem does not recur.

DEFENCE SUPPORT GROUP (DSG)

Performance Assessment

133. DSG's overall assurance assessment for 2011 – **Full**.

Executive Summary

134. DSG has had an extremely busy year in terms of supplying UOR equipment to the front line, supporting the front line in Camp bastion, with a permanent DSG presence of over 100 personnel, and the transfer of the LCS Ashchurch vehicle depot operation into DSG. All of these additional activities, along with day to day operations placed a higher emphasis on management of risk to ensure safety of personnel and equipment was not compromised.

135. DSG had previously used BSI and LRQA as third party certification bodies, for the Land and Air operations respectively. Following open competition, LRQA were the successful bidder and undertook a round of audits across DSG from August 2011 to October 2011. The audits covered three standards, ISO 9001:2008, ISO 14001:2004, BS OHSAS 18001 and aerospace derivatives AS9100 Rev C and AS9110 Rev A for DSG Sealand only.



136. Although DSG was recertified to all 3 Standards, the LRQA findings were seen as an opportunity to improve the BMS across DSG, addressing the identified weaknesses and reinvigorating training programmes and self-monitoring activities across all departments. As a result of this activity, the incident statistics for DSG have fallen (for the fifth year in a row), in particular, a 30% decrease on RIDDOR reportable incidents and an 80% decrease in Major incidents, whilst increasing the number of near misses reported against 2010.

137. Following on from 2010's report, DSG had received an improvement notice from the HSE for working at height activities, which was subsequently lifted. The HSE have been in contact throughout the year to monitor progress against the additional improvements DSG specified as part of the notice removal. The monitoring concluded at DSG Warminster at the end of October with the visit of two inspectors. They reviewed DSG's risk management processes and working at height arrangements. They were shown the MOD system through JSP's 815 and 375 and the newly purchased working platforms around vehicles and closed the issue content with DSG's controls.

138. There have been no significant environmental issues in 2011 and all consents and permits have been renewed without issue. Where possible, waste is reused or recycled and DSG has exceeded the waste targets set for the MOD. Energy continues to be monitored to identify opportunities to reduce the carbon footprint, taking into account additional UOR workloads.

Crown Censures, Notices and Other Regulatory Interventions

139. Nil.

Regulators Comment

140. There were no specific regulators' comments.

HYDROGRAPHICS OFFICE

Performance Assessment

141. UKHO's overall assurance assessment for 2011 – **Substantial**

Executive Summary

142. A previous audit report undertaken in 2009 under the Director of Business Resilience raised a number of recommendations which resulted in an assessment of Limited Assurance.

143. This report demonstrates how these specific concerns have been addressed over the past two years and how the department has increased its maturity, fully justifying the current rating of 'Substantial Assurance'. Some elements of the maturity matrix are now at the 'Full Assurance' level (Recommendations from the 2009 DSAS report together with mitigation are shown below).

144. The UKHO is predominantly an office based environment with print production; finishing and warehouse facilities (numbering approximately 200 staff) being concentrated in one building. The UKHO has a total of 13 inhabited buildings with an approximate total working floor space of 32,000m².

145. Safety at the UKHO runs on a policy based management system which is in tandem with JSP 375; however, the UKHO has aspirations towards attaining accreditation for both OHSAS18001 & ISO14001 to run alongside their existing ISO9001 accreditation. This is important for the UKHO due to the commercial and outward facing nature of a trading fund agency, taking

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full advantage of the flexibility this status provides. The UKHO has secured the services of LRQA to conduct a gap analysis which was completed in February 2012, with a medium term view to attaining full accreditation later in the year dependant on budget approval. The gap analysis fully supports this self assessment.

146. Fire risk management is provided via a contract with DEFENCE FIRE RISK MANAGEMENT ORGANISATION - Fire Safety Management Plans are frequently reviewed and updated by the Defence Fire Risk Management Organisation, changes are notified via FM and/or S&EP.

147. The UKHO has implemented a specific SH&EP training plan which includes a number of courses in partnership with CIEH (Chartered Institute of Environmental Health), these courses are accredited by Ofqual and include; H&S in the Workplace; Manual Handling Principles & Practice; CoSHH; Fire; Risk Assessing to name a few. The Senior S&EP Advisor is a qualified registered trainer with CIEH; all relevant staff who attend are assessed up to at least Ofqual level 2 or 3, all courses are delivered internally and are bespoke to include UKHO practices. A dedicated training room has recently been sourced and fitted with projection equipment which has proved particularly successful.

148. The UKHO attained a RoSPA Gold award for achievement in 2011 and is entering another submission in 2012. This was an improvement from the Silver award obtained in 2010 which was the UKHO's first application.

Crown Censures, Notices and Other Regulatory Interventions

149. Nil.

Regulators Comment

150. There were no specific regulators' comments.

SAFETY SUB-STRATEGY GOALS

	1 A Learning Organisation	2 Leadership & Continuous Improvement	3 Competence & Performance Measurement	4 Understanding and Managing Hazards & Risks	5 Recognising, Influencing and Complying with Legislation and Policy	6 Involving People & Effective Communications
Navy Cmd Maturity Level Scores	1 ¹	3	1	3	2	3
Army Cmd	4	3	2	3	2	3
Air Cmd	2	2	2	1	1	2
CJO	3	3	2	3	3	3
DE&S	2	3	2	3	3	3
DIO	2	2	2	3	3	3
DSTL	3	3	3	3	4	3
DSG	3	4	3	3	Not given	4
UKHO	4	4	4	4	4	4

¹ The scores throughout the table represent the **minimum** score reported to the TLB/TFA for that Goal.