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# Introduction

The DSA was established by a Charter issued by the Secretary of State for Defence empowering it as an independent regulator and investigator for Health, Safety and Environmental Protection (HS&EP) in Defence. It contributes to Defence capability, reputation and effectiveness through the setting and enforcement of Defence Regulations for HS&EP, and supports the Ministry of Defence by providing independent, evidence-based HS&EP assurance and investigations.



This is the DSA's ninth Annual Assurance Report (AAR), which covers the period 1 April 2022 to 31 March 2023. It provides the Secretary of State for Defence with independent assurance that Defence's policy for HS&EP is being adequately promoted and implemented. Across the Defence Organisations, I am pleased to see a positive shift in health and safety leadership culture, evidenced through greater focus on the introduction of health and safety initiatives and priorities. It is noted that many of these initiatives will take time to embed and generate value for Defence, and I hope that improvements will continue to be evident in next year's AAR. There is still a great deal of work to be done to progress Defence's implementation and understanding of Environmental Protection policies, but with concerted effort and focus, I am confident that Environmental Protection governance and culture will in time mirror that of health and safety across Defence.

It is concerning to report a significant rise in H&S related deaths during this reporting period, from two fatalities in each of the four preceding years, to nine fatalities this year. These fatalities are at the fore of the DSA's ongoing investigations, and their completion will provide an explanation of the causes, which will enable us to produce effective recommendations to mitigate risks in the future.

The DSA has significantly improved its ability to collect, process and respond to an ever-growing safety intelligence picture. This has introduced greater rigour into the AAR process and enabled emergent themes to be identified and analysed earlier – and responded to more dynamically – throughout the reporting period. As a result, the DSA can analyse the root causes of themes of concern, and support Defence in achieving safer and more environmentally responsible outcomes. The two greatest areas of concern are shortfalls of Suitably Qualified and Experienced Personnel (SQEP) and deficiencies in HS&EP governance. Ensuring we have the correct SQEP and HS&EP governance structures in place will be integral to Defence's efforts to improve its future application of, and compliance with, HS&EP regulation and policy.

Air Marshal Steve Shell CB OBE MA RAF  
Director General  
Defence Safety Authority

29 September 2023





# Section 1 – Executive Summary

## Overall Assessment

The purpose of the Annual Assurance Report (AAR) is to provide an independent assessment of the Department's performance with regards to implementing Defence's Health, Safety and Environmental Protection (HS&EP) policies. This assessment will provide the Department with a benchmark against which to measure progress, understand trends and identify HS&EP issues that need to be addressed. It provides assurance levels for each of the Defence Organisations as well as each Regulatory Domain.

### **Overall, Defence's assurance levels remain on a positive trajectory.**

Despite some continued challenges, highlighted as themes in this AAR, there have been notable improvements in HS&EP across most Defence Organisations and regulated domains during this reporting period, demonstrating a generally positive trajectory. For most, this has been insufficient to progress to the next assurance level, but this should not detract from efforts across Defence to improve the application of HS&EP policy. Further improvement in assurance levels can be achieved by addressing HS&EP deficiencies outlined in this report.

For Defence Organisations, assurance levels remain unchanged compared to the 2021/22 AAR, except for a notable increase that has been observed within the Army. Improved health and safety leadership, governance and culture has contributed to an increase in Army's assurance level from LIMITED assurance in the 2021/22 AAR to SUBSTANTIAL assurance in this year's report.

From a domain perspective, the Aviation, Land, Maritime and Ordnance, Munitions and Explosives (OME) domains continue to report SUBSTANTIAL levels of assurance; Environmental Protection (EP) remains unassessed for this reporting year; Nuclear is reported separately at a higher classification; and Medical remains at LIMITED. Across the Fire domain, significant improvements have resulted in an increase from LIMITED to SUBSTANTIAL assurance in Fire Safety, with Fire & Rescue remaining at LIMITED.

## **Performance and Governance of Health, Safety & Environmental Protection in Defence (Section 2)**

### **Audit, Investigation and Enforcement**

During reporting year 1 April 2022 to 31 March 2023, there were nine safety-related fatalities, a significant increase from two fatalities in each of the previous four reporting years. All nine fatalities are subject to open Service Inquiries (SI), the results of which are expected to provide explanation towards this increase. Provisionally, the impacts of the COVID-19 pandemic and gradual reduction in operationally ready, experienced service personnel following conclusion of

Operation HERRICK, as well as poor assessment and management of risk, may prove to be the most significant contributory factors.

In 2022/23, the DSA convened nine Service Inquiries and seven Non-Statutory Inquiries (NSI)<sup>1</sup>, including an inquiry run jointly with the French Accident Investigation Bureau for State Aeronautical Safety. Three Service Inquiries were finalised during the reporting period; these included the alleged exposure of UK Defence Personnel to asbestos, a fatal night firing accident at Castlemartin Training Area and the Loss of a Hawk T Mk1 XX189. Additionally, the DSA published an interim SI report on the open investigation involving the F-35B ZM152 on HMS Queen Elizabeth. The DSA also completed two Non-Statutory Inquiries, one to investigate a grenade casualty in Warcop Cumbria, and the other to review Ajax safety.

In addition to statutory external enforcement, internal enforcement action can be issued by Defence regulators when responding to a significant non-compliance or hazard which, if left unaddressed, could impact upon safety, cause environmental damage, or place personnel and operational capability at risk. The DSA concluded the reporting year 2022/23 with 46 open enforcements, a net reduction of three enforcements from the end of the reporting year 2021/22 (49). Navy and UKStratCom accounted for 64% of all open enforcement actions at year end. A significant proportion of enforcements were related to infrastructure concerns, most commonly due to fire safety compliance and oil water interceptor maintenance issues.

## **Governance of HS&EP in Defence**

**Structure and Boards.** The DSA has continued to observe ineffective implementation and operation of the HS&EP element of the Defence Operating Model. Significant deficiencies have been reported in three key areas of the Defence Safety and Environment Committee (DSEC). Firstly, regarding administration, DSEC meetings have repeatedly been postponed or shortened, and agendas have been developed with a lack of strategic coherence. Secondly, attendance has been poor. Whilst some Defence Organisations have prioritised correct attendance from their most senior executive, several have either failed to send a representative or have sent a representative at a much lower level and from non-HS&EP related functional areas. Thirdly, risk management needs to be improved. There remains a lack of clarity regarding the DSEC's role in the discussion of risk and how this contributes to the work undertaken by the risk owners at Four-Star level. In addition, lines of accountability for risk management are sometimes conflated, particularly across joint operations and cross-cutting services; in these circumstances, effective risk escalation and resolution processes could be more robust. If addressed, the DSEC would provide a robust high-level cohering function and a gateway to the Defence Board for pan-Defence safety and environmental issues, for which it was designed.

**The Annual Assurance Report.** For the first two months of this reporting period the DSA had three AARs underway, primarily due to latency in the Departmental sign-off process. This included one report awaiting approval to publish, another report in production and initiating letters for the third report awaiting approval. Delays to publication do not wholly prevent remedial activity, but late publication calls into question the utility of the report and the

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<sup>1</sup> As a matter of law, Defence is required to investigate the death of a person subject to Service law. An NSI is a discretionary investigation into any safety-related occurrence in which Defence feels anything of consequence may be learned and which may prevent recurrence.

effectiveness of corporate functions. Whilst awaiting approval to publish, the 2021/22 AAR was included as an agenda item at Defence Audit and Risk Assurance Committee (DARAC) in November 2022 to discuss two key themes: suitably qualified and experienced personnel (SQEP) and Fire. The DARAC recommended the Defence Board discussed these findings further, but to date this has not been taken forward and the 2021/22 AAR has received no discernible attention at senior levels in Defence. This does not mean action has not been taken elsewhere across the First and Second Lines of Defence, but greater impetus from senior levels would almost certainly drive more focussed activity.

**Environmental Protection (EP).** Defence's understanding and application of EP remains embryonic, with some safety-related elements taking precedence, particularly in discussions around novel approaches, issues and concepts at DSEC level. In addition, outdated and incomplete policy limits the Defence Environmental Protection Regulator's (DEPR) baseline, from which regulatory gaps are identified and assurance is conducted. However, it is recognised that policy development will be a priority with the shift of directorate responsibility for EP to the Directorate of Levelling Up, The Union, Climate Change and Sustainability (D-LUCC&S), and a programme of updates will be pursued at pace to address this gap. The DSA continues to work with key stakeholders to take this forward.

**Function.** The Directorate of Health, Safety & Environmental Protection (D-HS&EP)<sup>2</sup> has committed to a Functional 'pathway to SUBSTANTIAL assurance' to address priority areas of safety concern including workforce planning. Notably, improvements to pan-Defence safety and environmental reporting systems and culture has been partially addressed following the introduction of the Defence Unified Reporting and Lessons System (DURALS). In March 23, all DSEC members committed to transferring their current reporting systems as soon as practicable. Additionally, existing Second Line of Defence Functional Review assurance resource within the D-HS&EP will be redistributed to focus on cohering pan-Defence HS&EP risk management, which is aimed at initiating a consistent approach across Defence.

**Policy.** The DSA and the D-HS&EP are acting more synergistically to ensure that safety and environmental policy is being owned and managed appropriately across Defence. The publication of the Defence Safety Management System (SMS) Framework within Part 1 of JSP 815, and SMS Guidance as a beta version in JSP 815 Part 2, is a significant step forward. In particular, JSP 815 Part 2 incorporates policy previously set out in DSA 01.1 and 01.2 documents. Its publication concludes the transfer of policy from the DSA to the D-HS&EP and it is expected that this will markedly improve clarity around HS&EP policy across Defence. It is of note that the D-HS&EP has also published a new Defence Environmental Management System (EMS) Framework within Part 1 of JSP 816, whilst JSP 816 Part 2 (EMS guidance) is currently in development and will be published early during the 2023/24 reporting period. Further development of information flow between the D-HS&EP and the DSA, better functional approaches to risk oversight, and improved utilisation of the DSEC should be prioritised to improve the management of HS&EP across Defence.

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<sup>2</sup> On 01 June 2023, the D-HS&EP and HS&EP Function were renamed the Directorate of Defence Safety (DDS) and Defence Safety Function respectively. This change was made to align with the organisational transfer of EP responsibilities to D-LUCC&S. DDS retains responsibility for the professional development aspects for environmental protection professionals (training, competences and career pathways) under the Safety and Environment Profession.

### Defence Organisation Health, Safety and Environmental Protection Assurance (Section 3)

This section is informed by a variety of inputs which enable a holistic assessment of Defence Organisations’ level of HS&EP assurance: information from the DSA and the D-HS&EP augment self-assessments from across the Defence Organisations. The overall assurance assessments for each Defence Organisation are shown below in Table 1-1. The levels of assurance are categorised as: Full (F), Substantial (S), Limited (L) or No Assurance (N).

Defence Organisation													
Navy Command	Army	Air Command	UK Strategic Command	Defence Equipment & Support	Defence Business Services	Defence Science & Technology Laboratory	Defence Electronics and Components Agency	Defence Infrastructure Organisation	UK Hydrographic Office	Oil & Pipelines Agency	Defence Safety Authority	Head Office	Ministry of Defence Police
S	S	S	L	S	S	L	S	L	S	S	S	L	S

Table 1-1 – HS&EP assurance assessment of Defence Organisations

Key observations from across the Defence Organisations were:

There have been significant improvements to the organisation’s ‘tone at the top’, with greater emphasis made on the need for strong safety leadership, better HS&EP governance and an overall improvement to HS&EP related attitudes, behaviours and cultures. Notably, this has been realised in the development of more effective support structures, including the recruitment of competent HS&EP advisors across HQs and greater examples of reasonable challenge being enacted at platform/unit level.

The importance of effective near miss, incident and accident reporting systems, and associated cultures, has long been recognised across Defence, but it is currently siloed and needs greater coherence. The lack of use of a single HS&EP reporting system across Defence has negatively impacted the consistency of reporting, whereby the threshold for reporting certain events, for example near misses and injuries, can vary significantly. Recognition of this issue resulted in unanimous commitment by members of the DSEC to implement DURALS across their respective organisations, with some caveats relating to transition.

Lack of SQEP to carry out vital health and safety roles is highlighted as a safety critical issue resulting in significant gaps across both the Regulators and Regulated Community. Crucially, private sector companies are able to outcompete Defence through the provision of more competitive salaries and greater employee benefits. The resulting shortage of SQEP extends across all Defence Organisations and Functions, with marine and air engineering demonstrating notable gaps, this is further compounded by an ever-increasing tempo of activity, the implementation of new technologies requiring technical skills, and the management of legacy equipment.



Safety across the Defence estate continues to be adversely impacted by inadequately maintained and aging infrastructure. Previously, a fix-on-fail approach to maintain estate infrastructure, compounded with substantial underinvestment, presented issues with addressing a number of challenges to deliver an estate that meets legal, regulatory and policy requirements. With the transition to the Future Defence Infrastructure Services contracts, Defence is working closely with its delivery agents and industry partners to ensure more robust contracts and performance management mechanisms are in place to improve safety and reduce risk while the estate infrastructure maintenance moves to a pre-planned regime. To ensure the estate is fit for the future, safe and compliant, a programme with additional funding has been put in place to address identified health and safety risks. In addition, more investment has been prioritised to improve the condition of the estate. The challenge ahead is significant and the outcomes of this additional investment and pre-planned maintenance regime will need to be monitored closely through robust assurance and governance. In the meantime, and in a few cases, closure of infrastructure through the administration of enforcement action has led to capacity issues where alternative sites are then required to increase levels of activity to address the shortfall. In turn, this may increase levels of operating risk and shift pressure onto areas that may already be operating above normal capacity.

The management of healthcare continues to require improvement. The governance in Defence Primary Healthcare should be applied consistently across Defence to ensure reliable high-quality care; for example, to address the lack of alignment of risk management processes across Army Healthcare. This includes insufficient understanding of risk ownership and complex escalation pathways that are inhibiting the development of a collective picture of healthcare risk across the Land domain. Similar issues were found during inspection of Pre-Hospital Emergency Care in British Forces Cyprus which highlighted significant deficiencies in effective organisational systems. In addition, the Royal Fleet Auxiliary was assessed to have NO ASSURANCE relating to delivery of healthcare. More specifically, Defence Mental Health Services is currently subject to an Improvement Notice following the identification of several risks across the single Services which require concentrated, organisationally driven progress to address.

## **Domain Safety and Environmental Regulatory Assurance (Section 4)**

It is the duty of the Defence Regulators to maintain, promote, assure compliance with, and when necessary, enforce Defence regulations; as well as promote an engaged HS&EP culture. There are eight regulatory domains in total – Air, Maritime, Land, Nuclear, Fire, Medical Services, Environmental Protection and Ordnance, Munitions and Explosives – each with a corresponding regulator. Each regulator provides an assessment of how compliant Defence is with statutory legislation, Defence policy and regulation sets through the production of an annual report on their respective domain.

### **Regulator Activity**

**Overview.** As Defence transitions out of the COVID-19 pandemic, the Regulators have focused on the following key activity during the reporting period:

- Increased provision of risk-based audits and inspections through a combination of virtual and physical engagement, returning to near pre-pandemic levels of operation. They have

had to prioritise the activity of their assurance capacity – impacted by a lack of SQEP – with increased tempo of activity within the Regulated Community.

- Prioritisation of work strands to enhance, simplify and streamline regulation sets and ensure relevance for innovation. This has introduced greater clarity for the Regulated Community; although there is still more work to do.
- Greater emphasis on delivering education and training to their respective Regulated Communities to supplement conventional audit and enforcement operations. Concerningly, despite this step change, regulators continue to note a lack of understanding of HS&EP across many areas of Defence that will need to be addressed.

**Environmental Protection.** The Defence Environmental Protection Regulator (DEPR) enters its first year as an independent DSA Regulator; for the first time, EP in Defence was the subject of assurance by DEPR which focused on developing an initial exploratory assessment of Defence's EP culture. It found that in general, behaviours, attitudes, practices, and knowledge are lacking with respect to environmental compliance, most evident amongst Defence's senior leadership levels and forums. Despite this, there were several good examples of effective practices and expertise at all levels. DEPR's risk-based assurance activity, and coordination with the DSA Regulators, will improve further over the next reporting period, with expectations that it will deliver a more comprehensive assurance picture of EP across Defence in the reporting year 2023/24.

**Certification.** The assurance landscape continues to grow in complexity because of an accelerated adoption of emergent novel technologies, driven by the Integrated Review and emerging conflict in Europe. This has generated a gap, which is particularly notable within Defence Organisations that are new to Land Environment capability delivery. It is also evident in the Maritime domain, where the UK's considerable programme of ship and submarine building has increased the requirement for delivery of associated support and facilities, including increasing demand for certification services. Across almost all other regulated domains, this concern extends to the management of equipment design, manufacture and maintenance, and in particular, management of safety cases, equipment challenges with legacy vehicles/maritime platforms and, in some instances, temporary safety management processes being in place for a number of years. Consequently, Regulators have increased certification activity to support the growing demand for adoption of novel technologies, but this needs to be matched by users' clear understanding of context and judgement of risk balance at an earlier stage in the procurement cycle.

## **Defence Health, Safety and Environmental Protection Themes (Section 5)**

All themes identified in this AAR are linked in one way or another to what has been described throughout this year's reporting as an increase in tempo. In the context of HS&EP, reports of increasing tempo compound many of the other issues already facing Defence, thereby increasing risk, reducing compliance, and in some cases exacerbating other HS&EP themes and introducing new ones.

This report includes a significant expansion of the HS&EP themes identified in the last AAR:

- **Existing themes.** Carried over from last year and with little demonstrable progress, the core themes of SQEP, fire safety, assurance, emergent and transformative technologies, infrastructure management, and hazardous materials persist. Each has a considerable update and requires greater focus this year.
- **Emerging themes.** Emerging themes this year include risk management, digital, data and automation, contract management, EP culture, and mental health and wellbeing. These will continue to be monitored throughout the next reporting year.

Each of these themes are inter-related. Together, they present a nexus of inter-connected relationships that can either negatively or positively affect other themes. To improve safer outcomes, preserve operational capability and protect the environment, each one should be addressed but with a specific focus on the existing themes that have been highlighted in successive AARs.

# Section 2 – Performance and Governance of Health, Safety & Environmental Protection in Defence

## 2.0 – Section Scope

This section provides an overview of Health, Safety and Environmental Protection (HS&EP) performance and governance in Defence during the period 1 April 2022 to 31 March 2023. It covers safety performance, significant inquiries conducted by the DSA, HS&EP related enforcement action taken by external regulators, Defence Themed Assurance output, Defence's governance of HS&EP, and an update on the HS&EP Function across Defence.

## 2.1 – Safety Performance

### Safety-related fatalities

Under its Charter, the DSA is the primary convening authority for HS&EP Service Inquiries. The Armed Forces (Service Inquiries) Regulations 2008 and JSP 832 identify the circumstances where convening a service inquiry is mandatory and where it is discretionary. A Service Inquiry is mandatory for the death of a person whilst subject to service law, and for civilians, if the death relates to work undertaken on behalf of Defence or occurs on a Defence establishment; in all other circumstances, it is discretionary. Should a fatality warrant an investigation, be that mandated by statute, policy or at the discretion of the Director General DSA as empowered by the DSA's Charter, a DSA Service Inquiry or DAIB Non-Statutory Inquiry is convened, and the fatality is considered safety related. Where a fatality is not deemed to be safety-related, the incident is referred back to the Single Services for their consideration for internal investigation.

There have been nine safety-related fatalities during the reporting period, as outlined in Table 2-1 and Figure 2-1. This is a significant increase compared to two fatalities in each of the four previous years. Importantly, the fatality rate per 100k personnel in Defence has more than tripled and the fatality rate as a three-year average per 100k personnel in Defence has nearly doubled. Each of these nine fatalities is currently subject to an open Service Inquiry. The trends that underpin these deaths will remain largely uncertain until these investigations are complete.

**Defence Safety-related fatalities:**

27 May 2022	Fatality whilst competing in a representative sport event (motorcycling) at Cadwell Park race circuit.
21 June 2022	Fatality involving a collision with a Warrior Infantry Fighting Vehicle on Salisbury Training Area.
13 July 2022	Fatality due to a Road Traffic Collision whilst conducting an RN-organised battlefield tour in Spain.
19 July 2022	Fatality whilst participating in the British Services Mountaineering Expedition in Pakistan.
23 July 2022	Fatality whilst undertaking a five-mile physical training run at Woodbridge Unit, Suffolk.
11 August 2022	Fatality resulting from a falling tree branch.
18 November 2022	Fatality on completion of a 3 km loaded march in Catterick, North Yorkshire.
16 January 2023	Fatality whilst on an early morning run in Sennelager, Germany.
11 March 2023	Fatality whilst undertaking adventurous training with unit in Austria.

Table 2-1 – Defence Safety-Related Fatalities



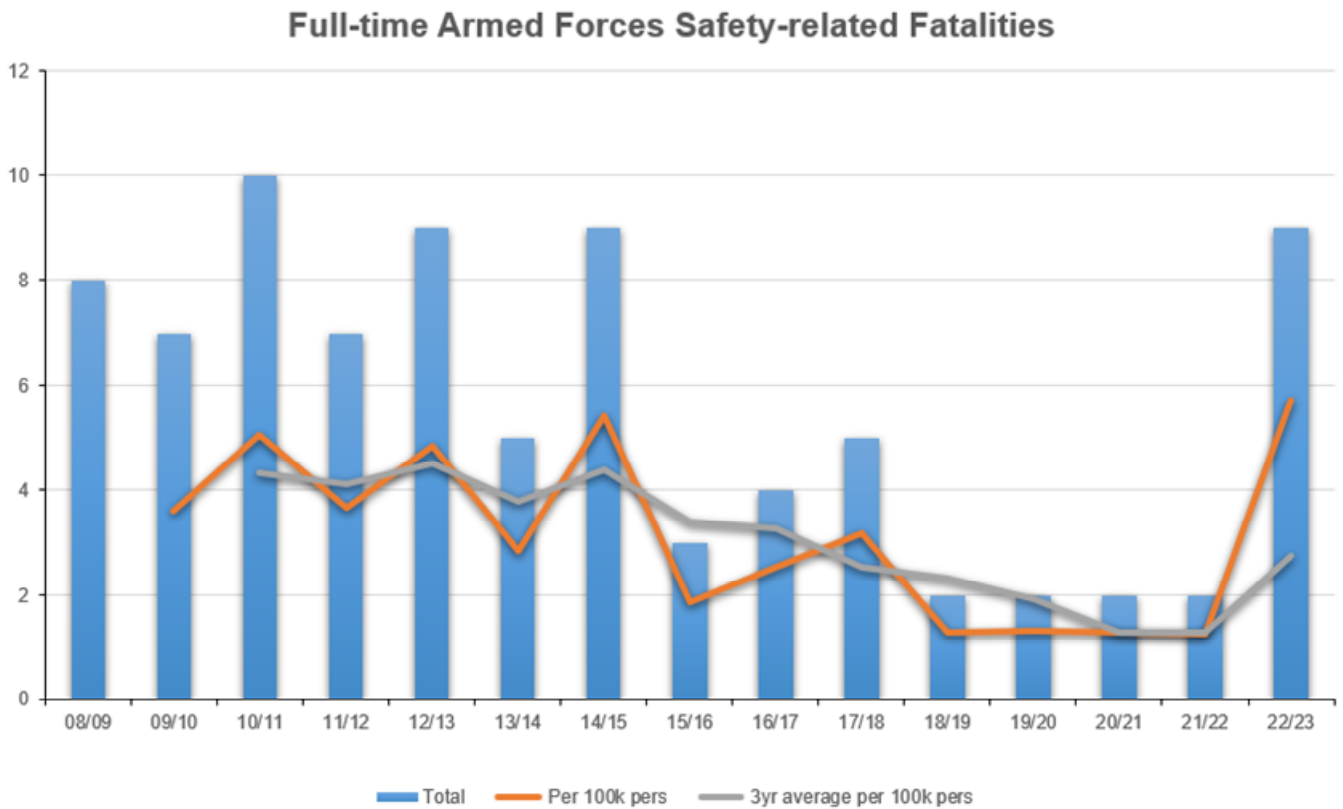


Figure 2-1 – Full-time Armed Forces Safety-related Fatalities<sup>3</sup>

Whilst conclusions cannot yet be drawn with a high degree of certainty, it is possible that the impacts of the COVID-19 pandemic on training processes and activities and a gradual reduction of operationally ready, highly experienced service personnel, as well as poor assessment and management of risk regarding adventurous training and exertional collapse occurrences, may prove to be contributory factors to this significant increase. The following narrative explains these early conclusions in more detail:

- The beginning of the COVID-19 pandemic marked a significant change in training delivery methods for the Armed Forces, in which both new recruits and existing personnel were not subjected to the same training delivery and assurance rigour as in previous years.
- Since the withdrawal of British Forces from Afghanistan in 2014 following the conclusion of Operation HERRICK, operational readiness has reduced due to a paucity of active operations, and personnel with operational experience have gradually left Defence, either by choice or on conclusion of their careers.

<sup>3</sup> Fatality figures are drawn from MOD, *MOD Health and Safety Statistics: Annual Summary & Trends Over Time 2016/17-2021/22, 2022*. Full-time Armed Forces comprise all UK Regulars and, Gurkhas and Full-Time Reserve Service.

- A similar effect has been observed in the training domain, with less experienced individuals and crew compositions potentially exposing service personnel to higher levels of risk due to the completion of bespoke training packages and reduced operational experience.
- A spike in adventurous training and exertional collapse occurrences was observed throughout the year; investigations have uncovered poor assessment and management of risk, coupled with inadequate assurance, governance, and contradictory and confusing layers of policy.

This year's significant increase in safety-related fatalities was compared to previous figures reported between 2008 and 2013, during which heightened operational activity produced comparable numbers of fatalities. However, it was acknowledged that many of these fatalities were the result of single multi-fatality incidents involving aircraft and were therefore, in most instances, not directly comparable to incidents occurring during the 2022/23 reporting year.

Details of the incidents shown in Table 2-1, and other incidents of note, can be found in Annex A - Safety-Related Inquiries and Investigations April 2022 – March 2023.

### **Injuries and near misses**

It is MOD policy that all accidents/incidents (excluding battlefield injuries) relating to MOD staff (service personnel and civilians) and visitors are reported and recorded. The related statistics are published yearly and provide a rich database from which to conduct analysis. The safety centres and committees in each Defence Organisation conduct analysis to ascertain causation and generate insight to inform follow on action, but more needs to be done at the pan-Defence level to establish a holistic view and provide more comprehensive insights. This requires a more effective digital solution and greater analytical resource across the safety function. It is of note that the recent introduction of the Defence Unified Reporting and Lessons System (DURALS), as a single pan-Defence accident reporting platform, is expected to provide more cohesive digital reporting architecture across Defence.

## **2.2 – DSA Service Inquiries and Non-statutory Inquiries**

The Defence Accident Investigation Branch (DAIB) provides Defence with professional accident investigation capability, maintaining teams of trained accident investigators at very high readiness to deploy anywhere in the world in response to an incident. The DAIB conducts demonstrably independent, impartial and expert no-blame investigations of accidents, serious incidents and near misses across all domains by supporting DSA service inquiries and conducting DSA non-statutory inquiries. Together these investigations ensure that causal factors are identified and targeted recommendations made, which are tracked to closure, in order to reduce the likelihood of reoccurrence, enhance safety in Defence, protect the environment, and preserve operational capability.

### **Service Inquiry and Non-Statutory Inquiry numbers and recommendations**

In 2022/23, the DSA convened nine service inquiries and began seven non-statutory inquiries, including a non-statutory inquiry run jointly with the French Accident Investigation Bureau for State Aeronautical Safety. This level of activity was unprecedented but importantly displayed the DAIB's ability to maintain delivery whilst working alongside other national and international

safety organisations for a common output. At the end of the period, 21 service inquiries and non-statutory inquiries were in progress. A total of five investigations were completed making a total of 71 recommendations to improve safety in Defence. A total of 191 recommendations were closed during this period. Of the three service inquiries that were completed, 59 recommendations were made and 17 of these were closed during this period. The final recommendations from five service inquiries and nine non-statutory inquiries were closed. At the end of 2022/23, 268 recommendations remained open. The DAIB has also engaged early across Defence by issuing Urgent Safety Advice and sharing findings ahead of the publication of investigation reports to hasten changes to make Defence safer.

### **Service Inquiry and Non-Statutory Inquiry temporary suspensions**

Due to an unprecedented number of concurrent investigations, the Director General DSA elected to temporarily suspend two non-statutory inquiries (noise induced hearing loss and A11 road traffic accident), prioritising completion of fatal accident service inquiries and those non-statutory inquiries nearing completion. This temporary cessation also included identification of resource enhancement measures including collaborating with single Service safety agencies, international safety agencies, and identification of additional personnel resource, all aimed at temporarily enhancing the DAIB's deliverables whilst protecting current resource levels.

### **Service Inquiry and Non-Statutory Inquiry publications**

The DSA published three service inquiry reports in 2022/23 on the following investigations:

- [Investigation into the alleged exposure of UK Defence Personnel to asbestos during overseas exercises and training.](#)
  - The SI panel concluded that a lack of Environmental Health assessment of the risk posed by asbestos at the Skrunda-1 training facility, Latvia, and associated controls was the causal factor.
- [Investigation into a fatal night firing accident at Castlemartin Training Area.](#)
  - The SI panel concluded that the service person died from a shot fired during a night live fire training exercise at Castlemartin ranges on 04 March 2021.
  - The SI panel also determined several contributory factors including: an over-complicated recording and assurance tool; inadequate scrutiny of an individual's previous training and experience levels and a Defence training framework, which did not provide sufficient granularity on the workplace training requirements.
- [Investigation into the Loss of Hawk T Mk1 XX189 from 736 Naval Air Squadron, RNAS Culdrose.](#)
  - The SI panel concluded that the cause of the accident was due to a loss of engine oil after an incorrectly fitted Magnetic Chip Detection plug was ejected on engine start. This resulted in rapid engine oil loss and engine failure shortly after take-off.

The DSA also published an interim report for the [Service Inquiry investigating the accident involving F-35B ZM152 on HMS Queen Elizabeth on 17 November 2021.](#)

- The SI panel determined that the cause was not related to an aircraft technical issue. The primary causal factor of the accident was the left-hand intake blank remaining in the aircraft prior to launch, thus reducing the engine's power on take-off. This oversight was most likely due to a combination of human, organisational, and procedural factors.

In addition to service inquiries and non-statutory inquiries, the DAIB also began other investigations, such as technical reports, and provided assistance to other Ministry of Defence organisations conducting investigations, including a Joint Helicopter Command safety investigation. The DAIB provided Aircraft Post-Crash Incident Management training to more than 1,400 personnel in the UK and to international partners including the Royal Brunei Air Force and U.S. Air Force. The DAIB also marked the establishment of a dedicated maritime team through the recruitment of maritime investigators and has also introduced a human factors support position to improve the DAIB's ability to conduct investigations independently.

## 2.3 – Enforcement Action

### External enforcement action

In addition to the DSA's Third Line of Defence activity, external assurance is provided by independent regulators, the Health and Safety Executive, Environment Agency and Office for Nuclear Regulation, as well as other internal departmental auditors such as Defence Internal Audit. In 2022/23, Director HS&EP, on behalf of the MOD, agreed an updated Memorandum of Understanding with the Health and Safety Executive and has built up a solid working relationship. This introduced a strong working protocol with the Defence Accident Investigation Branch, which will provide better protection of evidence in DSA Service Inquiries.

The Health and Safety Executive cannot issue improvement or prohibition notices to the MOD or its Agencies, nor apply enforcement action, due to their status as Crown Bodies<sup>4</sup>. However, they are permitted to issue Crown Enforcement Notices on Crown Bodies. These are administrative notices which, in practice, have the same effect as improvement or prohibition notices. Whilst the Health and Safety Executive cannot prosecute the MOD or its Agencies in a criminal court, it can impose Crown Censures – administrative sanctions that are considered very serious by Crown Bodies.

This year the Health and Safety Executive issued seven Notices of Contravention, three Improvement Notices and one Notice to Stop Activity to Defence – a total of 11 Crown Enforcement Notices during the reporting period (see Table 2-2). Significantly, this is a near fivefold increase compared to the previous reporting period. Responses to these Notices are led by individual Defence Organisations and overseen by the Directorate of Health, Safety & Environmental Protection (D-HS&EP). Provisional analysis shows that the majority of enforcements issued during this reporting period were made against the Army (64%), with five relating to vehicle-based training fatalities, and the remaining two relating to infrastructure issues. It is of note that Service Inquiries have been raised against three of the Crown Notices issued against the Army (Jackal, CVR(T) and Warrior), all of which resulted in fatalities.

Of the remaining Notices (36%), all of which were made against the Royal Navy, two resulted from incomplete noise risk assessments, which has since formed the focal point of a Defence Themed Assurance Branch audit on the Control of Noise at Work Regulations. The results of

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<sup>4</sup> The Oil and Pipelines Agency (OPA), as a statutory public corporation (by way of the Oil and Pipelines Act 1985), is regulated by the Health and Safety Executive, along with the Environment Agency (in England) and Scottish Environment Protection Agency (in Scotland), which collaboratively makes up the Competent Authority (CA). The OPA is therefore not a Crown Body and is subject to enforcement action by these agencies.

this audit have informed recommendations made across Defence to improve the implementation of safety measures relating to noise regulations. There is currently no detailed pan-Defence analysis completed across the HS&EP Function on external enforcement actions to understand generic themes; more extensive thematic analysis of enforcements would be expected to significantly improve the development and implementation of recommendations across Defence. Digital enhancements would improve data capture and enhance subsequent analysis.

Date of Censure	Defence Organisation	Date of Offence	Location	Notes
01 July 2022	Army	21 June 2022	Salisbury Plain Training Area	Notice of Contravention: Salisbury Plain Warrior Incident
01 July 2022	Army	21 June 2022	Salisbury Plain Training Area	Improvement Notice for Crown Employers: Salisbury Plain Warrior Incident – Inadequate Maintenance
01 July 2022	Army	21 June 2022	Salisbury Plain Training Area	Improvement Notice for Crown Employers: Salisbury Plain Warrior Incident – Risk Assessment and Controls
10 August 2022	Army	15 Oct 2021	Salisbury Plain Training Area	Notice of Contravention: CVR(T) Risk Management
09 December 2022	Army	29 January 2019	Catterick Training Area	Notice of Contravention: Jackal Rollover
17 January 2023	Navy	23 September 2022	Commando Training Centre Royal Marines (CTCRM) Lympstone	Notice of Contravention: CTCRM – Troop movement on public roads
20 January 2023	Army	19 January 2023	Lydd Ranges	Notice that work should be stopped: Lydd Ranges – Electricians exposed to wet and corrosive conditions
27 January 2023	Army	19 January 2023	Lydd Ranges	Notice of Contravention: Lydd Ranges – Electricians exposed to wet and corrosive conditions
30 January 2023	Navy	9 November 2022	Britannia Royal Naval College (BRNC) Dartmouth	Notice of Contravention: BRNC – Health and safety of persons who are not employees
16 February 2023	Navy	25 November 2022	HMS Raleigh	Notice of Contravention: HMS Raleigh – Range Noise Risk Assessment
16 February 2023	Navy	25 November 2022	HMS Raleigh	Improvement Notice for Crown Employers: HMS Raleigh – Range Noise Risk Assessment

Table 2-2 – Crown Notices



## **DSA Enforcement - Internal to Defence**

Through regulatory activity and investigations, the DSA conducts enforcement activity to ensure that those responsible:

- Act to immediately deal with serious risks.
- Achieve sustained compliance with Defence regulations.
- Are held to account for possible failing to effectively fulfil their HS&EP duties.

Enforcement action should be proportionate to the risk of harm and the urgency required to take corrective action. Enforcement action is utilised by statutory and Defence regulators where they find significant non-compliance or a hazard which, if left unaddressed, could impact upon safety, cause environmental damage, or place personnel and operational capability at risk. Conclusions from analysis of the DSA enforcement data informs the domain and organisational assurance assessments and provides evidence towards cross regulatory safety and environment themes. It is also used by the Defence Themed Assurance Branch as evidence for further investigation.

There were 49 open DSA enforcements at the beginning of the year; 35 new enforcements were issued by the DSA during the period (March 2022 - April 2023) and 38 enforcements were closed, giving a net reduction of three. This brings the total number of open DSA enforcements at year end to 46, of which Navy Command (13; 28%) and UKStratCom (15; 33%) held the majority. A significant proportion of the enforcements were related to infrastructure issues with maintenance related to Oil Water Interceptors and fire safety compliance common occurrences. Several overseas bases have longstanding enforcements (open for more than 12 months) which make up a significant proportion of the open enforcements.

## **2.4 – Defence Themed Assurance**

The Defence Themed Assurance Branch was set up in May 2022 and reached Initial Operating Capability in November 2022. The Branch conducts themed assurance audits, which provides in-depth focus on a specific or complex topic to check compliance against policy and suggest improvements. The selected area for audit may be identified through other learning, such as intelligence sharing, findings, reporting, or performance monitoring.

The first risk-based audit activity across all Defence Organisations was on the Control of Noise at Work Regulations which successfully completed in March 2023. The report has identified a number of key findings and recommendations; follow up activity into the Control of Vibration at Work Regulations will be conducted in the reporting year 2023/24.

## **2.5 – Governance of Health, Safety and Environmental Protection (HS&EP) in Defence**

The Defence Operating Model clearly states that the Defence Safety and Environment Committee (DSEC) is the principal forum within Defence responsible for the oversight of HS&EP. It further states that the DSEC is chaired by the Second Permanent Secretary and membership is at Four-Star and Three-Star level across the Defence Organisations. The DSEC Terms of Reference, dated 2021, states that the DSEC is responsible for Climate Change and Sustainability (CC&S) and acts as the 'Functional Accountable Body' to oversee the strategic

direction of HS&EP in Defence. Broadly, the Terms of Reference state that the meeting's scope includes: monitoring performance, culture and agreeing guiding principles; overseeing policy, regulation and governance; ensuring effective safety and environmental management systems are in place; discussing and addressing serious HS&EP risks across Defence; and, providing visible top-level ownership of all aspects of HS&EP and CC&S.

Further up the Defence Operating Model board structure, the Defence Audit and Risk Assurance Committee (DARAC) is described as a sub-committee of the Defence Board. The DARAC should be empowered to provide a supporting function for the Defence Board and the Accounting Officer in the conduct of their responsibilities for risk control and governance by reviewing the comprehensiveness, reliability and integrity of Defence's risk and assurance framework. Supported by Defence Risk and Assurance (DRA), the DARAC can provide recommendations into the Defence Board as the main decision-making body in Defence for non-operational matters, such as oversight of how Defence is managed, including strategy, performance, risk and plans.

The DSA has not seen the Operating Model outlined above operate effectively for HS&EP during the reporting period. It is acknowledged that the Defence Operating Model is three years old and is being reviewed, but at three years old there has been sufficient time to implement the agreed governance arrangements to ensure effective HS&EP management in Defence. It is also acknowledged that turnover in key leadership positions that deliver these governance arrangements may have inhibited progress to deliver against the requirements of the Defence Operating Model. The DSA will continue to work with key stakeholders to improve these arrangements further. For completeness, the DSA's identified concerns are outlined below.

### **The Defence Safety and Environment Committee**

The DSEC has the potential to provide Defence with strategic coherence across the delivery of HS&EP. By doing so, personnel in Defence will be safer, the environment better protected, and operational capability more effectively preserved. However, this relies on effective administration and strong attendance. The DSA has observed deficiencies on both accounts. On administration, meetings have repeatedly been postponed or shortened, and agendas are often pulled together late, change frequently and have a lack of strategic coherence, especially around risk. More specifically, Environmental Protection (EP) agenda items have been almost non-existent and CC&S considerations are reportedly discussed elsewhere. Regarding attendance, whilst some Defence organisations attend regularly and at an appropriate level, others have occasionally not sent a representative or representation has been delegated from Four-Star or Three-Star to One-Star. Furthermore, representatives have sometimes attended without a good understanding of their organisational safety issues and are therefore not able to contribute as effectively to the discussion.

There also remains a lack of clarity regarding the DSEC's role in the discussion of risk. Firstly, the selection criteria around how these "top 8 risks" has been decided is opaque. The draft "top 8 risks" are categorised by high impact – many of which would be catastrophic and must be risk managed effectively – but not high likelihood. For example, the investigations conducted by the DSA into deaths in Defence are not directly linked to any of the "top 8 risks"; they are, however, linked to the risks in categories nine through 14. Secondly, it is the view of the DSA that it is the risk owners at Four-Star level who are responsible for managing their respective risks to ensure they are satisfied that the risk is as low as reasonably practicable and tolerable, not the DSEC. However, the DSEC could provide a more robust cohering function where risks overlap, control

measures are mutually supporting, gaps are evident, or where insufficient resources are available, with opportunity to raise to the Defence Board where Four-Star levers are ineffective.

### **DARAC and Defence Board**

The escalation route for Safety risks and issues to be referred from the DSEC to the Defence Board is overly bureaucratic and takes too long. In June 22, the DSEC recommended that the two top safety issues, SQEP and Fire Safety, should be escalated to the Defence Board. The prescribed governance route to achieve this was the DARAC, to which Director HS&EP and the Deputy Director General of the DSA presented in November 22. A single paragraph, which lacked important content, was provided to the Defence Board in January 23. It read: *“The Committee was then updated on the Defence Safety Authority annual assurance return, and noted that there were two issues that the Defence Board should be aware of: Fire Safety, assessed as limited assurance, where significant areas of concern had been highlighted, and SQEP concerns, particularly in platform specific safety, dangerous goods, nuclear and emerging technology, with recruitment & retention being affected by market forces and pay differentials. If the Board has not already been briefed on this, the Committee recommends that this is something that should come to them for discussion.”*

This recommendation has not yet been taken up by the Defence Board. Thus, out of an entire AAR, drafted in May and June 2022, discussed at DARAC in November 2022, recommended to the Defence Board in January 2023, but not formally approved until May 2023, there has been no discernible discussion or action taken at the highest levels of Defence. Despite this, the DSA has worked with stakeholders across the Lines of Defence to ensure that findings from the AAR are taken forward. It is recommended that, in future, the DSEC offers recommendations direct to the Defence Board and that an agenda item is raised at the earliest possible Defence Board, post DSEC.

### **Annual Assurance Report (AAR)**

There is a high degree of latency across the AAR publication process. For two-months during the reporting period, the DSA had three AARs in process at the same time – AAR 2021-22 was still awaiting sign off, AAR 2022-23 was in production, and direction letters for AAR 2023-24 were also awaiting sign off. Whilst delays in AAR publication do not prevent the findings being actioned, it does mean that the HS&EP community are without a formal reference document against which to plan their activity and deliver enhancements to meet the Secretary of State's HS&EP Policy Statement.

### **Environmental Protection (EP) Governance**

At the policy level in Defence the focus on safety has not been matched by an equivalent focus on EP, possibly as a result of a lack of understanding or acknowledgement of the importance of EP to Defence outputs.

This has resulted in EP risks not being discussed during the DSEC in the same way as safety risks, and slower generation of policy documentation. Specifically, outdated or incomplete policy limits the DEPR's baseline from which regulatory gaps are identified and assurance is conducted. It is recognised that policy development will be a priority within the Directorate of Levelling Up, The Union, Climate Change and Sustainability (D-LUCC&S) and a programme of updates will be pursued at pace to address this gap.

The proposed change of responsibility for EP to join D-LUCC&S under the broad banner of “environment” has been initiated during the reporting period. There are benefits to the change including coherence between the CC&S and EP policy agenda and the proposal of a single departmental leadership. There are also a number of potential secondary impacts for the D-HS&EP and D-LUCC&S to manage, which the DSA will support. The aim is to prevent EP compliance from being deprioritised in favour of other environment priorities, such as Net Zero.

As a major change initiative, an Organisational Safety Assessment is underway, and this will form a fundamental step in this change process. In addition, D-LUCC&S is securing additional resource to support EP as a priority to meet the department’s ambition for the environment.

### **Defence’s Fire Safety management**

In March 22, the DSEC agreed the proposal to retire the three existing fire safety boards that focused on the implementation of the Defence Fire & Rescue Project. Concurrently, the Defence Fire Safety Leadership Board (DFSLB) was established as a sub-committee of the DSEC, chaired by Director HS&EP, and focused on continually improving Defence’s Fire Safety management and Fire & Rescue Services. The issue now lies with frequency, because this committee has only been convened once, the last time being October 2022. It is imperative that it meets more regularly until fire assurance has improved across Defence.

### **The Retained EU Law (Revocation and Reform) Bill**

This Bill was a unique and potentially seismic event in post Brexit Britain. The intent of the Bill was to radically remove all elements of EU laws and principles from the UK’s statutes’ book. The method of achieving this was to, initially, require Government Departments to identify and confirm the continued reliance on any EU-derived UK law. For any laws not specifically identified as being retained and/or reformed, those laws would be automatically ‘sunsetting’ on 31 Dec 2023. This could create a risk of laws being sunsetted by one Government Department without understanding the impact on the MOD.

On identifying this issue, the DSA was concerned that it may be impacted by such a risk, principally in areas where reform to existing legislation may be being undertaken, without MOD consultation – and where it has an interest. Acting upon this, the DSA worked closely with the D-HS&EP to engage externally with other Government Departments to understand their strategies with the aim of safeguarding MOD’s interests. On 10 May 2023, the Government announced that following debate in the House of Lords, it will change its approach with the Retained EU Law Bill. The Bill will instead publish a list of laws that will be sunsetted on 31 Dec 2023, all other laws will be automatically assimilated as UK law. Following scrutiny of the laws to be sunsetted, it is assessed that the risk to HS&EP is negligible. As the Bill has not yet received Royal Assent, the DSA will continue to monitor its progress in Parliament and continue to engage as necessary.

## 2.6 – Health Safety and Environmental Protection Function across Defence

The Function has continued to mature throughout financial year 2022/23 and will continue on a path to SUBSTANTIAL assurance as focus turns to improving functional oversight of safety and environment performance and the management of strategic safety and environment risk.

### Key Deliverables for the Financial Year 2022/23

This year the Function has made progress in the following areas:

The successful publication of Defence Safety Management System, (JSP 815 Part 1, with Part 2 as a beta version) and partial publication the Defence Environmental Management System, (JSP 816 Part 1), with only Part 2 now required to complete the new assurance framework. The aim of these new Defence Frameworks is to enable the Defence Enterprise to move towards a standardised approach to the implementation of safety and environment management systems and assurance.

On policy and training, the rolling review of JSP 375, Management of Health and Safety in Defence, has continued and the Defence Road Safety Strategy was published. A new Cold Injury training course was launched, which will build on the success of the Heat Illness training released last year to strengthen our mitigation against climatic injuries.

Two pilot Functional Reviews of the Army and the Navy were conducted which have provided insight into the safety leadership in both organisations. Functional Reviews will not be taken forward as part of the operating model.

The HS&EP Profession published the Competency Framework and Career Pathways documents, which together aim to develop, support and strengthen the Profession by aligning the workforce with a shared understanding and drive professional retention levels in Defence.

The Acquisition Safety Cell (ASC) has been established with dedicated posts covering the Land, Maritime and Air domains. The ASC has also been actively developing a new Acquisition Safety Policy to support SRO's in addressing the safety gaps in JSP 655-Defence Investment Approvals, soon to be released as JSP 376.

### Pathway to SUBSTANTIAL Assurance

The Functional pathway to SUBSTANTIAL assurance is a multi-year programme of work addressing the following areas:

**Direction and Policies.** Work is still required to finalise and embed the Defence Safety Management System and Environmental Management System. This will drive a standardised approach to HS&EP policy and assurance activity, the benefits of which should be increasingly robust and cohesive annual self-assurance reports from Defence Organisations feeding the DSA Annual Assurance Report.

**Reporting.** The Defence Unified Reporting and Lessons System (DURALS) was launched in Army and Strategic Command in January 2022. In March 2023, the DSEC agreed that DURALS would become the single safety accident reporting, investigation and learning platform for Defence, with all members committed to transferring as soon as



appropriate. DURALS continues to require significant development and financial investment to achieve sufficient maturity for all Defence organisations to adopt. Future ownership of the system is under active discussion for resolution in Q1 23/24.

**Compliance and Assurance.** Head Office Functional Oversight of Defence HS&EP activity is reactive. Embedding seamless information flows between DSA and D-HS&EP, developing our functional approach to risk oversight and better use of the DSEC as the senior HS&EP assurance board are required to ensure the Function can deliver its responsibilities on behalf of 2PUS. In addition, we need to better understand how functional policy direction is disseminated to and implemented at all levels within Defence.

**Risk Management.** Director HS&EP, as Functional leader, will pivot existing Second Line of Defence Functional Review assurance resource to focus on cohering pan-Defence HS&EP risk management; using data and insights from across Defence to improve safety risk management and strategic decision making through Defence's risk process. The availability of Suitably Qualified and Experienced Personnel continues to flag as a Defence Enterprise risk to the HS&EP Function and was also identified as a headline finding of the Navy Functional Review. Functional awareness of the critical posts and gaps is minimal, this will be a focus for the HS&EP Profession in FY23/24 and will start with a post mapping exercise, which will include gap analysis and post criticality identification.

**Operation of Functions in the Devolved Defence Model.** Moving the Function to SUBSTANTIAL assurance is dependent on Defence Organisations aligning as closely as possible with Functional Direction, with minimal divergence from policy and process. Currently, there is no standardised Defence Enterprise approach to the management of safety as it differs by Defence Organisation. The activity listed in Director HS&EP's pathway to SUBSTANTIAL assurance is aimed at beginning the process of re-establishing a consistent Defence Enterprise approach to safety management, overseen by Head Office functional leaders.

# Section 3 – Defence Organisation Health, Safety and Environmental Protection Assurance

## 3.0 – Scope

The Annual Assurance Report (AAR) provides the Secretary of State and the Defence Board with an independent view of the progress that each Defence Organisation has made towards the target of SUBSTANTIAL levels of assurance, notwithstanding the ultimate aim of FULL assurance. The production of this section requires a variety of inputs to arrive at a holistic assessment: information from the DSA and the Directorate of Health, Safety & Environmental Protection (D-HS&EP) augment self-assessments from across the Defence Organisations.

This section describes the level of assurance for each Defence Organisation and outlines the main supporting observations, summarised as areas that have improved, and areas which require improvement. The level of assurance attributed to each Defence Organisation is the amalgamation of a self-assessment and DSA assessment. As a summary, the information presented within this section is not exhaustive and greater detail can be found within the Regulators’ individual Annual Assurance Reports, which have had appropriate engagement and circulation to all stakeholders, and the Defence Organisations’ self-assessments through their respective Safety leads.

The overall assurance assessment for each Defence Organisation is shown below in Table 3-1.

Defence Organisation													
Navy Command	Army	Air Command	UK Strategic Command	Defence Equipment & Support	Defence Business Services	Defence Science & Technology Laboratory	Defence Electronics and Components Agency	Defence Infrastructure Organisation	UK Hydrographic Office	Oil & Pipelines Agency	Defence Safety Authority	Head Office	Ministry of Defence Police
S	S	S	L	S	S	L	S	L	S	S	S	L	S

The levels of assurance are categorised as: Full, Substantial, Limited or No Assurance (see Figure 3-1 for definitions and colour-coding used in the diagrams).<sup>5</sup>

Table 3-1 – HS&EP assurance assessment of Defence Organisations

<sup>5</sup> Defence Internal Audit definitions of assurance which originate from the Chartered Institute of Internal Auditors.



Figure 3-1 – Defence HS&EP Assurance Levels

### 3.1 – Navy Command – SUBSTANTIAL Assurance

Whilst some areas remain limited, Navy Command has achieved SUBSTANTIAL levels of assurance overall.

Areas of good practice and improvement include the following:

- Navy Command has focused on continuing to improve HS&EP positive behaviours and culture. It was observed to have strong safety leadership 'Tone at the Top' during the recent Functional review carried out by the D-HS&EP, which focused on JSP 815 Element 1 (Leadership, Governance, and Culture).
- Progress has been made this year in the Movement and Transport and Land Systems areas, where the approach of the Future Commando Force and the Navy Land Combat Service Support team has shown significant improvements.
- The introduction and progressive roll-out of the Safety Environment Assessment Tool (SEAT) safety culture tool has been a positive step. It provides Commanding Officers with an independent measure and indicator of attitudes towards safety within their platform/unit. It is expected to be rolled out more widely across the Chain of Command, from First Sea Lord to unit level.
- During this reporting period, the Navy Command Finance Director confirmed that there will be no financial limitations on the remediation of 'safe & legal' infrastructure defects or in support of safety risk management at Naval Base Faslane. It is evident that significant progress has already been made to address previously issued enforcement notices issued by the Defence Fire Safety Regulator. However, infrastructure maintenance that sits outside of Navy Command's control remains a limiting factor to the quality of the Navy's Estate. Notably, in some instances, infrastructure maintenance activities have been identified by DFSA as falling short of both building regulations and Defence requirements.

Areas identified for further development include the following:

- Navy Command's 'Safe to Operate' area is assessed at LIMITED assurance.<sup>6</sup> There are concerns surrounding the level of SQEP required to deliver certification, assurance and legislative compliance functions. It is of note that the 'Safe to Operate' area is both nascent and small, in terms of its capability.
- The shortage of SQEP extends across the Navy, particularly around Marine Engineering General Service and the Royal Fleet Auxiliary. This, combined with increasing operational tempo, creates conflicting demands and an overall inability for Navy to achieve the capability required.
- The requirement to have a Safety and Environment Management Plan is becoming well embedded at the One-Star and Two-Star levels, but the structure and 'fitness for purpose' still falls short of meeting the H&S requirements laid out in Defence HS&EP policy and Defence regulations.
- With the speed at which autonomous development is taking place within the Navy a greater emphasis on close monitoring is required to ensure HS&EP is considered throughout the lifecycle process under concept, assessment, demonstration,

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<sup>6</sup> The Maritime domain is assessed in two halves: 'Safe to Operate' covers the provision of safe equipment, systems and platforms, while 'Operate Safely' covers organisations that conduct maritime activity, including operation of equipment, systems, platforms and facilities.

manufacture, in-service and disposal. Previous projects have been delayed because of failures to fully meet these requirements and to comply with the law.

- The increased availability of platforms for which Navy Command is accountable needs to be matched with appropriate support funding and structures. Whilst deficiencies generally result in late decisions to cease operations and fail 'safe', sufficient consideration to the ongoing support of platforms must be embedded earlier in operational planning if capability is to be protected.
- Following an inspection to assess its systems for safe healthcare delivery at sea, the Royal Fleet Auxiliary was assessed to have NO ASSURANCE relating to delivery of healthcare and was consequently subjected to an Urgent Improvement Notice. In last year's AAR an absence of organisational governance and assurance of healthcare was reported; these issues have still not been addressed.
- The availability and provision of Ordnance, Munitions and Explosives (OME) SQEP in establishments continues to be a risk across the Royal Navy, in part due to a lack of training to upskill and sustain sufficient levels of expertise across the cohort. Where suitably qualified staff can be recruited, the lack of experience in OME management, particularly in military posts, remains a concern. The provision of OME risk assessment training requires improvement to help ensure appropriate levels of competency are maintained.
- Although recognised in Directorate Safety and Environment Management Plans, the requirement to conduct assurance across the First and Second Lines of Defence is still to be fully implemented, therefore leaving gaps in Navy Command's assurance profile. In particular, although the Royal Navy Safety Centre has close engagement with Royal Navy infrastructure and facilities management contractors, there remains an inconsistency of fire safety assurance activities across the Navy estate. This is limiting the ability of the Navy to identify trends at unit level and thus implement corrective actions across the estate.
- Provision of competent Establishment Fire Focal Points at unit level is a continuing challenge which is being experienced by all Military Commands across Defence. Crucially, personnel capable of filling Establishment Fire Focal Point roles are attracted to higher pay offers made by industry. This has been particularly prevalent at His Majesty's Naval Base, Clyde.

### **3.2 – Army – SUBSTANTIAL Assurance**

Army's assurance is assessed as SUBSTANTIAL, this is an increase on the previous year's AAR assessment of LIMITED.

Areas of good practice and improvement include the following:

- The Army has shown a positive tone for improving health and safety leadership, governance and culture. There have been notable enhancements in the safety culture within the Army, with clear values cascaded throughout the organisation to provide a



stronger foundation. However, cultural change will take time and requires consistent, strong leadership from the top.

- The reporting period has seen an intense and unusual level of activity including Queen Elizabeth II's Platinum Jubilee, followed by Her Late Majesty's state funeral, and then the accession of His Royal Highness King Charles III. Each of these major state events required considerable support from the Army and particularly HQ London District, whose accomplishments were recognised by an Army Safety Award.
- Since launch, the Defence Unified Reporting and Lessons System has seen a 40% increase in reporting, against a 5-year average. As the system continues to evolve and mature, it has the potential to underpin greatly enhanced safety risk awareness and management across Defence.
- Fire safety risk-based assurance evidence has shown considerable improvement since the last reporting year, associated with the provision of suitably qualified personnel managing fire safety on the Army estate. It is imperative that Army continue at their current pace with regards to delivering fire safety training for Unit Fire Safety Managers and Building Fire Focal Points, so that the effects of staff rotation can be mitigated. They must ensure that where a fire safety management role is allocated as a secondary duty, personnel are afforded sufficient time to enact the role.

Areas identified for further development include the following:

- There are degraded performances in the Fuels and Gas and Land Systems areas. In the latter, key areas of weakness are in vehicle inspection standards, which is currently subject to enforcement action, and the management of capability safety cases, which was identified as a theme last year. Notwithstanding this, the significant resource and effort committed to resolving issues in both areas has resulted in some improved performance.
- Equipment design, manufacture and maintenance remains an issue especially surrounding the management of safety cases, equipment challenges with legacy vehicles and, in some instances, temporary safety management processes being in place for a number of years. Assurance visits by the Defence Land Safety Regulator have identified significant shortcomings in the inspection regimes for in-service platforms. As a result, two Improvement Notices were served on the Army, both of which were swiftly acted upon, and an effective remediation plan is in place, including revision of processes to prevent recurrence. In addition, the Army has resourced the creation of a One-Star led Capability Safety Group and the transfer of safety cases from HQ Army to HQ Field Army to close the gap in ownership of safety cases.
- Much of the Army's procurement from concept to in-service is programme managed by DE&S with clearly defined senior safety responsibility. However, non-standard procurement, lack of clear ownership of some capabilities and over reliance on assurance by DE&S and its sub-contractors is significantly increasing risk. The Capability Support Group has not been in place long enough to assure this topic area but a high number of observations have highlighted this as significant area of risk.



- There are numerous methods of communicating risks and controls including risk registers and legacy stovepipe applications. This includes 'safety notices via emails', which are well intentioned but lack consultation with the user prior to issue, thereby creating confusion for the user.
- The Army's understanding and conduct of Organisational Safety Assessments has improved dramatically over the last reporting period. However, there is still work to do to broaden understanding and make the process more accessible and easier, particularly with regards to recognition and management of outcomes.
- Within the Fire Safety domain, Army has reached SUBSTANTIAL assurance within the areas for which it has control and influence. However, there are still areas for improvement at unit level, for example by reducing the level of inappropriate human behaviours within barrack accommodation, often by junior ranks, which compromise safety (e.g. damaging fire doors, compromising fire alarm systems etc).
- As a dedicated role, Unit Fire Safety Managers on the Army Estate undertake critical fire safety management activities. However, their capability and competence levels make them attractive to industry and Army is continuing to suffer attrition in these areas, similar to trends seen across other Front-Line Commands. It was identified that some personnel undertaking Fire Risk Assessments via Capita Fire & Rescue (CFR) were not SQEP, which has impacted confidence in Fire Risk Assessment delivery on the Army Estate. It is critical to the delivery of robust fire safety management that those undertaking the role of Unit Fire Safety Advisor have sufficient time allocated to undertake their responsibilities.
- The Defence Infrastructure Organisation compartmentation surveys have identified an array of compartmentation shortfalls in sleeping accommodation on the Army Estate, thereby elevating Fire Safety as one of their main infrastructure risks. To mitigate the identified shortfalls, Army Infrastructure has instigated a process for risk profiling all the remedial actions identified within Defence Infrastructure Organisation compartmentation surveys; this has improved the prioritisation of remedial works and the production and quality of fire risk assessments.
- The Defence Accident and Investigation Branch (DAIB) does not have the resource to conduct all safety investigations, nor do many of the reported occurrences reach the investigative threshold of the DSA/DAIB. It is therefore incumbent upon each service to develop their own SQEP for timely investigation of an occurrence to enact appropriate recommendations as swiftly as possible. Given that the army has the biggest footprint of all services and, therefore, the greater potential for occurrence, an organic investigative capability would be of great benefit. Whilst the functionality to record accidents and investigations is available in DURALS, it is a known area of weakness due to the Army's lack of an inherent investigative capability and no formal training to support formations and units.
- Army maritime is assessed to be at LIMITED assurance. The recent publication of the Army maritime Safety and Environmental Management Plan (SEMP) is an improvement but it needs more time before its effectiveness can be judged.

- There is currently a lack of aligned risk management process across Army Healthcare, including the understanding of ownership and how to elevate concerns to build a collective picture across the domain. This is an area that requires improvement, to ensure risks are suitably mitigated. In addition, the implementation of the electronic Healthcare Assurance Framework (eHAF) assurance process at unit level has been an issue, and this deficiency has hindered the Chain of Command's ability to understand unit assurance.

### **3.3 – Air Command – SUBSTANTIAL Assurance**

Air Command has remained at SUBSTANTIAL assurance with individual areas remaining static or slightly improving compared to last year.

Areas of good practice and improvement include the following:

- Historically, emphasis within Air Command has been on military aviation safety, as the RAF's key output. Following a DSA audit which identified that non-military aviation safety assurance and performance within Air Command was not of equal standard to military aviation safety, Air Command implemented plans to improve Safety and Environmental Management Systems across all regulated safety domains. These plans have applied good air safety practices across all activities, wherever it was appropriate, to functional safety.
- This positive safety culture is also seen in aviation medicine, demonstrated by strong attendance (100+ members of staff) at aviation medical dial-ins hosted by the Air Safety Centre. Air Command acknowledges concerns seen across the domain relating to its primary healthcare workforce, particularly the stresses that Defence Primary Healthcare workforce shortfalls can place on single Service deployability.
- Improvements to fire safety, including enhanced compliance with fire safety standards, the recruitment/retention of Establishment Fire Focal Points, the implementation of building custodians at all units, and infrastructure improvements and investments within premises, offer the potential for Air Command to achieve an overall Fire Safety assurance level of FULL next year.

Areas identified for further development include the following:

- During Air Command's self-assessment of its safety management performance, several inspectors have highlighted new and emerging concerns over efficacy and further gaps in First and Second Line of Defence assurance.
- Broadly, Air Command has aligned its Safety Inspectorate to the DSA's Defence Regulators through the establishment of Safety Inspectors within each of the Air TLB's safety domains. However, application of the RAF Safety Inspectorate will only be effective if the matrix management approach is properly resourced. Several Inspectors are required to cover two or, in some cases, three areas with insufficient resource to deliver a fully effective inspectorate whilst achieving varying degrees of independence

from the activities they are assuring. Several domains have seen little tangible progress this year.

- Audits and persisting enforcements highlight insufficiencies in workforce and a variety of safety management and safety assurance tasks, and an inability to retain supervisors. Some inspectors continue to identify weaknesses in compliance with higher-level policy, predominantly due to a lack of resource to sufficiently develop policy for land safety, land systems safety and airworthiness. Shortfalls also exist in the assurance of land environment capability acquisition, especially by the continued employment of Counter-Uncrewed Air System capability without a defined safety case and without a clearly articulated Duty Holder acceptance of risk. Additional resource and more clearly defined procedures are required to rectify issues.
- Air Command is assessed as LIMITED in the Fuels and Gas and Land Systems environments. Crucially, Air Command is liable to the same issues surrounding communication and maintenance of contract performance that are common to all Defence Organisations.
- Air Command has yet to commit to Defence's new Defence Unified Reporting and Lessons System, primarily due to the significant increase in cost relative to the Functional Safety Information Management System already employed, a lack of transparency over its cross-Defence business model, and whether it is fit for purpose for Air Command. The Chief Environment and Safety Officer remains engaged through stakeholder meetings and members of the team have received training in anticipation of the transfer once approved by the Air Senior Leadership Team.
- Unit-delivered adventurous training assurance is assessed as LIMITED. Successful recruitment of three personnel enabled the AT Inspectorate to commence assurance of unit-delivered adventurous training during this reporting period. Analysis of findings from several units, coupled with data from station adventurous training questionnaires derived from the 2021/22 reporting year, identified significantly immature safety management oversight. Accordingly, the AT Inspectorate switched to a mentoring role and began a programme of training for unit personnel in Adventurous Training Safety Management.
- Military Parachuting remains one of Air Command's top risks to life. Air Command's safety governance of military parachuting has been the subject of review through the Total Safety Command Board and has been deemed to be satisfactory. However, there remain concerns about the management of the parachuting capability in both the short and long-term. Availability of supporting air assets, equipment stock-levels, sustainability and obsolescence are all issues when set against an increasing and poorly understood demand signal. Following completion of a review into external factors causing an increase in military parachuting risks to life, meetings have been held with the commanders of the relevant TLBs, leading to progress within the governance structure that supports Defence's parachuting enterprise. Areas for improved and transparent governance and assurance of military parachuting will be overseen by a newly formed 2\* working group. Meetings will also take place between the military parachuting regulator and operators and their civilian counterparts, to capture the read across governance and regulatory elements within the sports and adventurous training parachuting areas as a

result of the Weston-on-the-Green Service Inquiry which is due to be published in summer 2023.

### **3.4 – Strategic Command – LIMITED Assurance**

UKStratCom is assessed as LIMITED assurance; this assessment is considered to be marginal with many areas nearing SUBSTANTIAL levels of assurance following concerted action across the Command.

Areas of good practice and improvement include the following:

- The UKStratCom Safety Centre reached Initial Operating Capability in July 22, mirroring the good practice within the single Services. New posts have been created within the Safety Centre to deliver specialist support and assurance in areas such as equipment safety, dangerous goods, military training, movement & transport, and Ordnance Munitions and Explosives.
- The UKStratCom HS&EP Committee published a set of high-level priorities to ensure that Defence's policy for HS&EP is being adequately promoted and implemented. Organisations within UKStratCom are required to ensure that these priorities are reflected in their own Safety and Environmental Management Systems. In addition, a UKStratCom Substantial Assurance Recovery Plan has been drafted and will be rolled out in 2023/24.
- The implementation and maintenance of Environmental Management Systems has long been considered to be an area of relative weakness at UKStratCom units, compared to Safety Management Systems. As a result, the need to improve Environmental Management Systems was established as a priority in 2022 and the Safety Centre undertook a detailed review to gain better understanding of environmental performance, which is currently assessed as LIMITED.
- The UKStratCom fire safety team has now become fully embedded within the Safety Centre, resulting in greater focus and drive for fire safety management at strategic level.

Areas identified for further improvement include the following:

- There is a lack of clarity regarding the Duty Holding Policy and the nomination of Duty Holders, resulting in questions regarding the ownership of some of the organisation's top risks. Notably, inconsistent management of risks to life results in some of the top risks having multiple owners. It was not clear who was responsible for their management nor who decided that these risks were tolerable.
- Whilst there has been improved understanding of Second Line of Defence mechanisms across their complex portfolio, some areas continue to display no evidence of assurance. UKStratCom remains subject to an Improvement Notice based on an incomplete picture of assurance relative to Land Systems and acquisition. The establishment of the Safety Centre and efforts to improve safety performance are noted, but not yet mature. UKStratCom is assessed as LIMITED by the Fuels and Gas, Land Systems and Movement and Transport Safety Regulators.

- Key leadership in UKStratCom was overly reliant on Head Safety Centre to guide them and make decisions on safety matters. The safety management system would benefit greatly from a board level safety champion.
- Governance in Defence Primary Healthcare needs to be applied consistently across the organisation to ensure reliable high-quality care. There should be clarity about responsibility and accountability within the practices, with regions proactively monitoring and managing risks. Local and regional meetings should be covering important safety aspects including risks, policy changes, safety alerts and common themes.
- Assurance standards of Overseas Bases, in particular inspections of facilities in the Overseas Bases portfolio and surrounding equipment standards, confirm significant weaknesses that need to be addressed. The Land Systems Safety Regulator audit of UKStratCom and Equipment Standards inspections of facilities in the Overseas Bases portfolio led to the issuing of three Improvement Notices. Substantial effort is required in the coming year to establish an effective mechanism and improve overall assurance and performance.
- Inspection of Pre-Hospital Emergency Care in British Forces Cyprus highlighted significant deficiencies in effective organisational systems, shortfalls in risk management, confusing governance systems and a lack of oversight by UKStratCom in assuring Director Overseas Bases, alongside a lack of safety committee oversight.
- There is a lack of clarity over the scope of maritime activity within UKStratCom and the maturity of safety management arrangements. Issues include: maritime SQEP; ongoing lack of clarity regarding accountability, interfaces, risk ownership and formal risk escalation routes; and issues with the separation between Duty Holders and those with the necessary financial levers. At times, risk escalation bypasses stakeholders who have the authority to implement mitigations.
- Within the fire safety domain, UKStratCom has reached SUBSTANTIAL assurance within the areas for which UKStratCom has control / influence. However, areas for UKStratCom to make significant improvements include compliance with JSP 850 for works undertaken on the estate, and increased delivery of fire safety assurance, which may necessitate recruitment and retention of SQEP.
- There is insufficient focus on HS&EP in acquisition supplier contracts and very limited evidence of processes to identify the H&S management activity of suppliers. It is assumed by UKStratCom that DE&S was responsible for safety, and yet safety is not on the agenda of routine meetings between the two TLBs. In addition, there was no evidence of H&S being considered by the UKStratCom investment approvals process. This issue was identified in the Service Inquiry into the fuel spill following an Ocean Tanker breaking its mooring lines at RAF Akrotiri. There appears to be no one individual nominated to take responsibility for specifying that contracted tankers meet recognised international standards.

### 3.5 – Defence Equipment & Support – SUBSTANTIAL Assurance

DE&S has maintained its SUBSTANTIAL assurance assessment which it declared in the 2021/22 AAR, despite significant increases to its operational tempo.

Areas of good practice and improvement include the following:

- DE&S has launched its new transformation programme, known as Strategy Refresh, with the ambition to create a potential foundation to achieve FULL Assurance. Underpinning their drive to improve safety culture, DE&S has also delivered a number of Safety and Environment events, resulting in improvements which have been evidenced in culture surveys.
- DE&S domains have developed slightly different approaches to their safety delegation structure to suit the size and complexity of their projects. A review of acquisition safety delegations and responsibilities suggested these could be improved by following best practice across the business. Directed guidance was issued, including the publication of an improved Acquisition Safety Policy. As a result, DE&S domains have begun the process of restructuring following a more consistent model and to ensure work is more appropriately allocated to competent delegated staff.
- Following the Defence Safety and Environmental Committee endorsement in 2021 to develop Land certification, DLSR and DE&S aligned resource, supported by Atkins, to develop the process and initial standards. The programme is progressing ahead of schedule and is now expected to start pilot activity in 2023. DE&S, supported by the Regulator, has also initiated a review of legacy capability safety cases; this has been augmented by significant DE&S effort to improve data around Noise and Vibration hazards in armoured vehicles.
- Information management is critical to the success of DE&S and its management of safety. Recently, the roll out of new Microsoft solutions has provided an improved toolset and staff training. This significant improvement is expected to extend into the 2023/24 reporting period.

Areas identified for further improvement include the following:

- DE&S is structured around four domains (Air, Land, Strategic Enablers and Ships), yet most projects/programmes need to engage with multiple regulators and all need to demonstrate compliance with the law. Feedback is being provided from DE&S experience to support DSA in its ambition to offer better signposting between regulations. Additionally, DSA has enhanced the functionality of the current Defence Legislative Support Tool to improve the User experience, as well as initiating a User Requirement capture to generate a more effective and efficient replacement tool/service in 2025.
- Effective assurance across all aspects of DE&S business remains a significant weakness due to resource challenges, resulting in ineffective activities across the First Line and Second Line of Defence. Information knowledge management of safety functions has been enhanced in the Air Domain but needs broader attention across DE&S. Reduced



staffing level within DE&S has removed the ability to undertake fire safety activities. This has resulted in the Defence Fire Safety Regulator exceptionally undertaking First and Second Line of Defence fire safety assurance activities during the reporting period. This requires DE&S attention.

- The increasing operational demand being placed on maritime platforms is impacting the ability of DE&S Ships to provide sufficient and timely support to in-service platforms. SQEP is an issue and this is reflected within in-service vessel maintenance and certification. The Defence Maritime Regulator has also challenged DE&S Ships on the legislative compliance of new build projects, requiring demonstration that new acquisitions are complying with Derogations, Exemptions and Disapplications to legislation. It has been clearly evident this year that acquisition teams are not giving this the attention it needs. As the procurement of Type 26 and Type 31 ships nears the point at which accountability for the vessels is transferred from contractors to in-service Duty holder, DE&S needs to clarify the transition of vessel safety and engineering documentation and its accountability in that process.
- DE&S has shown some broad improvements to safety aspects of some infrastructure, which has historically been a significant challenge. However, DE&S remain LIMITED as assessed by the Fuels and Gas Safety Regulator where infrastructure design and maintenance, alongside emergency arrangements, remain key areas for improvement.
- A review of strategic risk (safety cases) and recent investigations has identified gaps in platform safety cases. A full review of quality is underway with a clear and consistent framework now provided, which is being applied across all domains. Initial findings indicate potential gaps in requirements, consideration of human factors, certification, changes to standards, management of operating limits, assurance of safety artefacts, disposal risks, and suitability of evidence underpinning the safety claims. In parallel, a strategic risk for Occupational Health, Safety and Environment is being developed to reflect similar concerns with appropriate risk assessments. Action is in hand to improve this throughout the 2023/24 reporting year.

### **3.6 – Defence Infrastructure Organisation – LIMITED Assurance**

The Defence Infrastructure Organisation (DIO) continues to make significant improvements in governance and leadership, which is enabling it to set the right culture and direction to meet changing and evolving organisational needs. Despite this, it remains at LIMITED assurance.

Areas of good practice and improvement include the following:

- There has been significant work to address previously identified issues, such as an increased focus on safety leadership, including improvements to safety governance, the establishment of the Safety Improvement Committee, and formulation of the Safe People Improvement Plan to improve levels of safety SQEP. In addition, DIO has completed the development of an aggregated Asset Safety Report to improve asset compliance and declutter the wider compliance picture.
- The DIO Building Standards Team is monitoring the risk profiling and corrective works undertaken within the identified high-rise clad residential buildings on the Defence estate.

This has included the undertaking of in-depth surveys, risk profiling of identified risks and the commencement of remedial works required to address recommendations made following the Grenfell Towers Inquiry.

- The DIO identifies fire safety as one of the main infrastructure risks within Defence. This area has since seen considerable investment by DIO, for example through the completion of compartmentation surveys of sleeping accommodation across the Defence estate. The compartmentation shortfalls identified during the surveys were provided to the respective Defence Organisations with accompanying fire strategy drawings. These premise fire strategy drawings are assisting risk management and fire risk assessment production, whilst also forming an integral element of the premise fire safety file which will be a requirement of future DSA Defence Fire Safety Regulations.
- DIO achieved the Royal Society for the Prevention of Accidents (RoSPA) Gold award for 2022, following-on from Gold awards for 2017, 2018, 2019, 2020 and 2021. The RoSPA review process is effectively a third-party evaluation and verification of the DIO Safety Management System.
- Assurance within the First and Second Lines of Defence of DIO-contracted diving projects has improved significantly over the last 18 months since. This is due to the employment of a Diving Assurance Officer (DAO) to ensure compliance with the requirements of the Diving at Work Regulations and Defence Diving Regulations. If the DAO is not informed of the dive, there remains a risk that diving may take place under a DIO-sponsored project without the appropriate assurance being conducted if the project team are unaware of the regulations and DIO policy.

Areas identified for further improvement include the following:

- The need for improved communication between DIO, sub-contractors and the Heads of Establishment has been highlighted along with the need to improve the handover of responsibilities between contractors to ensure safer outcomes. It has been identified that tier three maintenance contractors have not always informed the Head of Establishment of significant failures, for example with fire safety systems including fire doors, emergency lighting and fire dampers. The consequence of not informing the Head of Establishment of such fire safety systems shortfalls leaves the Head of Establishment exposed to unknown and unmanaged risks. To remedy these issues, DIO is reporting that they are introducing a documented system of weekly and monthly engagements with a detailed data pack which includes reporting of any identified non-compliance. The data pack will be agreed with TLBs and regularly reviewed.
- Good progress has been made on the Information Management mechanisms and tools for acquiring safety data, but there are continuing issues around how information is being used to improve safety across the 'Safe People' and 'Safe Place' areas. The governance and process around information and data needs to be strengthened for improvement to be realised. The right data must be made available to those responsible for activities to enable analysis of events and learning opportunities, so that improvements can be identified, acted upon and shared. Some issues with delivery and assurance of compliance are noted, with a need to maintain a focus on issues and non-conformances identified and tracking of progress to address outstanding actions.

- The poor transfer of maintenance contracts to new suppliers has been a common theme this year, contributing to the issue of two Improvement Notices from DLSR against DIO Regional Delivery (RD). In each case (RNAS Yeovilton and West Moors), these were raised because DIO could not provide sufficient evidence on the maintenance of the fuel facilities. Improved assurance should be carried out against any new service providers to ensure they are qualified and competent to deliver the required output. The 2021/22 AAR had previously noted that a more effective response from DIO was needed when enforcement or non-conformances are identified.

### **3.7 – Defence Science & Technology Laboratory – LIMITED Assurance**

The Defence Science & Technology Laboratory (Dstl) has an overall assessment of LIMITED. Dstl's assessment score has not improved from the previous year and its performance has remained largely unchanged for the last three years.

Areas of good practice and improvement include the following:

- Whilst no formal assurance was conducted for environmental protection, Dstl were positive in establishing a new Environmental Protection (EP) Committee to oversee this area of compliance in advance of MOD's new Environmental Management System (EMS) performance framework. This committee is expected to provide more rigorous assurance of EP compliance.

Areas identified for further improvement include the following:

- After an incident in which an individual sustained serious injuries in September 2022, Dstl received a Crown Prohibition Notice from the Health and Safety Executive (HSE) which ordered a cessation of specific working practices relating to energetic materials. HSE continues to investigate this incident to determine the cause and identify material breaches of UK Health & Safety legislation. The Defence Accident Investigation Branch (DAIB) produced a Deployment Record on their findings into the causes of this incident in November 2022. These findings, together with those from Dstl's internal corporate investigation and feedback from HSE, have informed an overarching safety reset action plan with lack of supervision and control of activities being identified as a major contributory factor. Dstl has initiated remedial work to address the immediate causes and prevent reoccurrence along with a risk assessment deep dive.
- In some high hazard activities, Dstl Divisions rely on the Safety Technical Authorities to set standards based on legislation, MOD policy and industry best practice, and provide the sources of applicable legislation and standards. Accordingly, Divisions do not maintain their own detailed registers of applicable legislation, Defence Regulations, policy and guidance, which is partly reflected in the scoring.
- Although Dstl has a strong process description of its well-structured approach to the management of lessons learned, in practice evidence suggests that its implementation is not as effective in reducing the frequency of high potential

incidents with reoccurring themes. This is recognised as a key area for improvement under the safety reset action plan.

- In November 2022, Defence Internal Audit reported its findings on an audit of Safety Culture - Human Factors Process and reported that: there were issues with the implementation of the H&S strategy; the plan aligned to the core activities contained insufficient detail; whilst risks to implementation of activities were being captured, they had insufficient detail and had not been formally documented and assessed within a risk register to adequately demonstrate ongoing management.
- Dstl has recently established a platform authority function for the vessels that it operates. This has enabled the closure of an Improvement Notice placed on them by the Defence Maritime Regulator. Further work is required to establish an effective audit and assurance regime, and this remains ongoing. In addition, Dstl's process for the oversight of contracted operated vessels remains immature. Work has been undertaken to expand activity in underwater trials and autonomy; this will require the maintenance of effective safety documentation and contractual oversight.

### **3.8 – Defence Electronics and Components Agency – SUBSTANTIAL Assurance**

The Defence Electronics and Components Agency (DECA) has achieved SUBSTANTIAL assurance.

Areas of good practice and improvement include the following:

- DECA's SUBSTANTIAL assurance level indicates that it has the requisite organisational systems in place to deliver consistent safety and environmental organisational assurance outputs. Both safety and environmental aspects remain fully compliant to external international standards, enabling DECA to maintain its external accreditations, with consistency across all its activities in line with the highest recognised standards.

Areas identified for further improvement include the following:

- There is little evidence of effective environmental management behaviours among the workforce, with limited participation in environmental management activities.
- Some of the Defence Organisation's workforce have health and safety objectives defined in their annual objectives, but this is not done consistently.
- There was a lack of 'organisational hierarchy' understanding in some areas with duties and responsibilities for HS&EP management not being clearly defined. This is also not reported on consistently as part of the performance appraisal process.

### **3.9 – Defence Business Services – SUBSTANTIAL Assurance**

The Defence Business Services (DBS) maintains its SUBSTANTIAL assessment from last year.

Areas of good practice and improvement include the following:

- DBS has continued at strategic and site level to ensure its continued alignment with MOD procedures, statutory requirements and best practice. Additionally, it has continued to prioritise upskilling of the HS&EP team to meet the DBS strategic objective to be represented by NEBOSH-qualified focal points, share good practice and build expertise, and ensure Heads and Deputy Heads of Establishments successfully complete IOSH 'Safety for Senior Executives'.
- The DBS Environmental Management System has been published and advertised to staff. It has been developed to incorporate greening government targets, reflecting the MOD Climate Change & Sustainability Strategic Approach document.
- In July 2022, DBS received a UKStratCom CESO Audit revisit and there was evidence of good progress towards addressing audit non-conformances. In turn, this provided assurance that the standards observed at the last audit in 2021 were being maintained and improved. On completion of the ensuing actions, it is expected that DBS will be on track for FULL assurance at UKStratCom's next audit.
- In April 2022, the DBS HS&EP team undertook an assurance programme, visiting core sites to assess HS&EP management systems in line with JSP 375 Volume 2. Reports and action plans were created for all sites and issued to Heads of Establishment. A revisit programme commenced in October 2022 to assess progress of the action plans; most of the outstanding work was linked to prime contractor actions and this was escalated to the Defence Organisation responsible, for example the Defence Infrastructure Organisation. Actions that remain open were scheduled for review during DBS's annual audit/assurance visits.
- The Defence Fire Safety Regulator visited DBS-operated Norcross site on 3 March 2023 to review fire safety policy and process. The regulator assessed DBS as SUBSTANTIAL because the DBS HS&EP team were able to demonstrate and evidence positive systems from strategic to operational and describe how these aligned.
- The highest rated HS&EP risk across the DBS portfolio is 'driving'. Despite lower numbers of recorded driving-related incidents, the number of detached duty and commuting journeys are increasing. DBS has introduced mitigations, including driver information guides, information published on DBS's HS&EP file sharing site and inclusion of driver safety information within their 'inFocus' all staff newsletter.

### **3.10 – UK Hydrographic Office – SUBSTANTIAL Assurance**

The UK Hydrographic Office (UKHO) has been assessed to have SUBSTANTIAL levels of assurance as a combined HS&EP assessment. UKHO's overall Health & Safety assessment is LIMITED, with 64 of 75 requirements at substantial or above.

Areas identified for further improvement include the following:



- Work is ongoing to address shortfalls identified from last year's audit, specifically shortcomings regarding formalisation of an organisational baseline, documentation control and a learning from experience process. An action plan is in place to improve the UKHO's HS&EP performance, including a multi-year sustainability roadmap which charts the Organisation's course to Net Zero by 2050 and includes development of a new Environmental Management System over the next two years. Currently, there are no arrangements in place to provide a structured process for the identification of hazards relating to environmental aspects and impacts.
- Despite the UKHO's plans to improve support of recruitment, deployment, career development, retention and succession of its people, the Health and Safety function is currently under resourced. Importantly, there is a significant Fire Safety Management gap which can only be filled by specialist, qualified staff.
- The Health & Safety role at the UKHO has historically been implemented as a part time role. Given the various layers, requirements and responsibilities attached to such a position, a review of the role requirements with a view to increasing the relevance and importance of this work would be beneficial.
- Within the UKHO's Health and Safety function, those with management responsibility must ensure they understand the Health and Safety elements of their roles, the responsibilities of their staff, and that staff are suitably trained with access to the correct H&S information to discharge their duties. There is also a requirement for UKHO leadership to regularly review Safety Management Systems to ensure actions are addressed in line with timeframes set by regulators.

### **3.11 – Oil and Pipelines Agency – SUBSTANTIAL Assurance<sup>7</sup>**

The Oil and Pipelines Agency (OPA) has maintained its SUBSTANTIAL assurance assessment.

Areas of good practice and improvement include the following:

- The OPA is regulated under the civilian regulatory framework for UK Oil Fuel Depots with the regulators consisting of the Health & Safety Executive (HSE), the Environment Agency and Scottish Environmental Protection Agency (SEPA), collectively known as the Competent Authority (CA). Each year, the CA issues an Intervention Plan against which the OPA is audited. The OPA has been shown to have robust systems, policies and procedures in place and has an Environmental Management System that satisfies the requirements of the Control of Major Accident Hazards Regulations (COMAH), as determined by the CA.
- This reporting year consisted of seven interventions, with an additional six sites that successfully submitted their COMAH reports. These inspections resulted in two legal actions but significant positive feedback from the depots about timely recovery. There has been no enforcement action (i.e. no prohibition or improvement notices). This year

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<sup>7</sup> The Oil and Pipelines Agency is not regulated under the Defence Safety Authority or under Defence's Major Accident Control Regulations (MACR) on UK sites. The OPA instead operates under the COMAH Regulations, with the relevant Competent Authority (CA) providing regulatory scrutiny.



has also seen OPA complete its journey to compliance in terms of tank integrity, for which the CA Inspector commended OPA.

Areas identified for further improvement include the following:

- The OPA has identified the following challenges which will form the foundation of efforts to achieve FULL assurance: maintain and improve positive CA scores; continue to complete the submission of the COMAH reports within schedule; deliver Basic Process Control Systems (BPCS) compliance projects for Campbeltown, Loch Ewe and Thanckes; and to maintain critical path works for remaining depots.

### **3.12 – The Ministry of Defence Police – SUBSTANTIAL Assurance**

The Ministry of Defence Police (MDP) has been assessed to have a SUBSTANTIAL overall level of assurance across its portfolio of work.

Areas of good practice and improvement include the following:

- The MDP's Strategic Safety, Health and Environmental Protection (SHEP) Committee has been successful in many areas. These include reviewing collated data quarterly and analysing it as supporting evidence to focus strategic direction and maintaining a Strategic HS&EP Risk Register on behalf of the Strategic SHEP Committee (comprising the Chief Officers). Work is in its early stages but has enabled conversations about ownership and mitigation of MDP HS&EP risks.
- The MDP SHEP team are ISO45001 lead auditors accredited by the International Register of Certificated Auditors (IRCA) and have delivered a programme of internal audits during the 2022/23 reporting year. This programme is a rolling three-year plan, inspecting around 30% of MDP operational units each reporting year. In 2022/23, 16 internal audits were completed. The average assurance rating evidenced was 91%, demonstrating full compliance at 15 of the units and substantial assurance at the remaining one.
- MDP maintains successful relationships with the maritime domain, including Defence Marine Services, who are fully engaged in cross-MOD boat forums. In response to Defence Maritime Regulator recommendations, MDP's Second Line of Defence now consists of professionally qualified Maritime Internal Auditors. These internal audits are underpinned by a programme of regular operational checks that Marine unit officers carry out and record, and a planned maintenance programme for the craft.
- Since MDP was audited by UKStratCom in May 2021, achieving an overall score of 86% (category 'B' rating), significant progress has been made on governance structures and processes across all areas of MDP business. However, the Defence Internal Audit report this year also highlighted non-compliance in embedding business governance, demonstrating that this remains an area of focus for safety in 2023/24 to ensure governance processes are fully embedded.

Areas identified for further improvement include the following:

- The highest risk to MDP moving from SUBSTANTIAL to FULL HS&EP assurance during 2023/24 is resourcing of the MDP SHEP team and other SQEP posts. In response to the Defence Movements and Transport Safety Regulator recommendations, MDP is working with UKStratCom Dangerous Goods Safety Advisor to develop a programme of activity, which will be introduced during 2023/24. It has been recognised that MDP staff resourcing constraints limit MDP's capacity to develop its own independent Dangerous Goods Safety Advisor role.

### **3.13 – The Defence Safety Authority – SUBSTANTIAL Assurance**

The Defence Safety Authority (DSA) has an overall assessment of SUBSTANTIAL.

Areas of good practice and improvement include the following:

- The DSA has a customer-supplier agreement with the Chief Environment and Safety Officer (CESO) Strategic Command (UKStratCom) for competent HS&EP advice and support (on demand) and independent HS&EP audit functionality. In June 2022, the UKStratCom CESO conducted an audit of the DSA and awarded a SUBSTANTIAL rating of 87%.
- The DSA has staff located at various locations across the UK, including Abbey Wood, Main Building, Boscombe Down, Lichfield and Portsmouth. The DSA has an overarching Organisation and Arrangements statement and Safety and Environment Management System for its business activities but is a lodger unit at all locations and therefore promotes and follows the HS&EP arrangements set by the Heads of Establishment to achieve legislative compliance.
- To ensure all personnel with HS&EP duties have appropriate training, all regulator, branch heads and business management staff completed or were enrolled on the senior executive IOSH course.
- To improve safety culture and more effectively engage with employees, HS&EP has been made a standing agenda item at the DSA Business Delivery Working Group, which will monitor HS&EP performance, including planned workplace inspections and timely review of reported incidents, and communicate HS&EP messages. This will be reported to the DSA Management Group and then the DSA Main Board to ensure effective oversight and governance.

Areas identified for further improvement include the following:

- HS&EP management requirements, including risk identification, evaluation and control need to be effectively incorporated into the organisation's management planning process. The HS&EP Safety Advisor post was not filled and a SQEP Risk Manager was not in place; this led to risks not being adequately identified, evaluated, controlled, or recorded.
- Improved communication is required to ensure that relevant HS&EP management system documents, such as organisation and arrangements, targets, objectives, new legislation and policy is disseminated to relevant individuals within the organisation. Whilst there is evidence of this happening in some areas, in others information is not cascaded at all.

- There is a requirement to monitor compliance with and achievement of the DSA HS&EP targets and objectives at all levels alongside ensuring that actions made as a result of HS&EP audits, inspections, or management meetings are monitored to completion. Over the previous 12 months, there had not been an internal audit to evaluate HS&EP conformance against MOD and DSA requirements.

### **3.14 – Head Office (HO) – LIMITED Assurance**

During the 2022/23 reporting period, Head Office (HO) has achieved an overall assessment of LIMITED assurance.

Areas of good practice and improvement include the following:

- Head Office continues to remain a primarily office-based organisation. Where necessary, operations teams have been established to address global events and emerging Defence scenarios. Except for Defence's Crisis Management Centre and Director General Saudi Armed Forces Projects who both have their own Heads of Establishment with Safety Environmental Management Systems (SEMS) and Safe Systems of Work in place to mitigate all identified risks to ALARP and Tolerable, it is assessed that the remainder of Head Office based activities and outputs remain low risk.

Areas identified for further improvement include the following:

- During the reporting period, the HO HS&EP team has been unable to successfully recruit personnel to deliver Health and Safety support to Head Office (evidenced by four unsuccessful recruitment rounds). While a successful candidate is currently being onboarded, concerns remain over the length of time the post has been gapped and the ability to appropriately support HO and its business units. This lack of resource has contributed to HO's overall inability to reach SUBSTANTIAL assurance.
- In some areas there is no formal mechanism for assuring that HS&EP induction training is being done and lack of a Safety Champion in some areas means that there is no senior oversight of HS&EP issues within specified business units.

# Section 4 – Domain Safety and Environmental Regulatory Assurance

## 4.0 – Section Scope

In the UK, Defence complies with all applicable Health, Safety and Environmental Protection (HS&EP) legislation, barring circumstances where such legislation prevents Defence from operating effectively. In these cases, Defence makes Departmental arrangements that produce outcomes that are, as far as reasonably practicable, at least as good as those required by UK legislation. Defence does this through sensible and proportionate self-regulation which balances risk against operational capability. Overseas, Defence follows the laws that apply in that location. If laws that apply overseas fall short of UK requirements, Defence will apply UK standards as far as is reasonably practicable.

The DSA, on behalf of the Secretary of State (SofS), maintains arrangements in the form of Defence Regulations. The DSA divides this requirement into eight domains, each of which is overseen by a Defence Regulator (Figure 4-1), which produces and enforces regulation and conducts assurance activity within that domain. The DSA provides independent assurance to the SofS, as part of the Department’s Third Line of Defence, ensuring Defence is compliant with the SofS HS&EP Policy Statement.



Figure 4-1 – DSA Regulators

## Assurance Model

Each DSA regulator conducts assurance activities in its domain across all relevant Defence Organisations to make an evidence-led assessment of HS&EP compliance. This is done by conducting surveillance, independent audits and inspections, and wider information gathering whilst also drawing on the results of the assurance activity conducted within Defence organisations.

The DSA's assessment of the assurance level of each of the regulated domains is based on the regulators' assurance assessments of each respective Regulated Community.<sup>8</sup> It is based on evidence collected throughout the reporting year. The scale for which each Defence Organisation is assessed within that domain varies and the assessment levels are only based on what the regulators have knowledge of, therefore the domain assessment levels against JSP 815 form only part of the overall assurance picture. Levels of assurance are categorised as: Full, Substantial, Limited or No Assurance (see Figure 4-2 for definitions and colour-coding used in the diagrams).<sup>9</sup> Further detail on specific issues contained within each element of the assessment table can be gained from the relevant Regulator domain reports.

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<sup>8</sup> Defined as the organisations or units within a Defence Organisation whose activities fall under Defence safety regulations for a specific domain.

<sup>9</sup> Defence Internal Audit definitions of assurance which originate from the Chartered Institute of Internal Auditors.

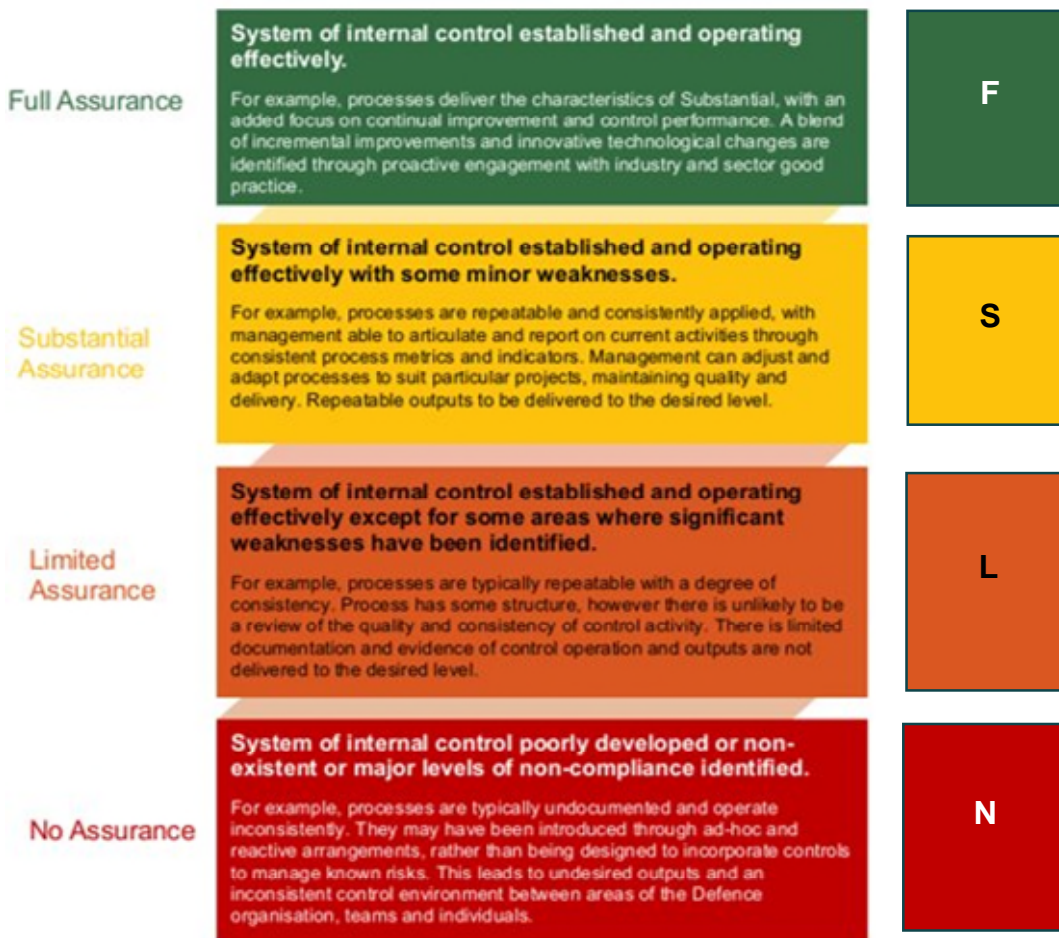


Figure 4: Assurance Stages

The centre colour represents overall assurance level

The border colour represents variations within the overall assessment. The full detail will be contained in the narrative.

Figure 4-2 – Defence Safety Assurance Levels

For the reporting year 2022/23, detailed assessments have been made against the twelve elements of the safety system contained in JSP 815 Part 1 *Defence Safety Management System Framework*. The centre colour represents the overall assurance level for that organisation and element, while the fringe colour represents variations within the overall assessment. It should be noted that the use of JSP 815 as an assessment tool has been directed by the Directorate of Health, Safety & Environmental Protection (D-HS&EP) in their policy update, and has resulted in slight changes to the scrutiny lens used in comparison to previous reports. Furthermore, the colours used to show assurance levels have been aligned with those of JSP 815. The consequence of these changes raises the potential to misinterpret areas of previous performance as being in decline, which is not necessarily the case, and complicates direct comparisons with previous years' reports.



## 4.1 – Aviation

**SUBSTANTIAL Assurance** – In a year of continued challenges, the Military Aviation Authority (MAA) has witnessed a positive trend of safety improvements across the Defence Air Environment with no fatal aircraft accidents.

### 4.1.1 Aviation Domain Scope

With an almost complete exemption from the United Kingdom’s Air Navigation Order<sup>10</sup>, Defence is required to regulate all activity in the Defence Air Environment. This is conducted by the MAA, the safety regulator for all UK Military Aviation. All Military Commands operate in the aviation domain with significant support from Defence Equipment and Support and industry; all are, therefore, subject to MAA regulation and assurance.

### 4.1.2 Aviation Assurance Summary

The Defence Air Environment’s assurance level has remained broadly static at SUBSTANTIAL, but much has changed beneath this assessment. The MAA has been required to evolve to support the changing scope and scale of the demands placed on it. This has ensured that they remain able to deliver against the Secretary of State’s mandate and assure equipment that is ‘Safe to Operate’ and ‘Operated Safely’ by the users. Operating Duty Holders audits continue to evidence this improvement, and responses to enforcement action are timelier and more comprehensive. The Aviation Duty Holder community’s top risks to life, while thematically stable, are also evolving. Of concern, are areas where the Aviation Duty Holders are not able to influence the changes required to generate a Safe Operating Environment for their capabilities and people.

Increased demand for certification, regulation and assurance activity from Integrated Review generated capabilities is now palpable, as we approach the sunrise of their entry into service. A shortfall of Suitably Qualified and Experienced Personnel (SQEP) in both the MAA and the Regulated Community affects much of the MAA’s activity, and this must be made a priority alongside Duty Holder Facing issues. There are, however, positive strides in many areas, notably training/mentoring, Regulated Community engagement (at home and abroad) and with some of the more complex activities like Battle of Britain Memorial Flight and Hawk 167. The vast proliferation of Remotely Piloted Air Systems and the novel technologies often associated with these platforms, large and small, is driving a fundamental shift in how we approach a capability’s entry into service. The MAA is being bold in supporting innovation but must also ensure that Defence understand the risks and consequences of this revised approach. The MAA will not always be able to, or need to, award the full MAA-certified kitemark but will support by articulating the shortfall in compliance with appropriate standards or providing advice on where alternative acceptable means of compliance, waivers and exemptions might permit a rapid entry into service for a new bounded risk.

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<sup>10</sup> The air navigation order implements the UK’s obligations under the convention on international civil aviation and regulates aspects of aviation safety. It provides regulatory and enforcement powers for the Civil Aviation Authority needed in respect of retained aviation safety legislation.

Defence Organisation	Overall Assessment	Elements											
		E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12
		Leadership, Governance and Culture	Organisation & Dependencies	Legislation, Policy, Regulations and Guidance	Risk Assessments & Safety Cases	Supervision, Contracting & Control Activities	Personnel Competence, Resources, & Training	Equipment Design, Manufacture and Maintenance	Infrastructure Design, Build and Maintenance	Performance, Management Information and Reporting	Incident Management and Continuous Improvement	Communications and Stakeholder Engagement	Assurance
Navy Command	S (F)	S (F)	S	S	S (F)	S	S (F)	S	S	S (F)	S	S	S (F)
Army	S (F)	S (F)	S	S	S (F)	S	S (F)	S	S	S (F)	S	S	S (F)
Air Command	S	S (F)	S	S	S (L)	S	S (L)	S	S	S (F)	S	S	S (F)
UK Strategic Command	S	S	S	S	S	S	S	S	S	S	L (S)	S	L (S)
Defence Equipment & Support	S (F)	S	S	S	S	S	S	S	S	S	S	S	S (F)
Duty Holder Facing (DH-F)	L (S)	L (S)	L (S)	L (S)	S (L)	L (S)	L	L (S)	L (S)	L (S)	L (S)	L (S)	L
Industry	S (F)	S	S	S	S (L)	S	S	S (F)	S	S	S	S	S (L)

Table 4-1 – Aviation regulatory domain assurance assessment

### 4.1.3 Regulator Activity

The MAA continues to undertake a risk-based approach to assurance, covering the full spectrum of the Defence Air Environment: Duty Holder and Duty Holder Facing (DH-F) organisations; Defence Equipment and Support Delivery Teams; and Industry Approved Organisation Schemes<sup>11</sup>. The MAA has continued to deliver assurance through a combination of virtual and physical engagement (audit, surveillance and oversight), the frequency of which is informed by the MAA’s ‘air safety rich picture’.

In addition to maritime aviation and Air Traffic Management equipment assurance, the certification of new air systems and major type design changes continues to drive significant MAA activity. Notable outcomes this year include setting the foundations for H-47(ER)<sup>12</sup> certification, preliminary engagement with international regulatory agreement on the Global Combat Air Programme, and increasingly high-profile scrutiny of PROTECTOR ‘Safe to Operate’ arguments. Success is notable in LIGHTNING II, through exploitation of credit for the US Navy Authority’s activity (mutual recognition) which has reduced UK Defence assurance resource commitments.

In this reporting year the MAA has conducted 96 audits and a further 448 oversight and surveillance activities across the Defence Air Environment. This resulted in one Improvement

<sup>11</sup> The MAA maintains industry Approved Organisation Schemes for Contractor Flying (CFAOS), Air Traffic Management Equipment providers (AAOS), air system Design Organisations (DAOS) and maintenance providers (MAOS).

<sup>12</sup> H-47 (ER) is the new Chinook variant.

Notice (IN), and 198 Corrective Action Requirements. As of 31 Mar 23, there are five level 1 and 85 level 2 Corrective Action Requirements outstanding in the Defence Air Environment. The Improvement Notice remains open and one Urgent Improvement Notice (UIN), that remained open from the previous reporting period, has been closed.

#### 4.1.4 Findings

##### Areas of improvement

**Overview.** The Defence Air Environment's assurance level is assessed as SUBSTANTIAL with several individual elements trending towards Full assurance. There have been improvements in many of the Aviation Duty Holder-owned areas as well as those in Duty Holder Facing organisations. This will require sustained effort to maintain this rate of improvement going forward. Key areas of improvement identified were:

- **MAA engagement.** Collaboration with the Regulated Community, other regulators, industry and academia remains positive. A common theme across all branches is that they are spending more time engaging outside the MAA. Not only is this helping to promote an engaged safety culture, but it also ensures that the MAA is seen as an organisation essential to and supportive of Defence Air Environment output.
- **Training and mentoring.** Training and mentoring across all communities is improving. The MAA has been proactive in assisting the Regulated Community by sharing good practice and working with organisations to improve rather than just serving Corrective Action Requirements. This has been particularly noticeable across the Continuing Airworthiness community and Defence Equipment & Support.
- **Battle of Britain Memorial Flight.** Establishment of a Historics Working Group, now including the Civil Aviation Authority, that feeds into the Historic Aircraft Regulations Advisory Group is a significant step towards ensuring the continuing airworthiness of this flight. There is still much work to be done but progress is now being made.

##### Areas of concern

**Overview.** Notwithstanding the improving trend, some key themes persist. The Aviation Duty Holder community report that their top risks to life are: mid-air collision; controlled flight into terrain; loss of control in flight/uncontrolled flight into terrain; people currency and competency; and operational tempo. There remain concerns of weaknesses in Duty Holder Facing organisations and assurance of Aeronautical Information. Key areas of concern identified were:

- **MAA Suitably Qualified and Experienced Personnel (SQEP).** Reduced SQEP is a recurring theme across the MAA. The use of a risk-based approach allows work to be prioritised on areas where risk is greatest. This reduced capability means that the MAA is unable to carry out all the activity required by its mandate. A recurrent concern is the MAA's ability to recruit and retain SQEP Civil Servants against the backdrop of a highly competitive workforce market in the South West, which is able to offer more competitive salaries. While workforce recruitment and retention initiatives are being employed by the MAA, it cannot match the terms and conditions of service achievable in the private sector. Increasingly, the MAA has investigated contractorisation of workforce, particularly

in niche and specialist skillset areas such as cyber/software certification and weapons release, which has had some success.

- **Regulated Community SQEP.** Limited SQEP in the regulated community is a result of multiple factors and manifests itself in many ways. A shortage of personnel (not just in Air Safety Teams) and lack of experience are common themes in Defence Air Safety Occurrence Reports underscored by the number of alternative acceptable means of compliance, waivers and exemptions raised against RA1440<sup>13</sup>, for example. The RA1160-series transition and RA2375 Issue 4 transition are two further prominent examples where the regulated community has not been able to cope with the regulatory transition period<sup>14</sup>, resulting in unpalatable last-minute reliance on alternative acceptable means of compliance, waivers and exemptions requests or non-compliances. Shortage of SQEP is a significant contributory factor.
- **Failure to Follow Procedure (F2FP).** Several recently reported incidents, with Failure to Follow Procedure as a causal factor, have prompted the MAA to investigate further. Early indications suggest 45% of all Occurrence Safety Investigations / Service Inquiries have Failure to Follow Procedure as one of their stated causes and this has been stable for several years. In 2022, c.15% of Defence Air Safety Occurrence Reports submitted had at least one cause identified as Failure to Follow Procedure, with LIGHTNING II<sup>15</sup> reported incidents a notable growth area<sup>16</sup>. The MAA is conducting further analysis to establish how training, SQEP, supervision and poor practice feature within the reported Defence Air Safety Occurrence Reports / Occurrence Safety Investigations and service inquiries. Whilst Failure to Follow Procedure may not be a root cause, it is a symptom. The MAA is seeking feedback on what actions and mitigations Aviation Duty Holders have put in place in response to inquiry recommendations, what effect they have had to date, and any other preventative measures applied to reduce Failure to Follow Procedure.
- **Duty Holder Facing organisations.** Infrastructure, Aeronautical Information and Programme MARSHALL contribute to the already challenging task of generating and maintaining a Safe Operating Environment. Although most Duty Holder Facing organisations, whose primary output is to support aviation, are operating at SUBSTANTIAL assurance, those that are more peripheral to aviation have much less mature safety management systems. The MAA has worked closely with Defence Infrastructure Organisation, Overseas & Training (Salisbury Plain Training Area) to address issues with their Air Safety Management Systems and to ensure Deputy Training Safety Officers are suitably qualified and experienced to safely manage aviation activity on Salisbury Plain. The MAA has also worked with Dalton Barracks (Abingdon) to address significant shortfalls in the provision of a Safe Operating Environment for recreational aircraft operating from the airfield. Following an incident at RAF Brize Norton

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<sup>13</sup> RA 1440 – Air Safety training.

<sup>14</sup> In excess of 2 years.

<sup>15</sup> Lightning II at 19%. AOC 1 Gp has confirmed a deep dive into this.

<sup>16</sup> Maintenance occurrence Defence Air Safety Occurrence Reports (DASORs) had the highest proportion of F2FP causes, with over 25% of findings being F2FP related. This is significantly higher than all other categories within the analysis and 10% greater than the DAE level. Of F2FP DASORs, there were over 4700 from the maintenance category, representing over 40% of all F2FP DASORs from across the DAE in the period reviewed.

relating to over-banding<sup>17</sup> of the main runway and subsequent surface degradation, the MAA has initiated an end-to-end Infrastructure audit to examine the understanding of Duty Holder Facing responsibilities, assurance of operating surfaces and major works or repairs. Finally, due to issues associated with Aeronautical Information, Defence Airspace and Air Traffic Management will be subject to audit in May 2023.

- **Remotely Piloted Air Systems.** Defence is seeking to accelerate the introduction of Remotely Piloted Air Systems capabilities with an increasing focus on Beyond Visual Line of Sight<sup>18</sup>, armed and swarming operations. There is a lack of understanding of the risks and responsibilities relating to these types of operation and frustration amongst the regulated community at what they regard as overly burdensome regulation. The MAA is working closely with the CAA to understand the minimum standards of assurance that will be required to support such operations in UK airspace. Current MAA regulations ensure that appropriate levels of assurance are provided whilst ensuring sufficient flexibility to enable innovation at pace. For platforms that present a higher risk due to their kinetic energy, area of operations, or weapon carriage, the constraint is likely to be engineering SQEP to provide assurance that they are safe to operate. The MAA will continue to seek early engagement with operators to understand the requirements and assist them in bringing new capabilities into service expeditiously, with an appropriate level of safety assurance. Resolving the shortage of Remotely Piloted Air Systems SQEP within the MAA is critical to enable this and is under way.

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<sup>17</sup> Semi-permanent surface repairs.

<sup>18</sup> Beyond Visual Line of Sight - the operation of a Remotely Piloted Aircraft beyond a distance where the Remote Pilot is able to respond to or avoid other airspace users by visual means. For military registered RPAS, there is a significant increase in regulatory oversight when the range from the remote pilot exceeds 2km.



## 4.2 – Maritime

**SUBSTANTIAL Assurance** – The overall Assurance Level for the Domain is SUBSTANTIAL. However, the domain’s ability to remain at this level is coming under severe pressure due to the increased demand in terms of operational tempo, the ship/submarine build programme, a lack of Suitably Qualified and Experienced Personnel (SQEP) to meet increasing demand and increasing infrastructure issues.

### 4.2.1 Maritime Domain Scope

The Defence Maritime Regulator (DMR) currently oversees maritime-based activity across all Defence Organisations. It provides a framework of regulation, assurance and enforcement across MOD shipping, Ports, Harbours and Maritime Facilities, and Defence maritime activities such as diving, salvage and the commercial contracting of maritime support activities.

The domain is viewed in two halves. ‘Safe to Operate’ covers the provision of safe equipment, systems and platforms and is predominantly, but not exclusively, made up of Defence Equipment and Support Director General Ships, Defence Nuclear Organisation and Submarine Delivery Agency. The ‘Operate Safely’ element of the domain is made up of those organisations operating the equipment, systems, platforms, facilities and conducting maritime activity. This is mainly Navy Command but includes many other Defence Organisations. In line with its civilian equivalent, DMR also manages the Defence Shipping Register.

### 4.2.2 Maritime Assurance Summary

There is an imbalance between increasing operational demand and the available resource, which will lead to increased risk to both safety and environmental protection as efforts are made to meet these demands. It is essential that the additional cumulative risk being generated in this complex landscape is properly assessed and understood to enable informed decision making and risk management. To enable this, it is recommended that the domain focuses effort on ensuring the effectiveness of their assurance within the First Line of Defence, in order to provide an accurate assessment of the risk being taken.

The ‘Safe to Operate’ aspect of the Maritime domain is dominated by Defence Equipment and Support and the Submarine Delivery Agency. These organisations are the more mature elements of MOD ‘Safe to Operate’ and are assessed at SUBSTANTIAL Assurance. Smaller organisations fulfilling ‘Safe to Operate’ functions are currently assessed at LIMITED Assurance. This is in large part due to the immaturity of safety systems and resource available to address shortfalls, when identified.

All organisations in the ‘Safe to Operate’ aspect of the domain are suffering from the impacts of SQEP shortfalls which challenges their ability to develop and manage safety cases for complex naval platforms and equipment. This is further exacerbated by the drive to accelerate the development and introduction of innovative procurement and autonomous systems. In response, a number of initiatives to better manage and share the available resource have now been initiated. Care needs to be taken within this model of shared resourcing to ensure there remains clear accountability and ownership of advice, and that assurance functions remain suitably independent and effective.

The ‘Operate Safely’ part of the domain is dominated by Navy Command whose mature safety management systems result in an overall assessment of SUBSTANTIAL assurance. However,



there are common areas of weakness throughout the ‘Operate Safely’ part of the domain which include the lack of SQEP to conduct assurance of operations, training and to deliver necessary support functions. This is exacerbated by an increasing operational tempo, which in turn requires extending and increasing availability from platforms, thereby placing further pressure on training and support. A further area of weakness is the oversight and assurance of contracted maritime services.

As Defence Organisations investigate rapid procurement and the non-traditional routes for acquisition of capabilities based around emergent technologies, there has been a blurring of the traditional boundaries and responsibilities, which has resulted in an increasingly complex assurance landscape within the domain. In meeting these challenges, DMR has continued to embed the principles set out in its 2021-22 Business Change Programme. This has included, but is not limited to, increasing the number of organisations issued with an Authority to Authorise MOD Shipping (AtAMS), the introduction of a Quality Management System and the digitisation of the Defence Shipping Register and associated processes. Enduring difficulties in recruiting suitably qualified and experienced staff has been the main business challenge for DMR in 2022/23; it has also been a significant issue in DMR’s Duly Authorised Organisations.

Defence Organisation	Overall Assessment	Elements											
		E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12
		Leadership, Governance and Culture	Organisation & Dependencies	Legislation, Policy, Regulations and Guidance	Risk Assessments & Safety Cases	Supervision, Contracting & Control Activities	Personnel Competence, Resources, & Training	Equipment Design, Manufacture and Maintenance	Infrastructure Design, Build and Maintenance	Performance, Management Information and Reporting	Accident / Incident Management and Emergency Response	Communications and Stakeholder Engagement	Assurance
Navy Command	S	S	S	S (L)	S	S	S	S	L (S)	S (F)	S (F)	S	S
Army (Maritime)	L (S)	S (L)	S (L)	S (L)	S	S (L)	L	L	L (S)	L (S)	L (S)	S (L)	S
UK Strategic Command	L	S	S	L	L	L (S)	L	L	L (S)	L	L	S	L (S)
Defence Equipment & Support	S	S	S	S	S	S	S	S	S	S	S	S	F
Defence Science Technology Laboratory	L (S)	S (L)	S (L)	L	L	L	Not Assessed	S	S	S	L	S (L)	L
Defence Nuclear Organisation	L (S)	S	L	F	S	L	S	S (L)	L (S)	L	S	L	S
UK HO	S	S	S	Not Assessed	Not Assessed	S	L	Not Assessed	S	S	S	S	F
Ministry of Defence Police	S (F)	S	F	L (S)	F (S)	S	S	S (F)	S	S (F)	S	F	F
Submarine Delivery Agency	S	S	S	S	S	S	S	S	L (S)	S	S	S	S

Table 4-2 – Maritime regulatory domain assurance assessment

### 4.2.3 Regulator Activity

Activity has continued with greater emphasis on Maritime Autonomous Systems, where Defence is now leading the way in regulation, while continuing engagement with the Maritime Coastguard Agency. Expansion of the Defence Shipping register continues and has evolved to include Maritime Autonomous Systems. Alongside this, DMR has been working to improve legislative compliance across the domain through enhanced application of the Defence Legislation Support Tool, which encompasses all eight Defence regulators. The Defence Legislation Support Tool processes all disapplications, exemptions and derogations across the Defence community, including tracking cross boundary disapplications, exemptions and derogations which impact on one or more domain. The DSA is taking a leading role in replacing the Defence Legislation Support Tool with a more effective system.

In this reporting year, DMR has conducted 11 audit activities across the maritime domain. There are 66 corrective actions outstanding in the maritime domain, although only five higher level Improvement Notices remained open.

### 4.2.4 Findings

The DMR has identified strategic issues deemed to be driving both significant risk into the business and emergent risks. The issues identified include: management of submarine risks; Strategic Command; Maritime Autonomy; government owned/government operated vessels – legislation and regulatory boundaries; management of assurance within the domain; maritime infrastructure; Naval Authority and Technology Group programme resources; and management of applicable legal requirements for maritime activities. In addition, initial analysis of the audit activities, and of wider stakeholder engagement across the domain, is highlighting a number of underlying factors, these largely fall into two categories: demand and resource.

#### Demand

The demand for skilled resource and appropriate infrastructure within the maritime domain is increasing rapidly. This is driven by the following key factors:

**Ship and submarine building programme.** The UK is embarking on a considerable programme of ship and submarine building. This is due to expand the number of major platforms operated by the Royal Navy by >40% in the next five to eight years. The platforms will, in turn, require the associated support and infrastructure facilities.

**Disposals.** The introduction of new vessels will see the decommissioning of older vessels, now beyond their original design life. Whether sold or scrapped these vessels will still require suitable staff to ensure they are safe whilst they remain MOD assets.

**Pace of Acquisition.** Accelerated procurement paths are being adopted by several organisations in order to provide capability quicker. This places an increased and often bespoke demand on assurance and certification authorities which are not currently configured to meet this.

**Change in responsibilities.** The traditional procurement processes have established centres of expertise in procurement, support and operation. As organisations look to increase acquisition pace, they are also taking on additional roles in order to drive pace.

These roles are not typically held by these organisations, as evidenced by the lack of a mature set of processes and paucity of SQEP.

**Autonomy.** This area is maturing in terms of procurement and operation of autonomous surface vessels and equipment. The move to subsurface vessels and equipment, especially relating to those capable of passenger delivery is an area of concern, including managing the need for assurance, certification, and training organisations to adapt to the new technology.

**Operational Tempo.** The current global commitments are generating an increased demand on availability of legacy platforms, some of which are operating beyond their original design life, ultimately resulting in vessel fragility issues. The increased use of forward basing to maximise availability from these limited platforms, whilst pragmatic, has created further challenges, reducing the homebase support opportunities, and requiring maintenance and defect rectification to be conducted at range.

## Resource

The increase in operational tempo, ship and submarine building, new technology-based systems and the novel procurement approaches all require skilled staff and the associated support and training facilities for maintenance and the crews themselves. Key issues identified include:

**Suitably Qualified and Experienced Personnel (SQEP).** There is currently a shortage of maritime SQEP across the domain. All organisations in the 'Safe to Operate' element of the domain are suffering from the impacts of SQEP shortfalls. This challenges their ability to develop and manage safety cases for complex naval platforms and equipment. Additionally, Naval Authority and Technology Group, who are responsible for the delivery of Ship and Submarine safety certification, are suffering from severe shortages of SQEP. This level of SQEP challenge in Naval Authority and Technology Group is impacting their ability to deliver certification outputs and issue certificates with confidence. Across the enterprise there is an increased training output to meet this challenge; however, this will not address the shortfall in the short term.

**Infrastructure.** There is a significant backlog of infrastructure investment across the maritime domain, and this has been identified within the assurance reports. Fleet Operational Standards and Training Submarines has reported 'degrading infrastructure' as its top output risk, whilst Dockyard Port Infrastructure defects is registered as the Defence Marine Service's priority risk. Infrastructure issues are not limited to submarine support facilities, with Port Operations (Compliance and Assurance) identifying increasing infrastructure related concerns at most ports. To date, safety has been maintained by either the closure or restricted use of affected facilities, but this places further pressure on support and training.

## 4.3 – Land

**SUBSTANTIAL Assurance** – The overall assurance level for the land domain across Defence has remained at SUBSTANTIAL.

### 4.3.1 Land Domain Scope

The Defence Safety Land Regulator (DLSR) is responsible for safety and environmental protection regulation across four specific areas of predominantly land domain activity:

- The Fuel & Gas Safety Regulator for Fixed Fuel and Liquid Petroleum Gas Infrastructure.
- The Land Systems Safety Regulator for Land Systems Acquisition, Maintenance/Inspection and Disposal.
- The Movements & Transport Safety Regulator for Movement and Transport activity across all modes, including the carriage of dangerous goods.
- The Adventurous Training Safety Regulator for Defence Adventurous Training Centres.

All Military Commands, as well as the Reserve Forces and Cadets Associations, operate in some aspect of the Land domain, with significant acquisition and support activity from Defence Equipment and Support, and infrastructure management and maintenance by the Defence Infrastructure Organisation.

### 4.3.2 Land Assurance Summary

This year has seen a significant increase in activity in the Land domain. This increase has been driven by a combination of a return to pre-pandemic training levels, a surge of activity in support of operations in Eastern Europe and a shift in focus for Navy Command and Air Command towards acting as a Capability Sponsor for Land environment capabilities.

Overall, the land domain across Defence is assessed to be at SUBSTANTIAL assurance. This reflects activity across all four regulated areas and is balanced between the maintenance of SUBSTANTIAL assessments for the Adventurous Training Safety Regulator and the Movements & Transport Safety Regulator and the LIMITED assessments for the Fuel & Gas Safety Regulator and Land Systems Safety Regulator. The latter reflects identified shortfalls in Second Line of Defence assurance in both areas, and a linked increase in enforcement.

Sub-regulators assessments have identified common gaps against Safety Cases, Equipment, Infrastructure and Assurance. The table below captures a graphical representation of the overall assessment of the Defence Organisations that were assessed by three or more of the sub-regulators.

Defence Organisation	Overall Assessment	Elements											
		E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12
		Leadership, Governance and Culture	Organisation & Dependencies	Legislation, Policy, Regulations and Guidance	Risk Assessments & Safety Cases	Supervision, Contracting & Control Activities	Personnel Competence, Resources, & Training	Equipment Design, Manufacture and Maintenance	Infrastructure Design, Build and Maintenance	Performance, Management Information and Reporting	Incident Management and Continuous Improvement	Communications and Stakeholder Engagement	Assurance
Defence Level**	S (L)	S (F)	S	S (L)	L (S)	S (L)	S (L)	S (L)	L (S)	S (L)	S (L)	S (F)	S (L)
Navy Command	S (L)	S (F)	S	S (L)	S	S	S (L)	S (F)	L (N)	S (F)	S	S (F)	S
Army	L (S)	F (S)	F (S)	S	L	S (L)	L	L (S)	L (S)	S	S (L)	F (S)	S (L)
Air Command	S (L)	F (S)	S	S	L (S)	S	S	S	S	S	S	F (S)	S (L)
UK Strategic Command	L (S)	S (L)	S (L)	S	L (S)	S (L)	L (S)	L (S)	L (S)	S (L)	S (L)	S	L (S)
Defence Equipment & Support	S (L)	S (F)	S (F)	S (L)	L (S)	S (F)	S (L)	S (L)	L (N)	S (L)	S (L)	S	S (L)

Table 4-3 – Land regulatory domain assurance assessment

### 4.3.3 Regulator Activity

DLSR has returned to near pre-pandemic levels of activity. The sub-regulators conducted 244 audits, inspections and visits over the course of the year, the majority of which were face to face activities and included a number of key overseas location inspections. This is a slight increase in activity from the previous year and correlates to the increase in activity across Defence in the same period.

**Enforcement.** In 2023, DLSR issued more enforcement notices than 2022, rising from 9 to 17. The number of closures kept pace with this, with 13 being closed in the same period. The rise in enforcement notices issued is attributed to increased DLSR assurance activity in all sub-regulator domains and no change in trend has been inferred from this. Enforcements over 12 months old remain dominated by infrastructure projects with long lead times for completion.

### 4.3.4 Findings

**Overview.** The assessment has been conducted against the 12 elements of safety and is based on the current remit of DLSR; it has also looked at progress against issues raised in previous AARs. It is balanced between the Adventurous Training and Movement and Transport areas which have maintained their SUBSTANTIAL assurance status, and Fuels and Gas and Land Systems which remain at the LIMITED assurance level and have been the subject of increased enforcement this year as a result of degraded performance in key areas. This assessment is underpinned by the following themes:

**Second Line of Defence Assurance.** Assurance reports show evidence of improved effort and activity in this area across Defence. Recent developments in capability safety, vehicle inspection and the appointment of individuals into key Dangerous Goods posts are worthy of note.

**Land Environment Capability Safety.** Important progress has been made through parallel efforts from Defence Equipment & Support, Army HQ and the Regulator culminating in agreement on the implementation of Certification at the Defence Safety and Environmental Committee. This has provided a refined approach to land domain Safety Cases and significantly increased resource allocated to these tasks in both Army HQ and Defence Equipment & Support. Despite the significant progress however, recent incidents, including a fatality, mean that Land environment capability remains a key theme. This can be broken down into:

**Capability Development Assurance.** This year both the Royal Navy and Air Command increased their focus on land environment capability acquisition (Future Commando Force and Counter UAS capabilities). Assurance of Air Command and Strategic Command identified significant shortcomings in resource, processes and activity.

**Assurance of Safety Cases.** The HSE investigation into the Combat Vehicle Reconnaissance (Tracked) (CVR(T)) fatality identified significant shortcomings in the safety case of the platform and a Notice of Contravention was issued. Subsequent follow up work identified that these issues were common to most armoured vehicle platforms that have been in service for extended periods. This resulted in a programme of work by Defence Equipment & Support, supported by DLSR, to review and update all legacy safety cases. The initial assessment of the highest priority cases concluded in Apr 23; and Defence Equipment & Support and Army are now prioritising efforts to rectify issues found.

**Capability Management.** DLSR assurance visits identified significant shortcomings in the inspection regimes for in-service platforms. As a result, two Improvement Notices have been served on the Army. Both have been swiftly acted upon and an effective remediation plan is under way, including revision of Second Line of Defence assurance processes to prevent recurrence.

**Adventurous Training and High-Risk Activity.** Proposals for changes to Adventurous Training assurance will be confirmed once the Service Inquiry reports are published and may require DSEC approval in some areas prior to implementation. DLSR activity has highlighted the following key areas:

**Adventurous Training Centres.** Activity delivered through Adventurous Training centres is subject to regular assurance and is assessed to be in a good position.

**Adventurous Training Assurance Gap.** Currently no Third Line of Defence assurance activity is performed by Defence on Adventurous Training activity taking place outside of Adventurous Training centres. Adventurous Training was identified as sitting just below the threshold of a top eight Defence risk at the DSEC. This gap in assurance is also the subject of emerging recommendations from two ongoing Service Inquiries; it is expected that Adventurous Training Safety Regulator will need to expand Third Line of Defence assurance activity to meet these recommendations.

**High-Risk Activity/Sport.** The Adventurous Training Safety Regulator completed an initial Third Line of Defence assurance assessment of High-Risk Sport this year. It concluded that effective Second Line of Defence assurance processes are either in place or under development in all Defence organisations and that continued Third Line of Defence assurance is appropriate. The need for expanded Third Line of Defence Assurance of a broader range of activity was highlighted in two ongoing service inquiries



into a fatality and a serious injury resulting from activities that were neither sport nor Adventurous Training, but were supported by the chain of command. Consideration of regulation and assurance of these types of activities will need to be made next year.

### **Driver Training Assurance**

Information from recent service inquiries, analysis of accident trends and assurance activity by DLSR has highlighted an emerging concern linked to the assurance of training for drivers and commanders. This is an area that DLSR will investigate in the next reporting year.

### **Infrastructure**

Despite efforts to improve communication and assurance, infrastructure related issues remain the largest source of DLSR enforcement, with specific focus in the Fuels and Gas area. The majority of DLSR enforcement activity is linked to infrastructure issues in two areas:

**Infrastructure Investment Priorities.** Longer term outstanding enforcement is predominantly linked to infrastructure work either awaiting funding or awaiting completion. Most cases are progressing satisfactorily, but this is an area that requires continued attention to ensure progress is maintained.

**Maintenance Contract Management.** A significant proportion of DLSR enforcement relates to the effective delivery and management of maintenance and service contracts. This has roots in both the identification and management of issues by Heads of Establishment and in the effective control of contractors and sub-contractors through and by the Defence Infrastructure Organisation. At the heart of this is communication issues at several levels. DLSR has identified a need for the Defence Infrastructure Organisation and other Defence Organisations to review and agree the division of responsibility and the mechanisms for passage of information before improvement will be seen in this area.

**Experimentation and Innovation.** The DLSR issued a Regulatory Guidance Note to support experimentation in the Land domain. This was well received and awareness of the totality of experimentation and innovation activity across Defence is improving. There is evidence that formal experimentation and innovation has strong oversight, but gaps remain, particularly where innovation/experimentation is conducted locally.

**Cadets.** The Adventurous Training Safety Regulator and the Fuel and Gas Safety Regulator have assessed progress in this area. Overall, the picture is positive but there remains room for improvement, notably in the provision/deconfliction of effective assurance especially within the Sea Cadet establishments.

## 4.4 – Fire

**Fire Domain Overall – SUBSTANTIAL** – Due to overall improvements made across the regulatory domain, Fire has increased to SUBSTANTIAL assurance.

**Fire & Rescue – LIMITED Assurance** – Lack of progress in the Fire & Rescue area has significantly impacted the assurance levels for all organisations for which Fire & Rescue services have been assessed.

**Fire Safety – Fire Safety SUBSTANTIAL assurance** – This is an increased assessment from previous year based on improvements made during this reporting period.

### 4.4.1 Fire Domain Scope

As a statutory regulator<sup>19</sup>, the Defence Fire Safety Regulator's (DFSR) role is to provide assurance that Defence is compliant with the law and Defence Fire Safety regulations.

The DFSR comprises two disciplines: Fire & Rescue, and Fire Safety.

#### Fire & Rescue (Oversight, Assurance)

The DFSR Fire & Rescue (Oversight and Assurance) team has a principal responsibility to regulate the Fire & Rescue Services across Defence in accordance with the Secretary of State's Health Safety and Environmental Protection Policy.

#### Fire Safety

The DFSR's statutory fire safety duties fall into two provisions of the relevant legislation: 1) to ensure and assure that the requirement to take general fire precautions for the safety of relevant persons are taken by the Responsible (Accountable) Person and 2) the duty to consult with the DFSR as the fire safety enforcing authority in relation to proposed building works. These two duties are discharged respectively by risk based (Fire Safety) audits and an agreed formal consultation process.<sup>20</sup> In addition to this, post-fire audits may also be undertaken<sup>21</sup> to determine possible failings in compliance and suitable corrective/enforcement action where appropriate. The DFSR works closely with its statutory peers and is represented on the National Fire Chiefs' Council Sub Working Groups.

### 4.4.2 Fire Assurance Summary

It should be noted that Fire has been highlighted on previous occasions to the Defence Board via the DSEC as a risk and should remain closely monitored.

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<sup>19</sup> Under the Regulatory Reform (Fire Safety) Order 2005 and the Fire Scotland (Regulations) 2006, the DFSR has duties as the Enforcing Authority for UK Fire Safety legislation. This differs from the other Defence safety regulators who regulate where Defence has a disapplication, exemption, or derogation from law.

<sup>20</sup> Article 45 of the Fire Safety Order 2005 and Building (Scotland) Regulations 2004 Regulation 11.

<sup>21</sup> In concert with the Defence Accident Investigation Branch for major incidents.

Based on improvements made, most notably in the final quarter, Fire Safety has reached SUBSTANTIAL assurance. A revised focus on infrastructure within fire safety management must be prioritised to prevent a reversion to LIMITED assurance.

Although improvements are being made in the Fire & Rescue discipline, there are still issues that need addressing by both fire service providers and Defence Organisations, especially in the competence of personnel and standard of infrastructure. Resultingly, Fire & Rescue remains at LIMITED assurance.

DFSR Fire Safety Assessment of Defence Organisation	Elements											
	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12
	Leadership, Governance and Culture	Organisation & Dependencies	Legislation, Policy, Regulations and Guidance	Risk Assessments & Safety Cases	Supervision, Contracting & Control Activities	Personnel Competence, Resources, & Training	Equipment Design, Manufacture and Maintenance	Infrastructure Design, Build and Maintenance	Performance, Management Information and Reporting	Incident Management and Continuous Improvement	Communications and Stakeholder Engagement	Assurance
Navy Command	L SF	L SF	L SF	SL	SL	S L	Not Assessed	L	S L	L SF	L SF	S
Army	L SF	L SF	L SF	SL	SL	S L		L	S L	L SF	L SF	S L
Air Command	L SF	L SF	L SF	SL	SL	S L		L	S	L SF	L SF	S F
UK Strategic Command	L SF	L SF	L SF	SL	SL	S L		L	S	L SF	L SF	LS
Defence Equipment & Support	L SF	L SF	L SF	SL	SL	S L		L	L S	L SF	L SF	L S
Defence Infrastructure Organisation	S F	S F	S F	S L	S L	S		L	S	S F	S F	S L
Defence Science Technology Laboratory	S F	S F	S	S L	S L	S		L	S F	S F	S F	S
Defence Business Services	S	S F	S F	S L	S L	S		L	S F	S F	S F	L S
UK Hydrographic Office	S L	S F	S	S L	S F	S L		S F	S	S F	S F	L S
Ministry of Defence Police	S F	S F	S F	S F	S F	S F		L	S F	S F	S F	S L

Table 4-4 – Fire regulatory assurance assessment

### 4.4.3 Regulator Activity

During COVID-19, DFSR Inspectors conducted remote desk level analysis in order to continue to provide Units and Head of Establishments with a baseline level of assurance. Audit and assurance activities have now returned to pre pandemic activity with inspectors conducting face to face visits, which included overseas locations. In addition, several Regulatory Information Notices, presented to the Regulatory Community on specific subjects, were issued to assist in managing fire safety across Defence both in Fire Safety and Fire & Rescue.

This year, the DFSR Fire Safety Team conducted 220 Risk Based Audits, 46 more than the previous reporting year due to backlogs associated with COVID restrictions. This resulted in three Prohibition Notices and five Enforcement Notices being issued. In addition, under the Statutory Duty to Consult process, the Fire Safety team also provided a further 292 consultations on building works on the Defence Estate.

The Fire & Rescue (Oversight and Assurance) team conducted a total of 26 oversight and surveillance audits. These included:

- 8 Defence Aerodromes
- 7 Defence Domestic Sites
- 1 Surveillance audit
- 10 Task Resource Analysis

As a result, one Improvement Notice, 14 level one Corrective Action Requirements and 73 level two Corrective Action Requirements were issued. In addition, the Fire & Rescue (Oversight and Assurance) also issued eight waivers to Duty Holders to assist in supporting operational capability.

A significant challenge has been the implementation of the Task Resource Analysis, an initiative to establish the appropriate number of personnel and resources to deal with the Worst-Credible Scenarios safely and efficiently for an aerodrome incident. A particular challenge has been getting agreement from all stakeholders. This is now being addressed through the Defence Fire Rescue, who will provide a revised approach that will standardise how the process is delivered. The DFSR Fire & Rescue team in collaboration with DFR, Air and Navy representatives recently completed a multi-national effort and played a leading role in updating the NATO standards for Fire & Rescue. These standards will provide the UK and NATO with a much-improved common standard for combined operations.

The DFSR has worked with the Defence Infrastructure Organisation, Defence Legal Services and the Home Office over legislation changes to the Fire Safety (England) Regulations 2022, which saw several new regulatory requirements introduced to high-rise residential and other multi-occupancy residential buildings. Some of these legislation changes also had an impact on security. Through the Home Office, the DFSR requested an exemption to the regulations which affected security; this was granted, and the regulations were published in January 2023.

The DFSR continues to deliver “inform and educate” sessions with Defence Infrastructure Organisation project managers in the overseas and visiting forces areas to help improve understanding of fire safety duties associated with infrastructure. Despite this, the DFSR is still meeting Defence Infrastructure Organisation project managers who do not fully understand the

processes contained within Joint Service Publication 850<sup>22</sup>. The DFSR is also encountering a large amount of building work overseas being classed as “operational” and, as such, is bypassing the JSP 850 process. On reviewing works carried out, the DFSR is encountering failings that do not fully comply with the Building Standards. This has the potential to put the occupants at increased risk of fire.

On conclusion of an analysis workstream to understand the quality of First and Second Lines of Defence assurance within the Fire & Rescue area which completed at the start of this reporting period, recommendations were put forward to convene a quarterly tripartite meeting with DFSR, Capita Fire & Rescue (First Line of Defence) and Defence Fire Rescue (Second Line of Defence). These meetings together with the improved quality of First and Second Lines of Defence audit activity have significantly enhanced the levels of compliance, especially across the First Line of Defence. Resultingly, this has contributed to an improvement to the Third Line of Defence, with a substantial reduction in the number of corrective actions now issued, relative to previous years.

- External Wall Systems (cladding) in multi occupancy sleeping accommodation continues to be a managed risk. Work to remediate this issue is ongoing with the following:
- One building has been fully remediated by the removal and replacement of the external wall system (Vanguard HMS Nelson)
- One building will be fully remediated during financial year (FY) 23-24 for which funding has been secured (Cunningham & Fraser, HMS Drake)
- One building is being reviewed by an appointed legal firm with regards to holding the original contractor to account for the associated remediation work required (Glenart Castle, Birmingham)
- One building is to be taken out of use by 2025; whilst in the short term the Defence Organisation has accepted the associated risk
- 22 buildings are partially clad, and are not currently planned for remediation works (HMNB Faslane)
- Three buildings were identified as not requiring remediation works (Penn Tower, Block C Hyde Park Barracks and Armada Building HMS Drake)

All buildings have fire risk assessments in place, increased fire safety management procedures and have been subject to DFSR assurance activities. It should be noted that all buildings remain legally compliant, occupied, and do not contain the Aluminium Composite Material found at Grenfell Tower.

#### 4.4.4 Findings

Fire safety management has continued to improve in many areas, and this can largely be attributed to both the work undertaken by the Safety Centres within the Military Commands, and greater leadership and commitment shown by all Defence Organisations. In addition, with Defence acknowledging fire is now a significant risk, Director Health, Safety and Environmental Protection has been appointed Chair of the Defence Fire Safety Leadership Board which is convened as a sub-committee to the Defence Safety and Environmental Committee. The Defence Fire Safety Leadership Board is an executive board with a primary focus on informing Defence’s strategic intent in the following ways:

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<sup>22</sup> Infrastructure and Estate Policy.

- a. Identify areas where improvements to fire safety in Defence can be achieved.
- b. On a bi-annual basis, set the strategic intent and focus around improving fire safety across Defence.
- c. Elevate infrastructure issues to MOD's Infrastructure Joint Committee as appropriate. In addition, feed relevant information and findings to the Infrastructure Compliance Committee.
- d. Review the fire specific elements of the DSA Annual Assurance Report, test their alignment to the strategic intent and identify measures for consideration by Defence organisations which will realise improvements against the assessed level of assurance.
- e. Inform Defence's policy (JSP 426) regarding MOD's approach to meeting legislation and regulation, and to enable Defence to satisfy its diverse fire risk management requirements.

**Governance Structure.** With the introduction of the Defence Fire Safety Leadership Board, there is now a robust governance structure in place to deal with issues at the correct level. Following the inaugural meeting in October 2022, a Defence Fire Safety Response/Improvement Plan was agreed. The plan would be owned by the Board on behalf of the Defence Safety and Environmental Committee and responsibility would be delegated to the Defence Fire Rescue Chief Fire Officer for the management and updating of the Defence Fire Safety Response/Improvement Plan. Disappointingly the plan has yet to be released, and recommendations have been made to increase the frequency at which the Defence Fire Safety Leadership Board is convened until assurance of Fire Safety and Fire & Rescue have improved across Defence

**Project Delivery.** Defence Fire & Rescue project delivery has improved during this reporting year, particularly in the level of assurance at both the First and Second Lines of Defence and the reduction in the number of corrective action reports being issued. Disappointingly, concern remains about the quality and provision of fire risk assessments delivered on the Defence Estate. Capita now has a recovery plan in place, which has been endorsed by the Defence Fire & Rescue Chief Fire Officer. Those fire risk assessments deemed not suitable are to be replaced by June 2023. Subsequently, confidence of all Defence Organisations associated with fire risk assessments delivery has seen a significant decline that will take time to recover.

**Fire & Rescue Audit Activity.** Fire & Rescue (Oversight and Assurance) audit activity this year has also improved based on previous reports, most notably, in the last quarter. This can be attributed to improved leadership at both the strategic and Fire Station levels within Capita Fire & Rescue. Organisational learning improvements have contributed to a reduction in the number of Corrective Action Requirements being issued and, where issued, these have been closed out within satisfactory timeframes. Notwithstanding the improvements made, there are still issues with the lack of investment from Defence Organisations in the infrastructure surrounding fire station and fire training facilities. These are currently causing Health & Safety, and Environmental Protection issues which need addressing as a matter of urgency. These include the lack of Local Exhaust Ventilation within fire vehicle bays, the lack of investment in fire training simulators, and the capture of firefighting foam effluent. Until these issues are addressed, there will remain risk to fire safety across Defence.



**Fire Safety Audit Activity.** During audit activity, the DFSR (Fire Safety) team has found that most areas examined were 'broadly compliant'<sup>23</sup>, with overall compliance rates continuing to recover on the Defence Estate from previous years. Audit activity has identified an increase in non-compliance across the Voluntary Estate in the following areas: general fire precautions, fire safety arrangements, routes and exits, and maintenance and training. Analysis shows that the shortfalls in maintenance have continued to decline from the position articulated in the last three Annual Assurance Reports, indicating an area that requires improvement if it is to recover to an acceptable level. In addition, concern remains over the availability of competent persons for fire safety management responsibilities, due to retention issues with more lucrative offers from industry.

**Fire Safety Management.** It is evident that there has been a significant improvement in fire safety management across Defence. However, shortfalls exist around fire risk assessments and the inferior construction and maintenance quality of infrastructure, including fire safety systems on the Defence Estate. Taking a holistic view of the actions now being implemented at a strategic level, we anticipate the necessary improvements within both infrastructure and fire risk assessment delivery to be forthcoming. Thus, based on the work already undertaken and the significant improvements from the Military Commands and other Defence Organisations, the DFSR has concluded that Fire Safety across Defence has narrowly secured SUBSTANTIAL assurance.

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<sup>23</sup> Broadly compliant is NFCC terminology defined as few deficiencies found during audit and those minor in nature only.

## 4.5 – Ordnance, Munitions & Explosives

**SUBSTANTIAL Assurance** – comparable to previous year with some marginal improvement in the levels of assurance for Major Accident Control.

### 4.5.1 Ordnance, Munitions & Explosives Scope (DOSR)

The Scope of Defence Ordnance, Munitions and Explosives Safety Regulator (DOSR) regulatory oversight includes acquisition of Ordnance, Munitions and Explosives (OME) (including Directed Energy Weapons and Lasers), in-service and operational safety management of OME, MOD Ranges used for live-firing, and Major Accident Control Regulations arrangements at qualifying MOD establishments.

### 4.5.2 Ordnance, Munitions & Explosives Summary

Area of Responsibility	OME Acquisition	In-service and Op Safety Management	Ranges	MACR
Overall Assessment				

Acquisition – Substantial Assurance, with variations of Full, Limited and None.  
 ESIT – Substantial Assurance, with variations of Full and Limited.  
 Ranges – Full Assurance, with variations of Substantial, Limited and None.  
 MACR – Substantial Assurance, with variations of Limited.

Table 4-5 – Ordnance, Munitions & Explosives areas of responsibility assessments

**Acquisition - SUBSTANTIAL Assurance.** DOSR’s introduction of the Defence OME Certification Process (DOMECP) has enabled a more consistent and systematic approach to OME product safety which provides a sound knowledge base for the ongoing safety management of the OME product, once in service. Delivery Teams have responded positively to the DOMECP which is now embedded into day-to-day processes, adding to the confidence of OME’s Safety and Suitability for Service. The current programme of change initiatives<sup>24</sup> for weapons systems safety, and Defence Equipment and Support acquisition more widely, is introducing a modernised, flexible and risk-based approach which will enhance ‘delivery’ of next generation capabilities at greater speed and effectiveness. This new resilient approach will enable capabilities to be made available sooner, informed by our risk appetite and sound engineering judgement and will inform Operational Commanders of their risk decisions and consequences of operating a capability in times of war or peace.

**In-service and Operational Safety Management - SUBSTANTIAL Assurance.** For in-service and operational safety management, the DOSR waiver process utilises the principles of NATO’s Explosives Safety and Munitions Risk Management process. This enhances agility and operational flexibility by identifying non-compliances and potential consequences associated

<sup>24</sup> DE&S led the Weapon Lifting Study and Weapons Qualification Improvement Programme, which is already delivering improvements in weapon lifting and Air Carriage hours. DOSR has introduced the DOMECP and made progress (with DE&S) on a Mutual Recognition Agreement with the US Weapon Systems Explosives Safety Review Board (WSESRB) and, development of a new NATO Ammunition Recognition Programme (NARP) with Belgium, Canada, France and Germany. The DE&S Transformation Programme aims to enable more efficient/faster delivery.

with munitions operations, risk reduction alternatives and provides risk decision criteria for key decision makers. With the challenges and aspiration to develop the Agile Combat Environment, more still needs to be done to improve the skills, knowledge, experience and behaviours associated with explosives safety awareness, particularly to support duty of care to personnel and to protect essential operational capability and assets.

**Ranges – FULL Assurance.** Now in its third year of application, the new single-form range licencing scheme continues to be delivered across all MOD ranges. Levels of safety compliance across all MOD organisations has increased with an associated reduction in enforcement activity by DOSR. There has also been a notable increase in applications to licence Host Nation ranges and Temporary Exercise Ranges as UK training activity steps-up.

**MACR – SUBSTANTIAL Assurance.** The management of Major Accident Control arrangements at the 25 qualifying MOD establishments has improved from last year, including progress to address some long-standing Improvement Notices and with corrective action reports being properly prioritised and resourced. Common issues remain centred around maintenance and upkeep of Oil Water Interceptors and fuel bowser parking areas at airfield locations, both of which present potential risks to the environment.

Defence Organisation	DOSR Overall Assessment	Elements											
		E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12
Navy Command	S (F, L)	F (S)	S (F, L)	S (F, L)	S (F, L)	S (F, L)	S (F, L)	S (F, L)	S (F, L)	S (F)	S (F)	S (F, L)	S (F)
Army	S (F, L, N)	S (F)	S (F)	S (F, L, N)	S (F, L, N)	S (F, L)	S (F, L)	S (F, L)	S (F, L)	S (F, L)	S (F, L)	S (F, L)	S (F, L)
Air Command	S (F, L)	F (S)	S (F, L)	S (F, L)	S (F)	S (F, L)	S (F, L)	S (F, L)	S (F)	S (F, L)	S (F)	S (F, L, N)	S (F, L)
UK Strategic Command	S (F, L)	S (F)	S (F, L)	S (F, L)	S (F, L)	S (F)	S (F, L)	S (F, L)	S (F, L)	S (F)	S (F, L)	S (F, L)	S (F, L)
Defence Equipment & Support	S (F, L)	S (F)	S (F, L)	S (F, L)	S (F, L)	S (F, L)	S (F, L)	S (F, L)	S (F)	S (F)	S (F, L)	S (F, L)	S (F, L)
Defence Infrastructure Organisation	S (F, L, N)	S (F)	S (F, L)	S (F, L)	S (F)	S (F, L)	S (F)	S (F, L)	S (F, L)	S (F)	S (F)	S (F, L, N)	S (F, L)
Dstl	S (L)	S	S	S	S	S	S	S	S	L	S	S	

Table 4-6 – Ordnance, Munitions & Explosives regulatory domain assurance assessment

### 4.5.3 Regulator Activity

DOSR conducted 488 assurance inspections and audits across Defence: 451 (24%) of its 1858 ranges, 19 (1.7%) of its 1088 explosives establishments and 18 inspections/assessments (36% over 2 visits each establishment) of its 25 Major Accident Control Regulations sites. No audits or inspections have been undertaken on the acquisition of OME. However, the Second Line of Defence OME Safety Review Panel assurance undertaken in this area has been kept under

review as the Third Line of Defence formal certification of weapons systems (including Lasers) is informed by the detailed evidence presented by Project Teams and the Second Line of Defence OME Safety Review Panel Assurance Statement. At the end of this reporting period, DOSR had closed 4 improvement notices and issued one new one and closed one Prohibit notices leaving one extant from the previous reporting years.

DOSR has received 20 applications for waivers this reporting year. They are split across three areas of DOSR responsibility: acquisition, where five applications have been received, in-service and operational safety management of OME (14) and ranges (one). Currently there are 22 active waivers in place where appropriate risk assessments have adequately approved a safe risk balance that will be periodically approved.

#### 4.5.4 Findings

**Acquisition of OME.** The previously reported long-standing issues with assurance within the Second Line of Defence, and hence concern about potential transfer of unknown safety risks to the users, have now largely been addressed. The Combat Air operating centre is still assessed at NO ASSURANCE, due to only 42% (up from 39% last year) of their OME having evidence of Second Line of Defence Assurance. This potentially presents a risk to personnel and/or risk to capability either functioning before it is required or not functioning when it is required to do so.

Defence Equipment and Support continue to deliver the Weapons Qualification Improvement Programme and is working with DOSR on the introduction of the new Defence OME certification process, which focuses on essential safety requirements for OME. The Defence OME certification process was launched at initial operating capability on 3 October 2022 with limited functionality due to the absence of the online application system, which should be ready for next financial year. DOSR is continuing to work with Defence Equipment and Support on a regulations and standards review, which includes their supporting guidance and Defence codes of practice and the standards (Defence Standards, NATO Standardisation Agreements) that support evidence of compliance. This work will also test the coherence between OME regulation/guidance/standards/contracts and how this is reflected in contract requirements for OME procurement and where these might require further change.

The work to establish a mutual recognition agreement with the US Weapon Systems Explosives Safety Review Board continues with exchanges of information taking place and bilateral visits planned for 2023/2024. It is anticipated that this will vastly improve the sharing of US safety evidence and clearances, which is key to support our judgement on the extent to which we can share and make use of our respective safety outputs within our national approvals processes, without further work having to be conducted in the UK.

#### **In-service and Operational Safety Management of OME**

Limited availability of real estate at Deployed Operational Bases continues to present additional challenges for OME safety. Continued focus and attention is required to develop and sustain Skills, Knowledge, Experience and Behaviours and basic levels of awareness of NATO's Explosives Safety and Munitions Risk Management at all rank/grade levels. This is now of greater importance with the development of the Agile Combat Employment concept which will require senior leadership to have confidence in what robust Explosives Safety and Munitions Risk Management can deliver for them to protect our people and preserve our assets and capability. This should also include stronger leadership focus on the need for coordination and coherence on Explosives Safety and Munitions Risk Management with other NATO nations



sharing operational locations. Without this in place, there is the potential to present a credible and foreseeable serious risk to life to UK personnel and risk to UK assets and capability. When Explosives Safety and Munitions Risk Management is applied correctly, it will permit operational commanders to know that they have reduced risk to As Low As Reasonably Practicable and tolerable levels. The way to achieve that is to involve the right groups of OME Suitably Qualified and Experienced Personnel with the right attitude. Creative and clever solutions will then emerge.

Most Regulatory Waivers issued by DOSR are against an inability to achieve the published safe separation distances between potential explosion sites and exposed sites, including personnel. It should be noted that waivers are temporal in nature with an expectation that measures will be put in place to achieve full compliance. DOSR is keen to ensure that they do not become a fixed feature, particularly in our permanent overseas locations (e.g. Permanent Joint Overseas bases). DOSR intends to follow-up on long-standing issues to gain assurance that robust Corrective Action Plans are put in place, including how those locations intend to address the issues and achieve compliance as soon as possible.

DOSR has also had positive engagement with Inspector Explosives (Army) to develop a Secure Operational Facility – Ammunition. This uses a Bastion Modular Secure Facility (Centre for the Protection of National Infrastructure approved) bonded inside a 20' ISO with air-conditioning. The aim of the secure facility is to remove the need for explosives separation distances for small quantities of Hazard Division 1.1 explosives. This will bring benefits on small-scale operations where the operating footprint does not support achievement of the normal safety distances, thus reducing or removing risk and increasing safety.

### **Ranges Safety**

As part of the DSA's 'Simplifying Safety' work, introduction of the new licensing scheme is progressing well and is on-target for 100% relicensing of all ranges under the new scheme in the expected timescale. The ability to submit a Range Licence application electronically and sign with an e-signature has increased efficiency for Range Administering Units and DOSR, and thus far has been well received.

DOSR continues to investigate the regulation of other areas used for training, previously known as 'Dry Training Areas' but now renamed as Fieldcraft Training Areas, which are not currently subject to regulation. Initial scoping has identified c.3000 locations used for training where activity with OME is involved (Pyros, flares etc.) but no live firing. Following the initial scoping work conducted by DOSR, an interim registration scheme is being implemented. Further work is required to develop an appropriate risk-based assurance programme.

### **Major Accident Control**

The purpose of the Major Accident Control Regulations is to ensure appropriate measures are in place to prevent major accidents involving dangerous substances and, should an unplanned event occur, to limit the consequences to people and the environment. Of the 25 MOD establishments registered under Major Accident Control Regulations, 19 are currently certified compliant and the remaining 6 (Navy x 1, Air x 2, UKStratCom x 3) are non-compliant with issues identified and being addressed. Common themes are serviceability of oil/water interceptors and fuel bowser parking areas being permeable. Both these issues present significant risks to the environment and to the MOD's reputation as a responsible site operator. Poor prioritisation and turnover of staff are seen as likely contributors to this situation with some

extant enforcement dated back to 2018. Transfer of assets under Project Aquatrine and confusion over responsibility for maintenance and upkeep may also have added to the current situation.



## 4.6 – Medical Services

**LIMITED Assurance** – The healthcare domain is assessed as LIMITED by the Defence Medical Services Regulator (DMSR). There is evidence of some areas of progression to improve safety systems but there remains a number of cross-domain areas which require considerable investment.

### 4.6.1 Medical Services Domain Scope

Defence has a disapplication<sup>25</sup> to the Health and Social Care Act 2008 (Regulated Activities) Regulations 2014. DMSR, on behalf of Defence, is therefore responsible for the regulation, assurance and enforcement of Defence healthcare delivered to service personnel and entitled civilians. Through inspection, oversight, and continuous surveillance, DMSR aims to provide the Secretary of State (SofS) for Defence, through Director General (DG) Defence Safety Authority (DSA), the necessary assurance that appropriate standards of patient and staff safety are maintained in the delivery of healthcare across Defence activities. DMSR does not assure delivery of the care or treatment of service personnel in NHS funded facilities, nor has it the authority to regulate host nation healthcare facilities overseas.

### 4.6.2 Medical Services Summary

The healthcare domain remains assessed as LIMITED. There is evidence during the last 12 months of some improved safety systems. These include the Defence Medical Services Healthcare Assurance Team oversight and management of Automated Significant Events (ASERs); ongoing development of the Healthcare and Medical Operational Capability Function functional operating model and associated governance systems; increasing maturity of the Defence Medical Services Transformation Director's and the DMS Chief Digital Information Officer's areas of responsibilities; and some individual Defence Organisation developments. Cross domain there remains areas which require considerable investment to ensure the delivery of effective and sustainable systems for safe healthcare.

Safety themes remain enduring and whilst improvements at a localised level are recognised, there is a requirement for greater organisation-wide systems improvement and lesson sharing to ensure sustained development and effective risk treatment.

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<sup>25</sup> <https://www.legislation.gov.uk/uksi/2014/2936/schedule/2/paragraph/10/made>.

Organisation	Overall Assessment	Elements											
		1	2	3	4	5	6	7	8	9	10	11	12
		Leadership, Governance and Culture	Organisation and Dependencies	Legislation, Policy, Regulations and Guidance	Risk Assessments and Safety Cases	Supervision, contracting and Control Activities	Personnel Competence, Resources and Training	Equipment Design, Manufacture and Maintenance	Infrastructure, Design, Build and Maintenance	Performance, Management Information and Reporting	Accident/Incident Management and Emergency Response	Communications and Stakeholder Engagement	Assurance
Navy Command	Healthcare	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Orange	Yellow	Orange	Yellow	Yellow	Yellow
	RFA	Red	Orange	Orange	Orange	Orange	Orange	Orange	Grey	Red	Yellow	Orange	Orange
Army		Yellow	Yellow	Yellow	Orange	Yellow	Orange	Orange	Orange	Orange	Yellow	Yellow	Yellow
Air Command		Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Grey	Yellow	Yellow	Yellow	Yellow
UK Strategic Command	DirOB	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Grey	Orange	Orange	Orange	Orange
	HQ DMS	Orange	Orange	Yellow	Orange	Orange	Orange	Red	Red	Orange	Yellow	Yellow	Orange
	PJHQ	Yellow	Orange	Yellow	Yellow	Orange	Orange	Orange	Grey	Orange	Yellow	Yellow	Yellow

Table 4-7 – Medical Services regulatory domain assurance assessment

### 4.6.3 Regulator Activity

#### Assurance

DMSR has broadened their reach this year, focusing on some identified areas of risk with audit activity expanding to include Pre-Hospital Emergency Care in Cyprus and key Joint capabilities. For the first time, DMSR completed inspections of medical facilities across all four Military Commands.

**Inspection / audit.** The Care Quality Commission has continued to support DMSR’s inspection programme which included 48 Defence Primary Health Care inspections in 2022/23 and the completion of the baseline inspection programme of Firm Base Primary Care. In addition to initial inspections, re-inspections have been conducted to assess progress against areas of required improvement. The programme also included the Defence Medical Rehabilitation Centre and an inspection of a new Defence Primary Health Care Group Practice.

Audits on Pre-Hospital Emergency Care in Cyprus and key Joint capabilities including the Royal Centre for Defence Medicine and an Army Regimental Aid Post have broadened DMSR’s methodology and reach. DMSR has developed and tested new methodology at HQ level with audits of Navy Healthcare, the Royal Fleet Auxiliary and Aeromedical Evacuation delivered by Air.

**Surveillance.** DMSR has engaged closely with each of the single Services and Medical Commands<sup>26</sup> to improve how DMSR facilitates evidence gathering and interacts with and monitors the use of safety systems in the delivery of healthcare. The DMSR Patient Safety staff

<sup>26</sup> Elements within Strategic Command that command medical organisations, or healthcare delivery in full measure: PJHQ, DirOB, HQ DMS.

officers have now taken on data collection, surveillance and broader analysis; along with a new evidence framework, this is enabling DMSR to start to build a more objective and quantitative risk picture on which to focus its assurance activity.

**Service Level Agreement.** The current Service Level Agreement with the Care Quality Commission will be extended for 12 months and then revised for the start of a new Service Level Agreement in Apr 2024. The new Service Level Agreement is planned to facilitate DMSR's reorientation from a tactical Defence Primary Health Care inspection model to conduct more organisational based assurance along with development of its risk targeted approach.

## **Enforcement**

A total of 19 DMSR Safety Review Panels have been convened with 65 evidence reviews conducted; this has included 14 new inspection reports where areas of non-compliance have been identified. Each panel has reviewed safety concerns through formal scrutiny of all available evidence, assessing compliance against DMSR regulations. Outcomes of Safety Review Panels have led to advice and guidance as well as corrective action being issued to accountable persons. As of 31 March 2023, enforcement action is in place on five accountable persons. Enforcement activity has been largely aligned to the assurance focus on Defence Primary Health, but also includes Pre-Hospital Emergency Care Services in British Forces Cyprus, and the Royal Fleet Auxiliary.

## **Regulation**

**Defence Code of Practice.** In January 2023, DMSR DSA 03 Defence Code of Practice was published, alongside a revised DMSR DSA 02 Defence Healthcare Regulations. The new Defence Code of Practice sets out Defence regulatory guidance for Defence healthcare providers, which if followed, will be considered sufficient to demonstrate compliance. Guidance to reference materials is also included which, whilst not compulsory, may also be considered 'good practice' to further support compliance with the Defence healthcare regulations.

**Healthcare registration model.** Development work to achieve a healthcare registration model has progressed during the last year with DMSR engaging with Defence stakeholders and the Care Quality Commission. Work will continue into the next reporting period with the drafting and publication of further revised Defence healthcare regulations and Defence Code of Practice to include registration requirements. Furthermore, concurrent activity will develop the registration model data set and interface with providers of Defence healthcare to enable initial data collection to be tested. This will be a priority for 2023/2024.

### **4.6.4 Findings**

#### **Areas of improvement identified**

**Overview.** Safety improvements seen this year have been largely localised at a clinical delivery level. Improvements at Defence Community Mental Health Portsmouth and Defence Primary Health Care High Wycombe have seen the lifting of enforcement action, as a result of improvements in leadership, governance, and patient caseload management.

**Organisation.** At an organisational level, there has been some positive developments building on last year's recruitment into the DMS HQ Healthcare Assurance Team. The Defence Medical Services HQ Healthcare Assurance Team is gaining improved oversight of the assurance

picture and improved contract assurance of the secondary care contract in Cyprus, undertaking advisory visits supported by Defence Consultant advisors. Management of the Automated Significant Event Reporting (ASER) system has improved with closure of the legacy system, and increased surveillance of active reports. With increased regulatory activity there has been an improved understanding of the role of DMSR and increased engagement from some areas. There are large parts of Defence accountable for delivering healthcare, however, that are still not aware of Defence regulations or requirements to comply with them.

**Medical Information Systems.** Following the establishment of the Defence Medical Service's Chief Digital Information Officer, there has been considerable improvements to Medical Information Systems' governance processes. This was demonstrated when Defence Medical Information Capability Programme suffered several significant events this year, in which risk of harm to patients was quickly understood and mitigations developed.

### Areas of concern identified

**Overview.** Many of the safety themes arising this year are consistent with enduring and persistent themes that require wide system improvement across the Regulated Community. There are ambitious Transformation plans which are seen as the solution, by HQ Defence Medical Services, to a number of safety concerns, and whilst the Defence Medical Services Transformation Director has improved the overall governance and coherence of the programme, these are taking time to deliver. Mitigations are often fragile or insufficient and require investment accompanied by effective assurance systems, holding to account, and risk management at an organisational systems level, to drive effective sustained improvement.

**Royal Fleet Auxiliary.** Following an inspection of the Royal Fleet Auxiliary, they were assessed as having **No Assurance** and are subject to an Urgent Improvement Notice. There were a number of concerns, in particular the management of New Joiner Medicals and management of the Defence Medical Information Capability Programme records which correlated with the previously identified recommendations within the Horsea Island Non-Statutory Inquiry. Royal Fleet Auxiliary HQ does not currently have the capability to independently implement the wholesale changes found in the audit to ensure it is delivering safe and effective healthcare and requires substantial healthcare expertise support, management, and direct intervention across several areas.

**Workforce and Suitably Qualified and Experienced Personnel (SQEP).** Workforce shortages and a lack of SQEP continue to impact on effective governance and safety systems. There is evidence of a lack of effective mitigations for staff and SQEP shortages in a number of areas. It is essential that the resultant risks are dynamically mitigated to As Low As Reasonably Practicable and tolerable by those responsible and accountable for the delivery of healthcare services, to reduce the likelihood of avoidable harm to patients and staff.

**Medical Information Systems.** Defence Medical Information Capability Programme continues to present risks to patient safety. The system equipment and software are obsolete or approaching the end of manufacturer's support. It is essential that programme CORTISONE<sup>27</sup> is implemented as soon as possible to treat the risk and ensure patients across all Defence

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<sup>27</sup> A programme to deliver live Medical Information Services (MedIS).

healthcare delivery environments can be cared for safely, with access to timely and accurate clinical data.

**Defence Mental Health Services.** Defence Mental Health services are currently subject to an Improvement Notice issued to Director Defence Healthcare HQ Defence Medical Services. A number of risks have been identified across services which require concentrated, organisationally driven progress to improve both clinical services and risk mitigation across the entire mental health system. Workforce issues and a lack of consistent controls with Defence Community Mental Health Centres operating in relative isolation, are all contributors.

**Medical Logistic failures.** The Logistics Commodities and Support (Transformation) supply chain is not operating at the pace or quality required. The resultant inadequate supply of safe and timely medical equipment and materiel is having a direct impact on Defence's ability to provide safe and effective care and, as a second order effect, influence the Commanders' freedom of manoeuvre. The residual risk is acknowledged as presenting a significant threat to DMS outputs and promised improvements in the contract are yet to be realised at a clinical delivery level. Additionally, there are enduring concerns with distribution of temperature controlled medical consumables from receipt by the Joint Supply Chain. Surveillance of the Automated Significant Event Reporting system shows examples of blood, blood products and medicines being supplied to clinical users outside of the acceptable temperature range.

**Risk Management.** There are examples where risk understanding and clear lines of accountability for risk escalation and resolution are not evident. Additionally, the HQ DMS delivery responsibilities and the Healthcare and Medical Operational Capability Function, also held by Director General Defence Medical Services, result in a lack of clear holding to account for safety by UKStratCom and by the Defence Safety and Environment Committee.

**Overseas healthcare.** Defence does not run healthcare services globally; access to Primary Health Care in the global diaspora and secondary healthcare for the entire overseas Population at Risk is limited to host nation facilities. Most of the access to secondary care overseas is non-contracted and as such has no Defence assurance regarding its clinical standards or safety.

**Pre-Hospital Emergency Care.** An inspection of the ambulance service in British Forces Cyprus highlighted that unsafe staffing levels and shortfalls in SQEP had been accepted as the norm. Working hours for many clinicians was exceeding working time directive policy without any application of risk management controls or mitigation, leaving both patients and staff vulnerable to risk of harm. This Service is subject to an Urgent Improvement Notice.

**Infrastructure.** Poor management and funding of infrastructure continues to adversely impact building structure, environmental controls, disability access and infection prevention and control. There is inconsistent management and commitment from Defence organisations. The risk is increasing in impact and likelihood as the estate degrades. There is a requirement for improved understanding and relationships with Heads of Establishments to enhance processes for legionella management, cleaning contracts and electricity outages that result in safety issues.

**Management of significant events / organisational learning.** There is a lack of triangulation of safety reporting. This is due to a lack of an Automated Significant Event Reporting policy and the system not linking to Defence Unified Reporting and Lessons System or other systems. The Defence Medical Services need to consider how the new Automated Significant Event Reporting system will link with the Defence Unified Reporting and Lessons System to improve

this. Organisational learning is largely localised and not widely shared throughout the domain; systems for cross-organisational shared learning remain largely aspirational.

**Central Alerting System.** There is no ownership or organisational assurance to confirm that alerts, issued by the Medicines and Healthcare products Regulatory Agency, have been distributed or actioned appropriately by Defence. Many individual areas are registered directly with Central Alerting System, but there is no assurance evidence that the required safety information is being seen by those who require it across Defence Medical Services. In addition, there is evidence, at treatment facility level, that robust systems are not in place to ensure alerts are disseminated and actioned when received.

**Organisational change.** The Defence Medical Service is subject to significant organisational change. The Healthcare Improvement Programme involves transformation of all UK Defence Healthcare services and, as yet, no Organisational Safety Assessment has been completed that would allow the Senior Responsible Officer to fully assess the potential impact of an organisational change on existing standards of Health Safety and Environmental Protection within the organisation, or to assess the impacts on the other Defence organisations.



## 4.7 – Environmental Protection (EP)

**Unassessed** – No formal assessment for the functional area of Environmental Protection (EP) is provided due to immaturity of the role of Defence Environmental Protection Regulator (DEPR); assurance is restricted to narrative comments from observations and shared information. There is an aspiration to achieve initial scoring ability for reporting year 2023/24.

### 4.7.1 Environmental Protection Domain Scope

The Defence regulatory functional area for EP is broad. It is applicable to all Defence Organisations, and covers the Defence Estate, Defence equipment, and Defence activities where there is not already regulation by a DSA Regulator<sup>28</sup>.

Defence has a legal requirement, a duty and social responsibility to protect the environment and to align to the principles of the Environment Act 2021. While at initial operating capability, DEPR is undertaking activity to confirm and understand the Regulator's scope and to determine a risk-based approach to regulation and assurance. The initial areas of focus are aligned to UK legislation and themes with significance for defence, such as air, land and water quality, hazardous substances, waste management, disturbance, and conservation. DEPR intends that future assessments will mature under a framework which focuses on three areas of Defence business, (i) the integration of environment (i.e. in planning, capability, investment, operations, innovation), (ii) the prevention of environmental harm (i.e. risk assessment and compliance), and (iii) the improvement and restoration of the environment (i.e. better resource decisions, beyond basic compliance with law).

There are many hundreds of environmental laws, with around 20% providing a variation or exemption for Defence or military activity, and a multitude of statutory regulators. Thus, all parts of Defence will, to varying degrees, have a requirement for environmental compliance. DEPR's Third Line of Defence activity will look to Second Line of Defence information as a primary source for assurance evidence. DEPR will review the Defence variations and exemptions from law (the "DEDs")<sup>29</sup> to determine the value of introducing a new Defence Regulation set for Environmental Protection, to ensure that the intent of the original legislation can still be honoured by Defence, despite permission for variation.

The EP functional area has not yet been directly assessed in totality, or per Defence Organisation, but it is anticipated that assessment will in due course include coordinated information from across all DSA regulators, as well as DEPR's own risk-based assurance activity and intelligence gathered from across Defence. Until then, environmental findings will mainly be within individual Defence Regulator accounts.

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<sup>28</sup> All DSA regulators include environmental protection within their remit, for example, where directly connected to shipping, explosives, etc. but DEPR is focused on securing the protection of the natural environment, avoiding damage, harm, contamination to air, land, water and managing our activities that involve conservation sites, waste, disturbance and hazardous chemicals.

<sup>29</sup> Derogation (variation to the law); Exemption (statutory application to be exempt from compliance); Disapplication (excluded from scope of the law, but applies to SofS for Defence's HS&EP Statement to achieve equivalent outcomes and standards of protection as the statute intended).

#### 4.7.2 Environmental Protection Domain Summary

DEPR remains at an initial operating capability, (i.e. not fully resourced and not able to fully implement intended work plans), and so has not yet had full opportunity to collect assurance evidence. The prevailing observation from the first year of initial operating is that Defence does not have an appropriate environmental culture in place. Behaviours, attitudes, practices, and knowledge are not present with respect to environmental compliance for maintaining and protecting both our natural resources and the ecosystem in which we live and work. This lack of culture is most evident at senior leadership levels in central Defence, whereas by contrast there are numerous good examples of practices and expertise at working level (i.e. centres of expertise), and occasional role models at senior level across the Defence Organisations (examples include the First Sea Lord's Environmental Protection Statement<sup>30</sup> and the Defence Equipment and Support Environmental Strategy<sup>31</sup>). DEPR will continue to explore this theme.

#### 4.7.3 Regulator Activity

**Coordination.** DEPR has established routine collaborative ways of working and information-sharing with DSA regulators, and nascent interaction with external sources, seeking to identify Defence environmental protection information, capture it, re-use, and share it widely. A tool has been created for data capture and visualisation which is currently under test and evaluation, and in future will enable descriptive and trend analysis of DEPR EP holdings for the purposes of annual reporting. Other sources of environmental information are received from the Defence Accident and Investigation Branch and other DSA regulators.

**Regulation.** Currently, DEPR has no regulations in place to enable 'compliance' assurance but has commenced 'confidence' assurance for Defence EP policy implementation on a risk-based approach. Assurance is initially focused in areas where it requires legal compliance and adherence to policy and process, and where non-compliance is a potential risk of environmental harm, reputational damage, or operational impact. Initial assessment of environmental protection across Defence is therefore restricted to observation from exploratory assurance (one report delivered in-year) and information received through building our stakeholder and data networks.

**Assurance.** DEPR has several assurance tasks in progress, and the first completed report was on 'Management of the Defence Exemption Process for REACH<sup>32</sup> Regulation'. This topic was selected because it covers a specific clause of environmental legislation on the restriction of hazardous substances. This is particularly relevant to Defence as many hazardous chemicals are required in components of Defence equipment, and there is growing pressure to move to environmentally friendly alternatives, hence increasing restrictions are applied within the law. MOD has policies to deal with hazardous substances, so this DEPR assurance report was a first-look at how the policy is applied and managed in Defence. DEPR is currently developing its assurance programme by exploring key topic areas from Defence Environmental Protection policy, from areas under legislative control, from stakeholder concerns or information, and from

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<sup>30</sup> Adm Sir Ben Key 2022: [22\\_0607 1SL Safety Statement.pdf \(sharepoint.com\)](#)

<sup>31</sup> DE&S Environment Strategy: [DE&S Environmental Strategy \(sharepoint.com\)](#)

<sup>32</sup> REACH - The Regulation on the Registration, Evaluation, Authorisation and Restriction of Chemicals, and is the main EU law to protect human health and the environment from the risks that can be posed by chemicals. The UK Government has implemented its own version of EU REACH which no longer applies to England, Scotland or Wales.

knowledge of environmental impacts. In future, DEPR assurance activity will be extended to assure DEPR's own environmental regulations.

#### 4.7.4 Findings

**Stakeholder engagement.** DEPR held its inaugural Stakeholders Committee in February 23 and, as well as sharing its own progress, it invited sharing of risks and issues across the community. There were some common themes from across Defence, which included:

- a. focus on Environmental Protection is lagging in comparison to safety;
- b. issues with, and arising from, a lack of Environmental Protection resource and SQEP in teams, and further difficulties with recruitment and retention;
- c. that climate change and sustainability activity is managed separately from Environmental Protection (noting the proposal to move Environmental Protection to CC&S Directorate);
- d. reports of progress with environmental management systems but still much to do (resource and SQEP being a barrier to progress);
- e. and some positive reports on celebrating successes in awards and holding conferences.

**Reporting.** There are issues with providing reliable environmental protection data due to misinterpretation of what constitutes an "environmental" incident (e.g. wet or icy conditions resulting in a slip or fall should not be considered environmental, whereas spills or physical damage to the natural environment are appropriate incidents). This has been partially addressed in Defence Unified Reporting and Lessons System (DURALS) by "instructional help" at the point of data entry but does not address all staff behaviours related to environmental reporting, such as the perceptions and awareness level of staff who may cause or witness an incident that should be reported. There is not one specific Defence reporting tool for Environmental Protection; DURALS has not been adopted across the whole of Defence.

**Organisational change.** Progress on environmental protection policy has been slow, lagging behind development of health and safety, as has been the situation for many years. However, there has been recent improvement at working level, with good examples of communication and collaborative working across Defence (e.g. to achieve a legal exemption to enable Apache trials to take place), although this still represents a paucity of attention, at too late a stage to satisfy the necessary environmental outcomes.

**Suitably Qualified and Experienced Personnel (SQEP).** SQEP shortfalls are the number one challenge across Defence for environment, as securing appropriately skilled people is a barrier to achieving necessary outputs and legal compliance. Many areas attending to the same needs concurrently have created internal recruitment competition for a limited pool of resource (i.e. environmentally skilled people internal to Defence are attracted to adverts in other parts of the organisation). There is a further challenge in securing suitable candidates within adequate timeframes to address priority tasks and developing Defence experience to complement the environmental qualifications and skills learned outside of Defence. There are some positive examples of opportunities for long term improvement. The Submarine Delivery Agency has recently announced an Environmental Degree Apprenticeship scheme to grow new talent.

**Management of Assurance.** As a result of SQEP challenges and the lack of priority given to environmental issues, there is concern regarding compliance across the Lines of Defence. There is a lack of assurance within the Second Line of Defence; roles are not clear, and posts are often gapped in favour of other activities. When combined with the limited Third Line of Defence activity of EP assurance by DSA regulators, and that DEPR has not yet developed beyond Initial Operating Capability, this suggests that management of assurance is a potential area of risk for the Department.

**Shortfalls in Environmental Protection Narratives.** As part of Defence's annual reporting process, the DSA issued instructions to all Defence Organisations, which included the requirement for narrative contribution on Environmental Protection, in lieu of self-assessment against the Defence Environmental Management System (JSP 816 was unavailable until Feb 23). DEPR noted that limited information on Environmental Protection was presented, ranging from complete omission of environment information, to minimal and high level reference only, to an example with more detailed inclusion of Environmental Protection governance, incidents and priority areas. This paucity of information contrasts with knowledge that Defence does have systems, strategies, policies, processes and activities in place across Defence to safeguard the environment.

# Section 5 – Defence Health, Safety and Environmental Protection Themes

## 5.0 – Section Scope

This section provides details of cross-cutting Health, Safety and Environmental Protection (HS&EP) themes that have been identified during analysis of reporting received from across Defence. This reporting includes performance and governance detail in Section 2, self-assessments from the Defence Organisations captured in Section 3, and assessments by the regulators for each regulated domain as detailed in Section 4, along with additional HS&EP intelligence gathered from across Defence.

Each theme has been labelled as either ‘Emerging’ (i.e. a theme identified during this reporting period) or ‘Existing’ (i.e. an enduring theme identified in the previous year’s AAR that continues to represent a risk to Defence). Examples included within each theme may be specific to one Defence Organisation or domain but will typically be supported by additional evidence across other areas of Defence. To improve safer outcomes, preserve operational capability and protect the environment, each theme should be addressed, but with a specific focus on the existing themes that have been highlighted in successive AARs.

## 5.1 – HS&EP Themes

### **Suitably Qualified and Experienced Persons (SQEP) (Existing)**

The recruitment, sustainment and retention of SQEP remains a Defence-wide issue as reported in previous AARs and more recently, the Haythornthwaite Review. This challenge affects all of Defence, resulting in significant impacts to the delivery of HS&EP activity and, in turn, generation of Defence’s operational capability. Defence’s inability to recruit, employ and retain the required SQEP in key roles means that Defence Organisations can be both ill-shaped and under-resourced to discharge their roles. Broadly, the challenges relating to SQEP can be aggregated into two categories: the recruitment and retention of suitably qualified and experienced staff, and the provision of training to maintain and enhance skills and capability.

The gapping of experienced staff across all career fields and professions has impacted Defence’s ability to maintain safe working equipment, systems and environments. This effect has been observed most prominently amongst senior staff within engineering trades, particularly those involved in securing airworthiness. In the case of airworthiness, this shortfall is expected to worsen over the next five years, considerably limiting the Air domain’s efficacy of assurance. Within the Army Functional Report, the areas found to have the strongest safety cultures were often small, stable teams who have the opportunity to develop skills, knowledge and experience over time. Whilst regular rotation of military personnel does help to develop broader skillsets amongst individuals, long term cultural transformation and specialist knowledge can be quickly undermined by a high turnover of personnel. There is a need to identify safety critical roles

within all organisations and establish a process to select, develop, retain and reward personnel, and manage succession to and within critical roles.

More specifically, the effectiveness of Defence's application of HS&EP is challenged by its inability to entice and secure an appropriately skilled workforce to deliver safety outputs and ensure legal compliance. This trend extends to EP specialists, where significant gaps limit Defence's ability to appropriately safeguard the environment. Gapping of HS&EP posts within the First and Second Line of Defence and the associated competency and training shortfalls, has placed greater pressure on Defence Organisation Safety Centres and the DSA to deliver assurance.

Generally, Defence's challenge to recruit and retain sufficient levels of safety and environmental SQEP can be attributed to several underlying factors. Principally, competition for SQEP is faced externally, as Defence competes against higher average salaries and more attractive remuneration packages offered by private sector industries, but also internally, where Defence Organisations compete with each other for a limited pool of resource. This is further challenged by latencies within onboarding and security clearance processes, which limit Defence Organisations from reacting to resource challenges in real-time, whether utilising standard civil service or contingent workforce recruiting mechanisms. Additionally, civil service recruitment savings measures prevent the recruitment of civil servants who might provide some degree of SQEP continuity in more turbulent, high turnover environments.

Fundamentally, a lack of SQEP is adversely impacting Defence's ability to meet statutory and regulatory requirements to maintain safe working environments and outcomes. In turn, this is proving a principal causal factor behind each of the themes outlined in this section. In order to adequately protect the safety of its personnel, platforms and equipment, and preserve the environment, Defence must address shortfalls in SQEP, particularly those in leadership positions to ensure correct supervisory levels, and protect personnel from taking on higher workloads and extended remits to cover areas in which they are not appropriately trained or experienced. The Defence Safety and Environmental Function should invest more resource and effort to deliver strategic workforce planning, supported by the finance and people functions, in order to provide tangible progress and offer a bedrock for recovery.

### **Fire (Existing)**

Fire safety management has improved in some areas and this can largely be attributed to the work undertaken by the Safety Centres within the Military Commands. In addition, the delivery of the Defence Fire & Rescue Project continues to improve and make progress, in particular across the First and Second Line of Defence. However, there are still areas that require improvement, many of which were reported in last year's AAR when Fire was escalated from the DSEC to the Defence Audit and Risk Assurance Committee as one of the top two safety risks. This includes the inadequate support and maintenance of existing fire fighter training facilities and infrastructure. In addition, the quality and provision of Fire Risk Assessments delivered on the Defence Estate via Defence Fire & Rescue (DFR) contractors still remains a concern. DFR undertook a detailed review resulting in a recovery plan with a completion timeline of June 23. It will be essential for Defence to monitor the outcomes of this review and track actions to completion along with regular oversight from the Defence Fire Safety Leadership Board (DFSLB), focusing on improving Defence's fire safety management.



## Assurance of HS&EP across the Defence Portfolio (Existing)

### First and Second Lines of Defence

The First and Second Lines of Defence provide important assurance to Defence Organisations and the Secretary of State that Defence is correctly implementing the Department's HS&EP Policy Statement, thus reducing HS&EP risk to reasonable and tolerable levels. Overall, there has been no enhancement to the quality and effectiveness of First and Second Line of Defence assurance relative to last year's AAR. Defence Organisations continue to report issues with delivery of assurance, namely because of a shortage of SQEP, increasing operational demand, relatively unclear (but improving) HS&EP policy and direction, and shortfalls in the provision of centrally provided governance and assurance training. These areas of concern are exposing weaknesses in Defence's First and Second Lines of Defence, and in turn, creating greater reliance on the Third Line of Defence, which is not resourced to fill in the gaps. Gaps within Defence's system of assurance are primarily linked to resourcing challenges, where shortage of SQEP has culminated in the assignment of non-SQEP to assurance roles.

Conflated policy is impacting the level of understanding of assurance across the Regulated Community. Personnel are sometimes unaware of important policy or are forced to ignore it, due to increasing demands of their roles and the significant time required to interpret its direction. Due to a lack of appropriate central training provision, organisations have needed to develop their own training which falls outside of the centralised Defence Systems Approach to Training methodology and leads to further disparities in the application of assurance amongst Defence Organisations.

In addition, although there are pockets where a Lines of Defence framework is being implemented effectively and is well-understood, such as in DE&S, there remains confusion and misunderstanding between 'Parties of Assurance', 'Party Audit' and 'Lines of Defence' terminology across Defence policy and regulation. In some areas, this is constraining the understanding of the roles and responsibilities of those directly and indirectly involved in Defence's assurance system. In taking the decision to embed the 'Line of Defence' approach into HS&EP policy, the HS&EP Function should provide greater clarity over the construct and how the two terminologies relate, in order to more clearly define roles and responsibilities.

Deficiencies in assurance across the First and Second Lines of Defence have been noted across infrastructure, parachuting, sport and adventurous training (AT). Primarily, issues have been identified in how Defence Organisations assured their own infrastructure-related processes with a lack of assurance conducted either within organisations or externally, as would be expected in accordance with ISO 19011 principles. There is limited documented processes for how risk management and assurance is carried out across the Infrastructure function and this should be considered as a possible work strand to enhance this governance. The volume of reported safety-related fatalities in 2022 highlights concern about the overarching governance and assurance of high-risk activities, such as parachuting and AT. In the case of parachuting, Defence is taking steps to cohere risk management and assurance practices for all parachuting activity as part of a recent three-star directive and through the implementation of the Weston-on-the-Green SI recommendations.

### **Third Line of Defence Assurance**

The resourcing challenges across the First and Second Lines of Defence also affects the DSA's activity within the Third Line of Defence. Deficiencies within the First and Second Lines of Defence puts greater reliance on the regulators' Third Line of Defence, which in itself is subject to SQEP recruitment and capacity issues. Coupled with an increasing demand for regulatory activities due to Defence's ever-increasing scale of operations, there is an increasing risk that Defence will be less able to identify critical safety concerns before they become an issue.

### **Risk Management (Emerging)**

Risk management within Defence for HS&EP is frequently constrained by underlying organisational issues across three key areas: risk management process, risk ownership and governance of risk. Currently, there is little direction and guidance from the Defence Safety and Environment Committee on a pan-Defence HS&EP risk management framework, resulting in variation in the way Defence Organisations implement risk management processes, including the application of risk registers and supporting notices, and the communication of risks and controls. These have largely evolved independently of each other, creating incoherence across risk pictures with no single, consistent Defence-wide HS&EP approach to risk management. As a result, risks are rarely documented in a comparable or transferable/translatable way. Examples of this were observed during the DSA's Noise Audit, where the significant number of compensation claims highlight historically poor risk management. Additionally, as reported last year and reaffirmed this year, risk assessment competency remains an issue due to the lack of availability of risk assessment training, particularly across land-based areas within the Navy.

Lines of risk accountability and responsibility are sometimes conflated, particularly across Duty Holder and Duty Holder (Facing) interfaces. Often, in these circumstances, effective risk escalation and resolution processes are complex, making risk ownership unclear in some areas. Clearly defined roles and responsibilities are required so that legally accountable individuals can effectively carry out their duties in mitigating and making judgements on HS&EP risk. In addition, more effective and widespread use of OSAs as a risk management tool is key; this is because OSAs provide a framework to assess and manage change robustly in order to ensure that direct and indirect impacts and risks across Defence are understood and addressed. It is therefore pivotal that ownership and responsibility for advising on OSAs is agreed and from there, clarity of requirement and quality of production can follow.

### **Emergent and Transformative Technologies in Defence (Existing)**

On the back of the Integrated Review and Op Kindred, there have been numerous examples of rapid, but safe innovation across the land, sea, and air environments within the 2022/23 reporting period. However, the Defence innovation community has continued to grow over the last year in disparate areas of Defence, with similar emerging safety risks and similar safety lessons being learnt multiple times. There continues to be some reluctance to generate the benefit of early engagement on safety and environmental considerations when accelerating introduction of novel, innovative technologies. Early understanding of the proportionate level of safety regulatory compliance or implications of the law, all set in the context of the concept of use, whether that is test and evaluation, training, or deployment, is essential. Instead, safety issues are emerging too far downstream to make them simple or cheap to fix. Shortfall in safety SQEP is often a cause. Clearer communication is needed to cohere disparate pockets of

innovation, generate continuous engagement through safety/committee meetings, and ensure early engagement with Regulators so they can provide timely support.

### **Infrastructure Management (Existing)**

As reported in previous DSA AARs, poor infrastructure management and investment continues to constrain Defence's ability to deliver a Defence Estate that fully meets HS&EP legal, regulatory and policy requirements. Across all domains, the compounding effect of shortfalls of appropriate investment, poorly resourced contract management and assurance, has resulted in a backlog of infrastructure projects awaiting maintenance and completion. In addition, tension remains over the allocation of funding to resolve issues where the residual risk is predominantly environmental rather than risk to life. This was also evidenced in the Defence Infrastructure Organisation's biennial State of the Estate Report which stressed that continual preclusion of funding will risk degradation and limit improvement.

Across Defence there is limited documentation to explain how the Infrastructure function carries out risk management and assurance, impacting on the first and second line of defence's ability to carry out assurance. This, coupled with a lack of a coherent and dedicated third line of defence across the infrastructure portfolio, makes it more difficult to fully understand, measure and support infrastructure safety related issues. To address this, there is increased effort being made across the infrastructure function to provide Defence with a better understanding of the opportunities and risks presented across the estate. There are various initiatives underway including increased focus to enhance the infrastructure function, significantly increasing expenditure, a focus on asset safety and the implementation of a programme of improvement on the six strategic areas for compliance through the Asset Safety Improvement Schedule Plan. However, it was noted that improving the state of the estate is a long-term endeavour and that, particularly in a financially challenging environment, physical change is likely to be gradual.

Within the 2021/22 AAR, a few infrastructure-related issues were earmarked specifically as requiring specialist corrective attention, namely Fuel & Gas and Fire. Despite efforts to improve communication and assurance, Fuel & Gas infrastructure design, maintenance and emergency arrangements remain an issue and are the subject of the greatest volume of Defence Land Safety Regulator enforcement. Previous AARs have cited compliance with the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) as one of the Defence Fuel Safety Regulator's top issues. In the reporting year 2021/22, DSEAR accounted for 20% of outstanding Non-Conformances listed on the Defence Fuels & Gas Safety Regulator database. Despite improvements, a number of outstanding issues remain unaddressed, and non-conformances continue to be identified. Many of these require review to maintain currency of DSEAR assessments, including Hazardous Area Classification and Atmosphere Explosive requirements to be met in full for Defence operated fuel installations.

Within the Fire regulatory domain, funding and management issues continue to inhibit Defence's capability to provide 'fit for purpose' infrastructure that meets fire safety standards. In particular, there remain issues with the lack of investment from Defence Organisations in the infrastructure surrounding fire station and fire rescue training facilities. Whilst the DIO-managed estate has seen a general improvement in fire safety management, shortfalls have been identified this year with 'means of escape' routes and maintenance of fire management systems.

It should be noted that a significant proportion of DSA enforcements are related to infrastructure concerns, most commonly due to fire safety compliance. In a few cases, closure of infrastructure through the administration of enforcement action has led to capacity issues where alternative sites are then required to address the shortfall. There has also been an impact on workforce; instances of lack of heating and hot water, and poor provision of lighting in both technical and domestic infrastructure has resulted in personnel fatigue and distraction. Defence should consider the associated effect on mental health from poor infrastructure and the impact on the safe delivery of activities. In turn, this may increase levels of operating risk and shift pressure onto areas that may already be operating above normal capacity.

### **Digital, Data Automation and Exploitation (Emerging)**

The Safety Function lacks a robust and effective digital strategy. Defence is currently reliant on individual systems that lack coherence which continues to inhibit the early identification of problem areas, thereby potentially increasing risk to Defence personnel and capability. Multiple disparate systems across Defence which provide the same (or similar) capability adds greater complexity, limits the transfer and utility of data, constrains analysis and therefore limits insight. Although work has begun to align reporting through the Defence Unified Reporting and Lessons System (DURALS), adoption is slow and the reporting culture within the Department remains immature with only more serious incidents regularly reported. In March 2023, the Defence Safety and Environment Committee agreed to implement DURALS as the single Defence Enterprise safety accident reporting, investigation and learning platform. All DSEC members committed to transferring as soon as is appropriate, but concerns around the functionality of the system, the ownership of data, the authority of a function to mandate system usage, and the enforcement consequence if this is not followed, will inhibit progress until resolved. Similar challenges remain with the Defence Legislation Support Tool, the use of BowTie as a risk management tool, and the consolidation of HS&EP assurance reporting and statistics.

### **Contract Management (Emerging)**

A lack of contractual oversight and support continues to reduce the efficacy of outcomes delivered by industry partners on behalf of Defence. Most commonly, the complexity of multiple layered contracted services and an inability to gain full sight of terms of the contracts means Defence Organisations cannot always appropriately assess what levels of safety and environmental protection a contractor is obliged to deliver. In some areas this impacts, assurance of activity, management of risk and holding to account. In addition, Defence has historically contracted for a service but has not considered the remaining accountability and therefore requirement to assure that the activity is done safely and with due regard for environmental protection.

These issues have been noted in all areas of the Defence portfolio but most commonly in the Military Commands. For example, issues have been identified regarding the lack of assurance of output of the contractors working on airfields. There is a lack of effective risk-based assurance of appointed contractors meaning that the Heads of Establishment had no assurance that the organisations conducting works on aircraft maintenance facilities and the aerodrome operating surfaces were competent. In addition, the complexity of multiple layered contracted services to maintain and deliver safety-critical equipment and capability is increasing levels of safety-related risk to above what risk owners may deem ALARP and Tolerable. There have also been significant issues with medical support contracts, which are unable to match the scope and scale required to support operational output and remain safe in the process. Furthermore,

DFSR has reported significant challenges to the provision of Fire Safety and Fire & Rescue contracted services, in particular the delivery of the Defence Fire & Rescue Project with concerns about both the quality of Fire Risk Assessments delivered on the Defence Estate and the provision of Fire & Rescue services, both of which have been reported to the Defence Audit and Risk Assurance Committee.

Contract management has also been highlighted as a particular issue within the maritime domain where there is a requirement to assure that contractor activity is done safely and with due regard for environmental protection. There has been some positive work in this area with management of commercial contracted diving services where DIO and the Submarine Delivery Agency have employed SQEP within their teams ensuring an assurance chain through the contract, including sub-contractors.

### **Environmental Protection Culture (Emerging)**

Overall, Defence's understanding and application of Environmental Protection (EP) continues to be inadequate and opaque, reaffirming conclusions made in last year's AAR. This has been demonstrated across many tranches of Defence's governance structure, where frequent omission of EP agenda items and communications, such as at the DSEC and in some Defence organisation Safety and Environmental Committees, has resulted in poor EP 'tone at the top' from senior leadership which has subsequently percolated across the entirety of Defence. As a result, the recruitment of SQEP into EP-facing roles has not received the level of attention it deserves in comparison with safety, and the development of EP-related policy has been noticeably slower than Safety equivalents. In addition, a shortfall in SQEP has resulted in limited delivery of assurance activity across the First and Second Lines of Defence, which, when considered against the Defence Environmental Protection Regulator's (DEPR) nascent Third Line of Defence capability, provides little confidence that EP policies and regulations are being appropriately upheld. The continued maturity of DEPR's assurance and enforcement capability is expected to provide some mitigation towards this in future years but does still require all three lines of defence to work together.

If this culture continues, particularly across Defence's reporting structures, the inclusion of robust EP reporting within future DSA AARs is likely to be at risk. This will act to further compound Defence's cultural problems, and systematically reduce any lasting confidence that Defence is delivering on its obligation to protect the environment, in accordance with the SofS's HS&EP Policy Statement. Defence must act to prioritise and ringfence the inclusion of EP at the very highest levels of its governance structure, thereby nurturing a stronger 'tone at the top' which will provide a foundation for the development of a more robust Defence-wide EP culture.

### **Mental Health and Wellbeing (Emerging)**

Defence Mental Health Services<sup>33</sup> is currently subject to an Improvement Notice issued by the Defence Medical Services Regulator (DMSR). Several risks have been identified across the single Services which require concentrated, organisationally-driven progress to address. Failings in clinical services and the effectiveness of risk mitigations across the entire mental health system were identified as keystone risks. Workforce issues and a lack of consistent

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<sup>33</sup> Defence Mental Health Services is a branch of the Defence Medical Services (DMS). The DMS comprises personnel from the Royal Navy Medical Service, Army Medical Service, the Royal Air Force Medical Service and the Headquarters Defence Medical Services (HQ DMS).



controls leading to Departments of Community Mental Health (DCMH) operating in relative isolation, were cited as likely contributory factors. It was also identified that a lack of statutory provision surrounding the Mental Capacity Act 2005 in Cyprus presented significant safety risk to both patients and mental health staff. It is worth noting that Defence's issues with the recruitment and retention of mental health workers correlates to national shortages within the profession.

The creation of the Defence Healthcare Recovery Group and a newly established Headquarters is expected to centralise the command and control of Mental Healthcare and provide a group of nationally managed but locally delivered healthcare capabilities. Alongside this, the recent suicide strategy and Haythornthwaite Review identify mitigations to help rectify these issues. As a result of a lack SQEP, gapping of staff has become commonplace across Defence to meet the front-line shortfall; this has invariably placed additional workload on both military and civilian teams and organisations that are already suffering an increase in operational tempo.

### **Hazardous Materials (Existing)**

There is little evidence of existing assurance activity in control and use of some hazardous materials. The management of hazardous materials across Defence is therefore a risk that needs to be understood especially with the release of new technologies using different substances in different ways.

The Defence Environmental Protection Regulator (DEPR) has been involved alongside the Directorate of Health, Safety & Environmental Protection (D-HS&EP) on advising and addressing compliance issues with a number of types of hazardous substances. Some examples include: halon derogation required at late notice for Apache ground running trials; DEFRA Regulatory Position Statement put in place because the Submarine Delivery Agency could not demonstrate persistent organic pollutants compliance due to US materials; Defence being late in aligning to amended persistent organic pollutants Regulations Jan-23 on per- and polyfluoroalkyl (PFAS) use (harmful chemicals in fire suppression systems), and a MOD-wide working group to try to determine the scale of the PFAS problem. This work on emerging issues has been obtained from surveillance as DEPR is not in the position to provide any assurance on these areas yet.

During the reporting period there was particular interest at ministerial level and of fire services worldwide of Lithium-Ion (Li-Ion). Li-Ion is extremely volatile and dangerous if not transported or maintained correctly and the MOD will be required to significantly upskill its personnel to manage this risk. The Land System Safety Regulator (LSSR) has written a draft Regulatory Instruction and draft policy for Defence to assist mitigate this issue. There is also ongoing work to determine the scale of lack of certification, inspection and compliance of Local Exhaust Ventilation (LEV) systems across Defence and its impact on health, with a recent reported occurrence of occupational asthma at RAF Brize Norton attributable to poorly performing LEV.

Asbestos remains a latent risk with claims data showing 89 claims reported in the reporting year 2022/23 for asbestos related issues (although there can be considerable lag between exposure and claim). There were however two reported incidents at RAF Wittering this reporting year, both in unoccupied buildings that were subsequently used without awareness of the presence of asbestos. Recommendations for removal and medium-level risk assessments had not been provided to the Heads of Establishments by the Defence Infrastructure Organisation in a timely fashion. An investigation identified a significant lack of and delay in communication to the Heads



of Establishments. The buildings were closed by the Head of Establishment as soon as they were notified and personnel who may have been exposed were advised to complete MoD Form 960 Asbestos Personal Record Annotation.

### **HS&EP Priorities**

Based on the totality of analysis completed during the AAR process, it is evident that measures to address shortfalls in SQEP should be afforded the highest priority by the department; the complexity and criticality of SQEP to all areas of safety and environmental protection across Defence necessitates its immediate attention and escalation through the DSEC to the Defence Board. Notwithstanding this, the existing themes of fire, risk management, assurance, infrastructure and transformative technologies in Defence, and the emerging themes of mental health and EP culture are equally safety critical and should be addressed as a priority through the DSEC, and escalated as required. The remaining themes of contract management, hazardous materials and digital, data automation, whilst of notable importance to this AAR, pose a less immediate threat to Defence's application of HS&EP, and should be addressed by Head Office with departmental support as required. Ultimately, a balanced approach must be implemented, ensuring progress is made towards each of the themes, addressed with varying degrees of priority, over the coming reporting year.

# Annex A – Safety-Related Inquiries and Investigations

## New and ongoing Defence Safety Service Inquiries (SI): April 2022 – March 2023:

- **17 November 2021 – Loss of an F-35B Lightning from HMS QUEEN ELIZABETH in the Mediterranean.** An SI was convened in December 2021 to investigate the circumstances in which an F-35B Lightning aircraft was lost at sea whilst attempting to take-off from HMS QUEEN ELIZABETH. The pilot ejected safely. An interim report was published in November 2022. The SI is expected to be published in 2023.
- **15 October 2021 – Fatality involving a Combat Vehicle Reconnaissance (Tracked) Scimitar on Salisbury Plain.** An SI was convened in October 2021 to investigate the circumstances in which the driver of a Scimitar vehicle died whilst the vehicle was moving on the Salisbury Plain Training Area. The SI is ongoing.
- **2 September 2021 – Parachuting fatality at Weston-on-the-Green.** An SI was convened in September 2021 to investigate the circumstances in which an RAF Parachuting Instructor died whilst filming a tandem jump at RAF Weston-on-the Green. Both the parachutist's main and reserve canopies did not deploy and the parachutist died at the scene. The SI is expected to be published in 2023.
- **27 May 2022 – Motorcycling fatality at Cadwell Park.** An SI was convened in July 2022 to investigate the circumstances in which a RAF service person was fatally injured whilst participating in a representative motorcycling event for their Service. The SI is ongoing.
- **21 June 2022 – Fatality involving a Warrior on Salisbury Plain.** An SI was convened in July 2022 to investigate the circumstances in which a service person dismounted from the rear of an infantry fighting vehicle and was fatally wounded when the vehicle reversed. The SI is ongoing.
- **12 July 2022 – Motorcycling fatality during a battlefield tour, Spain.** An SI was convened in August 2022 to investigate the circumstances in which a service person crashed while riding a motorcycle during a Royal Navy Motorcycle Club (RNMC) (Yeovilton) Battlefield Tour. The service person died on 15 July 2022. The SI is ongoing.
- **19 July 2022 – Fatality during British Services Mountaineering Expedition 20.** In August 2022, an SI was convened to investigate the circumstances in which a service person died on Broad Peak Mountain, Pakistan. The service person is believed to have fallen whilst descending from near the summit. The SI is ongoing.
- **21 July 2022 – Fatality following physical training in Woodbridge.** An SI was convened in August 2022 to investigate the circumstances in which a service person fell

ill with a suspected heat injury following a physical training session. The service person passed away on 23 July 2022. The SI is ongoing.

- **11 August 2022 – Deadfall fatality.** In September 2022, an SI was convened to investigate the circumstances in which a service person was fatally struck by a large tree branch that fell when a helicopter approached an emergency winching hole. The SI is ongoing.
- **18 November 2022 – Fatality following personal training in Catterick.** An SI was convened in December 2022 to investigate the circumstances in which a soldier collapsed following participation in organised personal training. The soldier passed away on 24 November 2022. The SI is ongoing.
- **16 January 2023 – Fatality during a run in Germany.** An SI was convened in February 2023 to investigate the circumstances in which a soldier was found unconscious in Sennelager Camp. The soldier was pronounced dead at the scene. The SI is ongoing.
- **11 March 2023 – Fatality whilst undertaking adventurous training (AT) with unit in Austria.** \*SI convened 21 April 23.

#### **New and ongoing Non-Statutory Inquiries (NSI): April 2022 – March 2023**

- **Impact of aeronautical information on wire strikes.** Following an incident in January 2022 in which a helicopter being used to train pilots hit wires whilst flying near RAF Shawbury, as well as another helicopter wire strike in July 2020, the DG DSA directed the DAIB to conduct an NSI into the impact of aeronautical information on wire strikes and near misses. The NSI is ongoing.
- **Loss of Watchkeeper 048.** On 29 May 22, a Watchkeeper uncrewed air vehicle ditched into the Mediterranean Sea in a pre-planned emergency location after an engine issue during a crew training sortie. The platform was recovered back to the Sovereign Base Area over the next two days. This NSI into this loss of capability is ongoing.
- **Commercial tanker loss of moorings.** On 10 December 2021, a commercially chartered oil tanker was delivering fuel to an MOD facility in Cyprus when it lost its moorings in high winds. The ship drifted onto a mooring buoy and the oil transfer pipe separated at a coupling, resulting in a small spillage of oil. The NSI is ongoing.
- **Noise-induced hearing loss.** Following multiple incidents involving noise-induced hearing loss as a result of being in close proximity to the detonation of a Simulator Battle Sound at the British Army Training Unit, Kenya in February 2022, the DG DSA directed the DAIB to conduct an NSI to identify the risks associated with noise-induced hearing loss due to small arms ammunition and pyrotechnics in the Land environment. The NSI is ongoing.

- **Jackal rollover at Tiverton.** On 25 Jun 2022, a Jackal 2 'High Mobility Truck Variant' was involved in a road traffic accident in which a wheel detached from the vehicle whilst travelling on the A361 in Devon. This NSI is ongoing.
- **Heat related incidents.** DG DSA directed the DAIB to conduct an NSI into heat related incidents that occurred during the hottest period of 2022 to identify themes, and provide assurances that lessons are being learnt. This NSI is ongoing.
- **Civilian fatality involving a Land Rover.** A civilian driver passed away following a three-vehicle collision involving a service Land Rover on the A11, near Mildenhall, Suffolk. This NSI is ongoing.
- **Puma helmet strike, Corsica.** Joint investigation with the BEA-E. On 19 May 2021, a service person was disembarking from a Puma HC 2 helicopter onto a mountain location when their helmet was struck by one of the helicopter's blades. The service person was not injured. This NSI is ongoing.
- **Submarine cold move incidents.** On 9 February 2023, a submarine was conducting a planned cold move from the explosive handling jetty. During this move, three separate incidents occurred that require investigation. This NSI is ongoing.
- **Child injury at Akrotiri Primary School.** On 18 October 2021, a child was seriously injured after falling from children's play equipment during a photo shoot at a school run by Defence Children Services. This NSI is ongoing.

# Annex B – Defence Nuclear Assurance (Limited Distribution)

Issued under a separate cover.



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[www.gov.uk/defence-safety-authority](http://www.gov.uk/defence-safety-authority)