DSA01.2
Implementation of Defence Policy for Health, Safety and Environmental Protection

Chapter 4

Management of Health, Safety & Environmental Protection Risk
Foreword

The Defence Operating Model establishes a single integrated framework of internal controls covering the entire Department which includes the designation of Defence Authorities. Although a Defence Authority, the Defence Safety Authority (DSA) operates outside of this framework in as far as it is directly accountable to the Secretary of State (SofS) for Defence and is not Held to Account by the Permanent Secretary; this is to ensure that organisational separation is maintained between those acting as a Regulatory Authority and those that deliver Defence outputs. To that end the SofS for Defence has empowered the DSA, by charter, for its roles as Regulator, Investigator and Defence Authority for safety. It has been granted independence from the rest of Defence (from financial, political and operational pressures) and is required to provide SofS with assurance that his policy on safety (including health and environmental protection) in Defence is being promoted and implemented.

This policy and guidance provides a framework around which Defence demonstrates its compliance with the requirements of Health, Safety and Environmental Protection (HS&EP) legislation and where legislation is disapplied, that suitable arrangements are in place to safeguard personnel and the environment.

Authority

This document takes its authority from the SofSs’ policy statement for HS&EP and the DSA Charter. Compliance with these polices will be assured by the DSA and reported to the SofS and the Permanent Secretary via an Annual Assurance Report. Regulation will flow from the policies detailed within DSA01.1 and 01.2, but will be assured separately by the authoring Regulator. Domain specific policy and regulation will be detailed within the relevant DSA02 level publications. Defence is to comply with the DSA policies and Regulation with equal diligence and vigour. Should there be conflict between policy and Regulation within the DSA’s publication suite then in the first instance advice should be sought from the Policy Team in DSA HQ by email at DSA-HQ-SafetyEnquiries@mod.gov.uk.

Application

This policy and guidance applies to all Defence Organisations/Agencies and Defence activities.
Management of Health, Safety & Environmental Protection Risk.

1. This Chapter:
   a) aims to describe the generic principles to be followed within Defence to ensure the effective management of health and safety risks and environmental impacts associated with Defence activities.
   b) does not cover the management of strategic level HS&EP risk which is described separately in JSP 892.
   c) should be read in conjunction with Chapters 1, 2 & 3 of DSA01.2.

Legal Requirement (Summary) 01.2.4 (1)

Health and Safety at Work etc Act 1974; Management of Health and Safety at Work Regulations 1999.

2. UK health and safety legislation requires employers to ensure, So Far As Is Reasonably Practicable (SFAIRP), the health, safety and welfare of employees and anyone else who may be affected by a work activity. UK legislation also requires employers to achieve this through effective implementation of suitable mitigation of the risks associated with the activity. In accordance with the Secretary of State’s Policy these requirements apply to all Defence activities.

Legal Requirement (Summary) 01.2.4 (2)

Environmental Protection Act 1990; Environmental Permitting Regulations 2018.

3. Environmental legislation was introduced to provide protection of the environment which includes air, water, land, natural resources, flora, fauna, humans and their interrelationships and requires Defence to:
   a) assess the environmental impact of Defence activities;
   b) take measures to prevent or to reduce adverse effects on the environment.

In accordance with the Secretary of State’s Policy these requirements apply to all Defence activities.

Policy 01.2.4 (1)

Requirement for Risks and Impacts to be Managed to ALARP1.

4. For Defence activities undertaken within their Areas of Responsibility (AoR), Top Level Budget (TLB) Holders and Chief Executives of Executive Agencies2 shall ensure that throughout the chain of command, work-related fatalities, injuries, ill-health and adverse effects on the environment are minimised by the management of risk and environmental impacts to a level that is As Low as is Reasonably Practicable (ALARP).

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1 ALARP is used as a generic term and covers SFAIRP, BAT, BPM, BPEO, etc
2 Including Defence Trading Entities
Policy

01.2.4 (2)

Health, Safety and Environmental Protection (HS&EP) Responsibilities.

5. TLB Holders and Chief Executives of Executive Agencies shall ensure that all personnel within their area of responsibility are aware of their HS&EP responsibilities; are competent; and have had suitable and sufficient information, instruction, training, and supervision to fulfil them.

Acceptable Means of Compliance (AMC) 01.2.4

TLB Holders and Chief Executives of Executive Agencies.

6. TLB Holders and Chief Executives of Executive Agencies should be able to demonstrate how effective risk management is incorporated into their Safety and Environmental Management System\(^3\) (SEMS) and that safety risk and environmental impacts are being effectively managed within their AoR by:

   a) the identification of hazards/aspects and assessing the risks/impacts;
   b) the identification and implementation of suitable mitigation to reduce the risks/impacts to ALARP;
   c) detailed procedures for safe systems of work/training;
   d) defined competency requirements for specific roles;
   e) the appropriate escalation and acceptance of risk through the military command and business management chains;
   f) the monitoring of mitigation measures to ensure their correct implementation and effectiveness; and
   g) the review of risks/impacts and mitigation measures at a frequency proportionate to the risk/impact.

Responsibility of Defence Personnel who Control, Lead, or Conduct a Defence Activity.

7. Defence personnel who control, lead, or conduct a Defence activity must be able to demonstrate that:

   a) they understand the legislation that applies and the importance of the risk assessment in context of the activity being undertaken;
   b) risk assessment of hazardous activities has been carried out and effective mitigation measures implemented before commencement of the activity;
   c) any person conducting or assisting in the risk assessment is competent to do so, practiced and familiar with the activities being undertaken;

\(^3\) See DSA01.2 chapter 2
d) personnel are appropriately empowered with the necessary authority to implement mitigation measures or stop activities where risks are not ALARP, or minimum statutory requirements are not met;

e) where necessary risk assessments are appropriately challenged to ensure that they are suitable and sufficient;

f) risks are periodically reviewed, re-assessed and risk assessments modified to take into account changing circumstances that could impact on their validity, such as changing environmental conditions (e.g. changing weather conditions that could cause heat exhaustion or create an environmental risk that was manageable before the change);

g) instructions/standard operating procedures for an activity are proportionate to the risk identified by the assessment;

h) risk/impact assessments are proportionate to the risk presented by the activity;

i) they escalate unacceptable levels of risk up the chain of command/management chain;

j) those undertaking activities understand fully the risks/impacts and mitigation measures so that there is not a “blinkered” focus only on completing the task;

k) the effectiveness of mitigation measures is continuously monitored and periodically reviewed for their suitability in managing the risk/impact to ALARP;

l) risk assessments carried out by personnel on their behalf are done so by individuals who are competent to conduct such assessments and understand fully the nature of the activity being undertaken;

m) personnel undertaking any risk assessments on their behalf (for the purpose of the risk assessment) report directly to them; and

n) responsibility for risks/impacts identified in risk assessments are accepted by the Responsible Person and the required mitigations implemented.

**Overseas Collaborative Working and Secondment Postings.**

8. Those deploying Defence personnel, or responsible for the engagement in collaborative activities, that will be under the control of a foreign state authority or other government department, should be able to demonstrate that:
a) the safety and environmental control measures for the activity are assessed and evaluated against the UK standards and SoS policy; and

b) adequate information, instruction and training is provided to mitigate any additional risk from differing standards of other nations HS&EP legislation requirements for duty of care compared to that of the UK.

9. The legal requirement for suitable and sufficient assessment of risks permits the level of effort and rigour applied to assessing and managing risk to be proportionate to the scale of the risk resulting from the activity (e.g. a benign office environment requires less effort for managing safety than activities such as working at height; in confined spaces; with high pressure systems; and for high fidelity and challenging military training and exercising; which will demand more rigorous safety risk management).

10. Many Defence activities are uniquely hazardous, using hazardous materials and munitions and in very challenging environments where there are extreme and rapidly changing climatic conditions. Importantly, in contrast to most civilian activities, there may not be a choice on whether or not to undertake the activity. This heightens the need for effective risk management but the legal requirement remains that the risks to the health and safety of personnel and the impact on the environment should be reduced to ALARP. Defence has received Crown Censures from the Health and Safety Executive (HSE) where serious injury and losses of life have resulted from inadequate safety risk management and charges from the Environment Agency for environmental contamination.

11. The management of HS&EP risk is sometimes portrayed as an unwarranted, bureaucratic imposition. For example, where significant compensation is sought for trivial injuries, or, where normal, everyday activities are prevented by overzealous and disproportionate safety rules (e.g. conker trees felled for fear of minor injuries). These situations can arise where there is a failure to manage safety risk proportionately. The consequences of this are risk aversion, where there is a reluctance to undertake activities, or, risk ignorance, where there is a reluctance to assess and manage the risks. Both of these situations will undermine the military’s ability to train and operate.

ALARP.

12. Employers, including the MOD, and those controlling work place activities have as a legal requirement to ensure, SFAIRP, the health, safety and welfare of employees and anyone else who might be affected by a work activity. More commonly this requirement is phrased as ensuring risks are ALARP. The HSE consider that the two phrases essentially mean the same thing. The key common element to both phrases is “reasonably practicable” and this permits the employer to weigh a risk against the trouble, time and money needed to control it. The use of SFAIRP or ALARP allows a very flexible and proportionate
rather than prescriptive (i.e. defined limits) approach to manage safety risk. However, the application of ALARP can be challenging because it requires those controlling the risks from activities to exercise judgement. In the great majority of cases, existing ‘good practice’ (often described in regulatory codes of practice) provides a measure of what is ALARP. For high hazard, complex or unique activities good practice may not be available and so more formal decision making techniques, including cost-benefit analysis, should be used to inform the judgement on ALARP.

13. In the case of Edwards v National Coal Board (1949) the Court of Appeal set out a test for what is “reasonably practicable”. In this case, Mr Edwards was killed when a section of road along which he was traveling collapsed. This section of road had no timber supports although other sections of the road had been reinforced in this way. The National Coal Board argued that the cost of reinforcing the road in this way would have been prohibitive, however, the court determined on the evidence that they had not properly considered the risk despite the measures taken to support the other road sections and had therefore failed to discharge their statutory duty to the deceased as an employee. In his judgement, Lord Asquith set out a test for employers in determining what is reasonably practicable:

“‘Reasonably practicable’ is a narrower term than ‘physically possible’ … a computation must be made by the owner in which the quantum of risk is placed on one scale and the sacrifice involved in the measures necessary for averting the risk (whether in money, time or trouble) is placed in the other, and that, if it be shown that there is a gross disproportion between them – the risk being insignificant in relation to the sacrifice – the defendants discharge the onus on them.”

14. Making sure a risk has been reduced to ALARP is about weighing the risk against the sacrifice (money, time or trouble) needed to further reduce it. Importantly, the decision is weighted in favour of HS&EP because the presumption is that the employer should implement the risk reduction measure. To avoid having to make this sacrifice, the employer should be able to show that it would be grossly disproportionate to the benefits of risk reduction that would be achieved. Thus, the process is not one of balancing the costs and benefits of measures, but, rather, of adopting measures except where they are ruled out because they involve grossly disproportionate sacrifices. An extreme example of grossly disproportionate would be spending £1m to prevent five staff suffering a minor paper cut, whereas, investing £1m to prevent a major explosion capable of killing 150 people is entirely proportionate.

15. In practice, many decisions about risk and the controls that achieve ALARP are not obvious (e.g. ongoing costs set against the remote chances of one-off events, or daily expense and supervision time required to ensure that personnel wear PPE, set against a chance of developing dermatitis at some time in the future) and require some judgment. However, in most cases ‘approved practise’ for standard
situations is available in regulations, orders, local guidance or HSE leaflets, depending on the environment or the situation. There is no simple formula for computing what is ALARP. Where an activity is complex, such as the operation of a fighting platform, it may be difficult to reach a decision based on good practice alone. There may also be some cases (for example, a new technology) where there is no relevant good practice. In such cases, good practice should be followed as far as it can be, and then consideration given to whether there is any more that can be done to reduce the risk. If there is more, the presumption is that the person controlling the activity will implement these further measures, but this needs to be confirmed by comparing the risk with the sacrifice involved in further reducing it. Often these comparisons can be done qualitatively, using common sense and/or exercising professional judgment and experience.

16. There will be activities (often high hazard or where there is significant risk of severe consequences) where the situation is less straightforward. In such cases, a more detailed comparison should be undertaken. Unfortunately, risk and sacrifice are not usually measured in the same units, and so in these circumstances, a more formal quantifiable Cost Benefit Analysis (CBA) may be required to provide additional insight to help come to a judgment, where both risk reduction (benefit) and sacrifice (cost) can be compared in monetary terms. However, unlike standard CBA, where the usual rule applied is that the measure should be adopted only if benefits outweigh costs, for ALARP judgments the rule is that the measure should be adopted unless the sacrifice is grossly disproportionate to the risk. So, the costs can outweigh benefits and the measure could still be reasonably practicable to introduce. How much costs can outweigh benefits before being judged grossly disproportionate depends on factors such as how big the risk is to begin with (the larger the risk, the greater can be the disproportion between the cost and risk). Importantly, HSE highlights the following misunderstandings where ALARP is not applied correctly:

   a) ensuring that risks are reduced ALARP does not mean that standards must be raised continually;

   b) the adoption of a high standard of risk control does not automatically create a standard for ALARP;

   c) ensuring that risks are reduced ALARP does not mean that all possible risk controls are implemented;

   d) ensuring that risks are reduced ALARP will not eliminate accidents or ill-health;

**Note:** For certain activities where complex systems are involved, a regulator might advocate a specific approach (e.g., a HAZOP and CBA) and those who hold Risk to Life (RtL) should be aware of this.

17. The assessment of HS&EP risk is a duty for MOD employees controlling hazardous activities\(^5\) should not be considered as a bureaucratic exercise that is separate to undertaking the Defence activity but should be an integral part of conducting that activity in the most effective way. It is closely aligned with other business, defence, and military planning processes and tools, such as the estimate process or strengths, weaknesses, opportunities and threats (SWOT) analysis. In as much, the aim of the risk assessment is to understand the threats and hazards to the health, safety and welfare of those undertaking the activity and impact on the environment and assessing the likelihood of those threats or hazards occurring. This allows mitigations to be put in place to reduce both the size of these threats and hazards and their likelihood of occurring. The risk assessment is a significant contributor to the success of the activity. The assessment and management of risks follow a systematic approach that is similar to those used for other military planning activities:

a) consider the conditions and environment where the activity is to be undertaken. This should be a wide-ranging review of the activity, the physical circumstances (e.g. airfield, ship and terrain), the personnel undertaking the activity (level for experience and training) and other factors, including hazardous materials to be used, such as chemicals or munitions and include environmental factors such as weather and climatic conditions. This can be undertaken as a form of SWOT analysis in deciding how best to conduct the activity and concluding what the threats or hazards are to health and safety and who is likely to be harmed. This may be both those undertaking the activity and others who may be affected (e.g. other personnel or members of public).

b) once the hazards and the likelihood of harm to those who might be affected have been identified, the significant risks should be mitigated by reducing either or both the hazard severity and its likelihood of occurring to a level that is ALARP. This will permit management action to be applied proportionately and to the highest risks. The mitigation of risk can be achieved in many ways including: the modification (e.g. fitting of engineered safeguards) or replacement of equipment; substitution of hazardous materials with less hazardous alternatives; provision of additional training for personnel; greater level of supervision of the activity; modification or restriction of the intended planned activity, and, provision of specific systems of work to regularise processes and reinforce training.

c) where the residual risks identified are significant the assessment of risk and mitigation measures should be recorded in writing so that those undertaking the activity are absolutely clear on how it

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\(^5\) For Example: Defence and MOD employees have been subject to the Health and Safety at Work Act 1974 since it was enacted unless there is a specific exemption in place for specific activities.
should be conducted and ensure that where circumstances change, that the assessment of risks and mitigations are reviewed and modified as necessary. For very high risk activities, it may be necessary for the person controlling or conducting the activity to review the assessment of risk and its mitigations every time the activity is undertaken. An important input to these reviews will be the lessons identified from reports of near misses, accidents and incidents.

d) for high hazard activities, the assessment of risk and mitigating actions should be incorporated in work instructions and safe systems of work. The person responsible for controlling or conducting the activity should ensure that those participating in the activity are clear on how the activity should be undertaken and provide sufficient supervision to check that the work instructions and safe systems are being adhered to. Where any circumstances change that have potential to affect the validity of the assessment of risk or its mitigations, the person controlling or conducting the activity is also responsible for ensuring that the risk assessment is reviewed and updated as necessary.

18. The principles within this chapter also underpin “Risk to Life” and “Duty Holding”. Chapter 3 of DSA01.2 describes their application and the distinct difference between “Risk to Life” and “Duty Holding”.

Related Documents
01.2.4

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