

Chapter 1

MINISTRY OF DEFENCE LAND RANGE SAFETY

INTRODUCTION

0101. There is no UK government legislation dealing specifically with the safe operation and use of live firing ranges. In the absence of statutory regulation, JSP 403 has been developed to provide the Ministry of Defence (MOD) general policy, regulations and best practice guidance for the safety of land ranges.

0102. Terms, definitions and abbreviations used in connection with the safety of MOD land ranges are explained in Volume IV of this JSP.

0103. This chapter covers the following:

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0104. *Spare.*

STATUTES AND REGULATIONS

0105. There are a number of UK and European Union (EU) laws and regulations dealing with health, safety and environmental issues which have an impact on the management of range safety. The key statutes and regulations that apply to this JSP and to the formulation of policy and regulations for range safety are:

- a. Health and Safety at Work Act (H&SWA).
- b. Occupiers Liability Acts (OLA).
- c. Military Lands Act (MLA).
- d. Armed Forces Act (AFA).
- e. Countryside and Rights of Way (CROW) Act.
- f. Land Reform (Scotland) Act (LR(S)A).
- g. Environmental Protection Act (EPA).
- h. Management of Health and Safety at Work Regulations.
- i. Control of Lead at Work Regulations.

0106. There are a number of MOD publications which are referenced in this JSP and which influence the development of range safety regulations and best practice. The full list is under the Associated Publications pages of each volume of JSP 403. The principal Associated Publications are:

- a. JSP 375 – MOD Health and Safety Handbook.
- b. JSP 418 – MOD Environmental Manual.

0107. Range Safety Notices (RSN) and Range Safety Policy Letters (RSPL) issued by the Defence Land Ranges Safety Committee (DLRSC) carry the same authority as this JSP and are incorporated into it, where applicable, at the earliest opportunity. Further detail on RSN and RSPL is in Chapter 2.

APPLICATION OF LEGISLATION

ACCESS

0108. In legal terms, the MOD is the occupier of all ranges on the MOD estate and as such, owes a duty of care to people on its ranges and those who might be affected by the MOD's actions on ranges under the law of Occupiers' Liability¹. The MOD's duty is to take such care as is reasonable to see that the visitor/user will be safe at all times when on a range. The circumstances of each case will serve to either reduce or widen the extent of the duty. The duty of care also extends to people other than those invited or permitted to be on a range, e.g. trespassers, or a member of the public adjacent to a range, if:

- (a) the MOD is aware of the danger or there are reasonable grounds to believe that it exists;
- (b) the MOD knows or has reasonable grounds to believe that the other people are in the vicinity of the danger concerned or that they may come into the vicinity of the danger;
- (c) the risk is one against which the MOD may reasonably be expected to offer other people some protection.

When assessing the risks associated with all activities on a range, the level of protection afforded by the MOD must take into account both the likelihood of injury and the seriousness of the injury. Where such risk exists the MOD has a duty to provide an appropriate level of protection. In most cases, the duty of care can be discharged by the MOD taking all reasonable steps to give warning of the danger concerned and, where necessary, to discourage persons from incurring the risk. The law of negligence provides for a duty of care applicable to the activities that take place on a range rather than to the state of the range itself, but can apply to both. Essentially, the duty of care arises if it can be established that it was reasonably foreseeable that injury or damage may be suffered as a result of the MOD's act or omission to act and that the imposition of the duty of care is just and reasonable. Personnel, civilian or military, should not be given access to a MOD range until they have received relevant health and safety information. Where access can be controlled Commanding Officers (CO)/Heads of Range Administering Units (RAU) are to set up a local procedure to ensure that the information is absorbed and understood before access is authorised.

¹ Occupiers' Liability Acts 1957 and 1984

0109. Following the implementation of the CROW Act and the LR(S)A special attention is to be given to Range Danger Areas (RDA) to which the public have access when the facility is not in use, and to those areas which may be entered unlawfully or unknowingly by unaccompanied children, particularly those which are close to areas of housing, schools, leisure or recreation. Where managed access is possible this should be applied in keeping with the Secretary of State's policy that the MOD will meet its declared presumption in favour of safe public enjoyment of the defence estate wherever this is compatible with military training and operational requirements, safety, security, conservation and the interests of our tenants.

0110. All reasonable and affordable precautions to safeguard the public are to be taken. Measures should include adequately positioned warning signs which point out the existence of specific hazards such as the danger from unexploded munitions. Such signs, whilst they do not obviate duties of care imposed by any legislation, are nonetheless desirable both in civil and criminal law as evidence of the measures taken by an occupier towards meeting his legal obligations. In accordance with current MOD policy signs should primarily consist of symbols supplemented by text if necessary and should adhere to international agreements on signs to identify danger areas. Arrangements should be made to clear, as far as is reasonably practicable, all unexploded ordnance (blinds) from rights of way, highways etc., and other areas to which the public have access at the close of firing. Safety measures which are adequate for a local population may not necessarily be sufficient to protect visitors (arriving by land, sea or air) who are unfamiliar with the area. Consideration should be given to waymarking footpaths and cleared routes to ensure that the public are easily able to identify and remain on the safe route. Further information on the management and control of access to ranges for both authorised persons and the general public is in Chapters 4 and 5.

0111. The making of Byelaws, under the MLA, should be considered when the User Requirement Document for a land range is being discussed and staffed. Byelaws may enable legal sanctions to be taken against trespassers (for an infringement of the Byelaws). They also bring to public attention that specific dangers are present in an area. Notice boards displaying Byelaws should be positioned so that anyone entering the range area on recognised access routes would see them.

0112. The AFA allows civilians under the supervision of a member of the Armed Forces to have possession of Service weapons and Service ammunition on Service premises for Service purposes. Civilian visitors to Service ranges may only have possession of Service weapons and Service ammunition under the supervision of a member of the Armed Forces for a Service purpose which has been expressly authorised in writing by a CO. Such an authorisation is to specify the Service purpose, the resources and personnel allocated and the time and location of the activity. The Service purpose may include the firing of Service weapons by civilians at specific events. Civilians involved would come under Category 3 of authorised civilian as given in Chapter 4. They are to be fully briefed on the activity, the procedures to be followed and any risks involved, and are to sign an acknowledgement to that effect. The CO must ensure that those under command are entirely clear as to the need to rigorously enforce the prohibition of civilian access to Service weapons, ammunition and pyrotechnics without express authority.

0113-0114. *Spare.*

SAFE SYSTEMS

0115. All personnel have a legal duty of care, to themselves and to others, and are liable to criminal or civil action if there is wilful or reckless disregard of health, safety and environmental requirements on a range. Both the providers and the users of range facilities must ensure that their activities are carried out in the safest possible manner consistent with Defence requirements. Supervision of an activity or event may be delegated but the legal responsibility for duty of care remains with the person in charge of the activity or event.

0116. A Safe System on a MOD land range must comprise four essential elements to be in accord with the H&SWA. This applies whether a range is used for training purposes or whether it is conducting Test, Evaluation, Research and Proofing (TERP) activities. The four elements in both cases are safe people, a safe area, safe equipment and safe practice. On ranges used for training Service and MOD civilian personnel a Safe System of Training (SST) is to be applied. On ranges which are used for TERP purposes a Safe System of Work (SSW) is to be applied. With each of the four elements the hazards must have been assessed and the consequent controls integrated into formal procedures in order to reduce the risks to as low as reasonably practicable (ALARP). The essential difference between the SST and the SSW is that the former must achieve ALARP within the demands imposed by the Training Imperative whereas the latter does not have this freedom.

RISK

0117. To establish the safety of a range a risk assessment must be carried out and recorded before the range can be first taken into use. This range safety risk assessment will describe the hazards involved and the set of control measures that must be in place to mitigate the identified risks. The risk assessment process is a prerequisite for the production of range standing orders which will govern the operation and use of the range. The range safety risk assessment must be reviewed annually, or more frequently if there are interim changes to the way in which a range is operated or used. Further detail on range safety risk assessment and range standing orders is in Chapter 3.

0118. When a weapon system, munition or explosive store is used on a range, persons and materiel within the Total Energy Zone (TEZ) associated with that weapon system, munition or explosive are exposed to risk of injury or damage. The hazard will not be uniform throughout the TEZ; it will usually be at a maximum at a point of burst or along a line of fire and will decrease sharply with distance from this point or line. The Weapon Danger Area/Zone (WDA/Z) is that part of the TEZ within which the risk to persons and materiel cannot be disregarded.

0119. The tolerability of risk framework developed by the Health and Safety Executive (HSE) from References Z1 and Z2 is used when providing advice on the acceptable level of risk on a range. This framework establishes an upper and a lower level of risk. The upper level must not be exceeded unless there are exceptional circumstances whilst the lower level is the point at and below which a risk can be considered broadly acceptable. For Individual Risk of death, i.e. accidents that result in single deaths, the upper level is one in a thousand (1 in 1,000) deaths per person year, and the lower level is one in a million (1 in 1,000,000) deaths per person year. At any level between these it must be demonstrated that the benefit outweighs the risk thus making the level As Low As Reasonably Practicable (ALARP).

0120. The Defence Ordnance Safety Group (DOSG) advice on the construction of a WDA/Z

will be based on the criteria for Individual Risk, taking into account both the hazard and the population density within the TEZ, with the probability of hitting an individual set at one in a

million (1 in 1,000,000) per person year. A WDA/Z will only be applied for a given firing activity on a range after the risk from its application has been assessed as ALARP (see procedures at paragraph 0243).

0121-0124. *Spare.*

ENVIRONMENTAL MANAGEMENT OF RANGES

0125. Environmental issues, particularly pollution and waste management, can affect the control and management of ranges. The first point of reference to ensure that activities are conducted in compliance with the law and international conventions is the MOD Environment Manual (Reference O). This manual provides brief background notes on environmental issues, gives overviews of policy and legislation, provides a guide to implementation and offers sources of reference for further information.

0126. Range design and construction must take account of the effect of lead, carbon monoxide, unburnt propellant and noise on the immediate environment. An environmental impact assessment is to be carried out before any range is first authorised for use. On TERP ranges operated by the Dstl and by a contractor for the DE&S an assessment of the effect on the environment must be made before each separate event or activity is undertaken. Further advice on environmental issues can be obtained from Defence Estates (DE). The Principal of DE PTS Environmental Advisory Services is the initial point-of-contact for any enquiry regarding provision of environmental support to land ranges. This focal point is able to make an 'intelligent assessment' of what is required and provide the link to an established network of specialists, thus enabling queries/requests to be directed to the most appropriate person or organisation. Contact details are: DE Ops North, Professional and Technical Services, Environmental Advisory Services, Building 21, Westdown Camp, Tilshead, Salisbury, Wilts SP3 4RS, Tel Mil: 94325 4704, Tel Civ: 01980 674704, E-mail: DE Ops North-PTS13.

0127. The principal environmental concerns on ranges are those which have a potential impact on the health, safety and well being of range staff and range users. The main issues are lead contamination and noise. The biggest producers of lead contaminants are small arms ranges, both indoor and outdoor. The measures to deal with the former are in Chapter 30 of Volume II of this JSP; if an indoor range does not meet the criteria in this chapter the provisions of JSP 375 (Reference E) are to apply. The measures dealing with de-leading and disposal of contaminated material are in Chapter 2 of Volume II of this JSP. All those exposed to weapon noise on a MOD land range must wear suitable hearing protection. Measures for the attenuation and containment of noise on indoor and enclosed ranges are addressed in Chapter 31 of Volume II of this JSP. Weapon generated impulse noise when measured at the boundary of an open range is not to exceed the maximum level of impulse noise permitted under the current Noise at Work Regulations. MOD policy on noise protection is contained in JSP 375 (Reference E) Leaflet 6.

0128. The management of waste on land ranges is to comply with the EPA requirements.

0129. *Spare.*

RANGE SAFETY MANAGEMENT SYSTEM

0130. This volume of the JSP sets out the component parts of the range safety management system and provides detail on how they are to be applied. The Services and MOD Agencies which operate and use land ranges are the duty holders with specific responsibility for the formulation, implementation and upkeep of an effective range safety management system. The top level duty holder in each Service and MOD Agency is required to contribute to the formulation of policy, regulations and procedures for maintaining the safety of ranges through representation on the DLRSC. Corporate decisions on the policy and standards for range safety require the consensus of all top level duty holders. Duty holders at all levels must ensure that roles and responsibilities are defined and clearly understood and that individuals are competent to undertake the tasks required of them.

0131. The range safety management system differentiates between those who have management control of a range and those who use a range for training or TERP purposes. Those with management control are effectively the operators of a range and are held accountable for the safety of the range and for presenting it in a safe condition to the user. Those using a range for training or TERP purposes are required to conduct these activities safely, in accordance with stipulated practices and procedures, and are therefore held accountable for safety on the range whilst they are using it. Range users may be MOD employees, serving or civilian, or non-MOD personnel. The use of MOD land ranges is covered in more detail in Chapter 3 of this volume.

0132. The key components of the range safety management system are listed below and are expanded upon in other chapters of this volume:

- a. A range must be authorised for use.
- b. A range must have an appointed administering unit.
- c. Access to a range and its danger area must be controlled.
- d. A range must be inspected on a regular basis to confirm that it remains fit and safe for use.
- e. A range must be subject to a safety oversight and audit regime.

0133. For Service units outside the United Kingdom (UK) MOD policy is that the same standards of safety for ranges are to be imposed, subject to Host Nation legislation and instructions issued by overseas Commands. As a general principle, standards adopted in overseas theatres must not be less stringent than those applying in the UK.

0134-0135. *Spare.*

LEGAL POSITION OF MOD PERSONNEL

0136. Although the Crown is exempt from prosecution, the H&SWA allows for prosecution of individuals 'in the public service of the Crown'. The Health and Safety Executive (HSE), who are the regulatory body for the Act and its subsidiary legislation, may censure Crown bodies in respect of offences which would have led to prosecution had they occurred in the private sector and have instituted a procedure for issue of Crown Notices. The MOD has agreed to comply with such notices. The procedure would be for the HSE to issue a Crown Notice of formal censure after consultation with the Health and Safety Executive, Crown, Fire and Police National Interest Group (HSE CFP NIG), who would inform the MOD Safety,

Sustainable Development & Continuity (SSD&C) if the censure procedure was to be followed.

0137. Although the H&SWA places statutory duties on individuals both as employers and employees, HSE has undertaken not to prosecute individual Crown servants in substitution for their departments. HSE also recognise that HM Forces have power to deal with disciplinary charges against their members. Only in very exceptional circumstances would a criminal prosecution be instituted against a Crown servant under the H&SWA. HSE considers that procedures for controlling and managing live firing activities on MOD land ranges are a MOD responsibility, and, exceptionally, if HSE feels that such activities should be halted it may raise the matter to the DLRSC for subsequent consideration through the appropriate command chain.

0138. The Corporate Manslaughter and Corporate Homicide Act 2007 introduces a new crime of corporate manslaughter, or corporate homicide in Scotland, from April 2008. The Act does not introduce new duties, and such a crime could only be committed by corporate bodies; individuals cannot be held liable in their own right for a charge of corporate manslaughter. The Act, and the introduction of the new crime, highlight the importance of effective safety management.