DSA DOSR Range Safety Notice 19 - 1

Defence Safety Authority

Chairman DRSCWG
Defence OME Safety Regulator
Defence Safety Authority
Juniper, #5004, NH5 MOD Abbey Wood North
BRISTOL, BS34 8QW

Telephone: 030 679 85864
e-mail: matt.wingrave577@mod.gov.uk

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UPDATE TO JSP 403 VOLUME 2 HANDBOOK OF DEFENCE RANGES SAFETY, DESIGN, CONSTRUCTION AND MAINTENANCE OF SMALL ARMS, INFANTRY WEAPON SYSTEMS AND 40mm WEAPON SYSTEMS RANGES

Who should read this:	All Service and civilian personnel involved with the management and conduct of MOD Ranges.
Category:	Regulation.
Cancellation date:	When rescinded or replaced.
Point of contact:	brendan.ocallaghan155@mod.gov.uk

Reference:

A. JSP 403 Handbook of Defence Ranges Safety. Design, Construction and Maintenance of Small Arms, Infantry Weapon Systems and 40mm Weapon Systems Ranges.

Purpose

1. The purpose of the DSA DOSR Range Safety Notice (RSN) is to provide a swift method of circulating an update to the Regulations, requirements and / or guidance of Reference A, prior to the issue of formal updates.

Safety issue

2. The following changes to Reference A have been formally endorsed by DSRCTWG and DRSCWG and are to be implemented with immediate effect:

a. Chapter 2, paragraph 02111, **Sand Quality**. Sand should be formed of crushed stone, with angular shape to assist slope stability. Granite or Quartz generally have the physical properties to resist natural breakdown. Over time the sand will reduce to fine dust, especially behind the MPI, due to the impact of rounds. When the sand reaches this point, it will require replacement. River or sea washed sand is not to be used as the grains tend to be rounded and thus lack good mechanical interlock.

Sand type should conform to BS EN 12620:2002 description “0/4 Concrete Sand.” Grading of sand should conform to BSI PD 6682-1 Table D1, “0/4 Concrete Sand CP” (Coarse Product). This grade is fine enough not to cause ricochet yet coarse

enough to retain the required profile effectively without likelihood of setting or forming a surface crust. It is also relatively stable in high winds.

Some basic testing of samples may be required to assess its suitability, these tests include;

(1) When rubbed between the hands the sand should not crush to fine dust or leave a residue on the palm.

(2) Assessment of the natural angle of repose of the sample of sand. The sand should be capable of holding a profile of, or exceeding, the minimum safety angle of 30°.

b. After paragraph 02023 Hard target insert the following:

a. **Limited Danger Area (LDA) Ranges** - All LDA ranges must have 150mm of stone free soil on the range floor. Any banks must meet the specification within the relevant chapter e.g. mantlets

b. **Full Danger Area (FDA) Ranges** - Where stones are not visible to the firer on an FDA range then they are not considered to be presenting any additional ricochet or backsplash potential. Stones which are visible, but loose i.e. if struck by a round the stone would move, are also considered to not present any additional ricochet or backsplash potential. Where stones are present on the range floor which are large or fixed, i.e. if struck by a round then the stone would not move, are visible, and present an irregular face then application of the hard target mitigation should be put in place. Any banks on the range must also apply these principles, except where engagement is closer than the soft backsplash distance, and the bank is in the cone of fire, in which case the bank must be as per a well-maintained bullet catcher.

3. **Categorisation of MOD ranges**. MOD ranges are currently categorised into one of the following; Compliant, Approved or Dispensated. A large percentage of the ranges which are currently considered compliant are likely to fall short of some of the non-safety critical elements of the criteria as set out in Reference A.

4. **Change**. Reference A, after paragraph 02029 insert:

a. **Categories of Range**. For authorisation purposes, MOD Ranges are to be placed in one of the following design categories by the appropriate RAO:

(1) **Compliant Range**. A range which meets all of the critical (C) and standard (S) criteria specified for its type in DSA 03. OME Part 3.

(2) **Approved Range Status**. A range which varies from the design and build criteria specified for its type in DSA 03. OME Part 3 or the appropriate Single Service publication. However, the results of a risk assessment are not to exceed the level for a Compliant Range of the same type. ARS is requested by the RAO based on advice / recommendation offered by the DRSCTWG. In many cases, particularly where a full RDA cannot be applied, it may be necessary for DOSG to use the Weapon Danger Area Laboratory (WDALab) to assess the level of safety of the range before ARS can be authorised. This advice may also be used to support dispensation (see paragraph 71).

(3) **Managed non-compliant (MNC)**. Where ranges have some degree of non-conformity to the standard criteria for the range type, TAS advice is to be sought to confirm the range is suitable to be considered for MNC. Although different from these illustrated in this JSP, they will conform to all the safety critical elements described in the respective chapters. For MNC where TAS considers such non-compliance will not increase the level of risk on the range then the RAO will be formally notified of this advice. The areas detailed in the advice, where the range falls short of the criteria will be required to be logged in the MOD Form 1057 series, and kept in the range file, to maintain a written audit trail. Such non-conformities may include construction tolerances, accuracy of measurement, and TAS endorsed variation of standard dimensions. Where doubt exists, DOSG advice may be sought prior to seeking ARS from Chairman DRSCWG based on advice sought from DRSCTWG.

(4) **Dispensation Range**. A range which varies from the design and build criteria specified for its type in DSA 03. OME Part 3 or the appropriate Single Service publication, and results in a level of risk which exceeds that currently accepted for a Compliant or Approved Range of the same type.

5. **Weapon Unloading Facilities**. Add to Chapter 32 Weapon Unloading Facilities (WUF) – new paragraph 3210.

3210. **Signage**. The WUF is to have appropriate signage to indicate the nature of the weapon systems that may be used with the facility and the loading / unloading drills. Any additional information that may be required is to be determined by a local risk assessment. Signs should be locally manufactured and, where practical, follow guidance on layout and sizing as given in Chapter 2. The signage is to be located in a prominent position where it can be easily read.

Dissemination

6. In due course, the contents of this RSN will be incorporated into Reference A. In the meantime, the policy is effective from the issue of this notice. DRSC members and FLCs not represented at DRSC as appropriate are requested to disseminate this RSN through their chains of command to all RAOs and RAUs likely to be affected by it.

Prepared: Sec DRSCWG Date: 18 Dec 19

Authorised: Chairman DRSCWG Date: 18 Dec 19