

LEAFLET 1

ACQUISITION OF SOURCES OF IONISING RADIATION BY IPTs

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Annex

- A Summary of regulatory and MOD requirements

SCOPE

1 This Leaflet covers the acquisition of sources of ionising radiation by Integrated Project Teams (IPTs). The acquisition of sources of ionising radiation for organisations other than IPTs is covered in Leaflet 3.

INTRODUCTION

2 The following information describes the statutory requirements and reflects the MOD policy for the acquisition of radioactive materials and other sources of ionising radiation, and the procedures to ensure compliance.

STATUTORY REQUIREMENTS AND PARALLEL ARRANGEMENTS

3 In addition to the general requirements of the Health and Safety at Work etc Act 1974 and the Management of Health and Safety at Work Regulations 1999, the following specific legislation applies directly or is applied indirectly through parallel arrangements designed to achieve equivalent standards:

- Justification of Practices Involving Ionising Radiation Regulations 2004 (parallel arrangements);
- Ionising Radiations Regulations 1999 (IRR99) (apply directly);
- Radioactive Substances Act 1993 (RSA93) and associated Exemption Orders (parallel arrangements);
- High-activity Sealed Radioactive Sources (HASS) and Orphan Sources Regulations 2005 (parallel arrangements);
- Radiation (Emergency Preparedness and Public Information) Regulations (REPPiR) 2001 (apply directly).

4 The requirements for notification, approval and assessment to meet MOD policy and the above regulations are included in this Leaflet. Advice is to be sought at the earliest opportunity from the appointed Radiation Protection Advisor (RPA) on the scope of application of any particular legislation.

DUTIES

5 IPT Leader (IPTL): The general legal duties of suppliers, manufacturers and others will apply to IPTs supplying equipment (including replacement parts) to the Armed Forces (JSP 375, Volume 1, Chapter 7). This specifically includes the duty to identify radioactive materials contained in equipments or emissions of ionising radiation. For sources of ionising radiation, the IPTL must ensure that:

- The equipment is designed and constructed to restrict exposure to employees and the public from the source of ionising radiation so far as is reasonably practicable;
- A Prior Risk Assessment has been carried out;
- A critical examination has been undertaken to ensure that safety features operate correctly, (where applicable);
- There is sufficient protection from exposure to ionising radiation;
- The end user is provided with adequate information about the proper use, testing and maintenance of the equipment;
- Any special storage requirements are notified to the user;
- Disposal requirements are correctly identified and dealt with prior to the purchase of the material.

The IPTL is responsible for ensuring that clear and unambiguous information is passed along the whole supply chain from the design, manufacture and supply to the use or installation.

6 The majority of DE&S projects follow the Concept, Assessment, Demonstration, Manufacture, In-Service and Disposal (CADMID) lifecycle model. The MOD's Acquisition Safety and Environmental Management System (ASEMS) is applicable to this model and includes two core safety manuals for IPTs. These manuals are the Project Orientated Safety Management System (POSMS) and the Project Orientated Environmental Management System (POEMS). These assist IPTs in complying with regulatory and policy requirements. Note: POEMS and POSMS do not apply to nuclear based technologies, for example, the naval nuclear propulsion programme.

7 There is a statutory requirement for the IPTL to consult a (RPA) which must be undertaken at the earliest opportunity when a source of ionising radiation is being considered in the concept stage of the project. The RPA must be consulted on:

- The prior examination of plans for new installations.
- Acceptance into service of new or modified sources of ionising radiation.
- Engineering controls.
- Design features.
- Safety features and warning devices to restrict exposure to ionising radiation.

8 The RPA must also be consulted with regard to the nature and extent of the critical examination for equipment containing radioactive substances or equipment generating X-rays. In addition the RPA must be consulted with regard to the results or findings of the critical examination.

9 Early RPA consultation is required in relation to the above requirements but also to determine whether the radiation hazard can be avoided altogether. If there is an operational advantage in using a source of ionising radiation then the RPA will form part of the team of IPT safety experts advising on the IPT Safety Case Report at each stage of the CADMID cycle.

10 It is recommended that the RPA be consulted on matters relating to the safe storage and other control requirements for any proposed new radioactive material at the establishments where it is to be used. If special storage arrangements or other requirements are identified, the IPT will also need to provide funds to meet these requirements and inform the establishments affected of the requirements.

11 The disposal of radioactive items acquired by IPTs results in a significant cost at the end of life of that equipment, and some radioactive items cannot currently be disposed of. Consultation with the RPA and planning for the disposal of radioactive items PRIOR to their acquisition will significantly reduce this cost. The RPA should be consulted prior to the acquisition of radioactive materials on possible disposal options. It should be noted that the simplest disposal route would be to provide for the return of the radioactive materials to the manufacturer. This can be achieved by including this requirement in the contract for the acquisition of the radioactive materials.

12 Details of the source of ionising radiation must be included in the hazard log together with details of the other hazardous materials present. Similarly, an assessment of the radiation risks must be included in the IPT Safety Case Report which is produced at each stage of the CADMID cycle. The radioactive source must be identified on JSP 515: Hazardous Stores Information System (HSIS) and a summary of the radiation risks identified in the safety case must be provided to the user. This information is normally provided in the relevant equipment manuals.

13 Before any source of ionising radiation is introduced, permanently or temporarily, (including for trials) into the unit or establishment, a number of requirements for prior notification or approval may be required and must be considered by the IPT. These requirements are included at Annex A. Before a HASS source is acquired the IPTL must demonstrate that there are safe management arrangements for the source at the end of its useful service working life including a requirement that suitable financial provisions have been made for disposal. A list of the key statutory and MOD mandatory requirements are summarised at Annex A.

RECORDS

14 Any records generated shall be retained in accordance with MOD Record Retention Policy.

RELATED LEAFLETS

15 Leaflets referred to within this leaflet are shown in Table 1.

Table 1 Related Leaflets

| Leaflet Number | Leaflet Title |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 | Risk assessments |
| 3 | Application for Permits (Notification or Approval) and agreement to the introduction and use of sources of ionising radiation including radioactive substances |
| 7 | Radiation protection adviser consultation and advisory visits |
| 11 | Sale of radioactive and contaminated goods |
| 12 | Accumulation and disposal of radioactive waste |
| JSP 375V 1, Ch 7 | MOD Health and Safety Handbook |
| JSP 515 | Hazardous stores information system |

LEAFLET 1 ANNEX A

SUMMARY OF REGULATORY AND MOD REQUIREMENTS

| Requirement | Regulation/Policy | Comment | Related leaflet |
|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| RPA consultation | (IRR99) Reg 13 (1). POEMS and POSMS see para 7. | The RPA is the subject matter expert for radiation protection advice. | 7 |
| Identification of radioactive materials and emissions of radiation | JSP375 POEMS & POSMS | See par 5-11 of this leaflet | 7 |
| Notification and approval for introduction or modification | JSP 392 | | 3 |
| Justification of practice | Justification of Practices Involving Ionising Radiations Regulations 2004. JSP 392 Volume 1. | Not applicable to defence activities. MOD operates parallel arrangements. | 3 |
| Authorisation of specific practices | IRR 99 Reg 5. | HSE authorisation required. | 3 |
| Notification to HSE for specified work | IRR 99 Reg 6. | HSE notification. | 3 |
| Prior risk assessment | IRR 99 Reg 7. Management of Health and Safety at Work Regulations 1999. | Radiation risk assessment must be undertaken <u>before</u> the source is acquired. The risk assessment will identify other IRR 99 requirements. | 2 |
| Notifications to keep or use radioactive material | (RSA 93). JSP 392 Volume 1. | MOD exempt but applies parallel arrangements with EA/SEPA. | 3 |
| Authorisation for disposal of radioactive waste. | RSA 93. JSP 392 Volume 1. | MOD exempt but applies parallel arrangements with relevant environment agency. If MOD sells or transfers equipment then it takes on role of a supplier and must ensure that equipment complies with legislation. | 11 & 12 |
| Notification, control and transfer of high activity sealed sources | High Activity Sealed Radioactive Sources and Orphan Source Regulations 2005 (HASS). JSP 392 Volume 1. | MOD exempt but applies parallel arrangements. Threshold activity level triggers HASS requirements. | 3 |
| Hazard assessment and risk evaluation report and report of assessment. | Radiation (Emergency Preparedness and Public Information) Regulations (REPIR) 2001. | Threshold activity level triggers REPIR requirement. Other requirements detailed in Leaflet 3. | 3 |

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