



Ministry
of Defence

JSP 520
Safety and Environmental Management of
Ordnance, Munitions and Explosives over the
Equipment Acquisition Cycle

Part 2: Guidance
Vol 5:– Competence

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Foreword

The Secretary of State for Defence (SofS) through his Health Safety & Environmental Protection (HS&EP) Policy Statement requires Top Level Budget Holders and Trading Fund Chief Executives to conduct defence activities with high standards of HS&EP. They are expected to achieve this by implementing robust, comprehensive Health Safety & Environmental Management Systems.

As Director of the Defence Safety Authority (DSA), I am responsible for providing MOD regulatory regimes for HS&EP in the Land, Maritime, Nuclear and OME domains. The OME regulations set out in JSP 520 are mandatory and take precedence where Ordnance, Munitions or Explosives are involved. Full compliance is required, except as set out in JSP815 Defence Health and Safety and Environmental Protection. It is the responsibility of commanders and line managers at all levels to ensure that personnel, including contractors, involved in the management, supervision and conduct of defence activities are fully aware of their responsibilities.

DSA regulators are empowered to enforce these regulations.

JCS Baker

Depty Director Defence Safety Authority

Defence Authority for Health Safety and Environmental Protection

Preface

How To Use This JSP

1. This JSP explains the requirements needed to demonstrate that the inherent risks from Ordnance, Munitions and Explosives (OME) are either Broadly Acceptable or Tolerable and As Low as Reasonably Practicable (ALARP) for the MOD, third parties and the environment.
2. It applies to all OME
 - a. Ordnance e.g., weapons including directed energy, small arms, delivery platforms including barrels, launchers, fire systems.
 - b. Munitions e.g., missile, shell, mine, demolition store, pyrotechnics, mines, bullets, explosive charges, mortars, air launched weapons, free fall weapons.
 - c. Explosives e.g., propellants, energetic material, igniter, primer, initiatory and pyrotechnics irrespective of whether they evolve gases (e.g. illuminants, smoke, delay, decoy, flare and incendiary compositions).
3. It is designed to be used by personnel who are responsible for OME employed by or contracted to the MOD.
4. It contains the policy and direction about the process involved and the techniques to be applied throughout the acquisition cycle or Manufacture to Target or Disposal Sequence (MTDS).
5. The JSP is structured in two parts:
 - d. Part 1 Directive. Provides the regulations that shall be followed in accordance with Statute, or Policy mandated by Defence or on Defence by Central Government.
 - e. Part 2 Guidance. Provides the guidance that should be followed to assist the user in complying with regulations detailed in Part 1.

Related Documents	Title
JSP375	MOD Health and Safety Handbook.
JSP390	Military Laser Safety
JSP418	MOD Corporate Environmental Protection Manual.
JSP430	Management of Ship Safety and Environmental Protection.
JSP454	Land Systems Safety and Environmental Protection.
JSP482	MOD Explosives Regulations.
JSP762	Weapons and Munitions Through Life Capability
JSP815	Defence Health and Safety and Environmental Protection.
MAA/RA	Military Aviation Authority Regulatory Publications (MRP)

Coherence With Other Defence Authority Policy And Guidance.

6. Where applicable, this document contains links to other relevant JSPs, some of which may be published by different Defence Authorities. Where particular dependencies exist, these other Defence Authorities have been consulted in the formulation of the policy and guidance detailed in this publication.

Training

7. This JSP has been developed for use by Suitably Qualified and Experienced Personnel (SQEP) involved with OME. Simply following this JSP will not fulfil obligations arising from other legislation.

Further Advice And Feedback- Contacts

8. The owner of this JSP is **DSA-DOSR-PRG-ATL**. For further information about any aspect of this guide, or questions not answered within the subsequent sections, or to provide feedback on the content, contact:

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Authority

9. This issue of JSP 520 volume 5 supersedes all previous volume 5.

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Status

11. All hard copies of JSP 520 Part 1 or 2 are uncontrolled. The JSP will be updated whenever additional or improved guidance becomes available and will be reviewed at least annually.

12. Readers are encouraged to assist in the continued update of this document by informing the **DSA-DOSR-PRG-4** of any required changes particularly those resulting from their experiences in the development of OME safety regimes.

13. To check the latest amendment status reference should be made to JSPs within the Library section of the Defence Intranet.

Cautionary Note About References

14. The responsibility for the use of correct and relevant standards, procedures and working practices remains with the Project Team Leader (PTL). No assurance is given that the documents referenced within JSP520 Part 1 and 2 are up to date or that the list is comprehensive. It will be necessary to check applicability for the intended use and where relevant confirm documents accuracy and suitability to the intended use.

Amendment Record

Issue 4.2 changes highlighted in YELLOW					
No.	Section	Par	Amendment Summary	Agreed	Date
4.2	Preface	1	Remove practical handbook	PRG-4	16/06/15
4.2	Preface	2a	Added direct energy	PRG-4	16/06/15
4.2	Preface	3	Removed Land, Sea, Air	PRG-4	16/06/15
4.2	Preface	5	Added MTDS	PRG-4	16/06/15
4.2	Preface	6	JSP added	PRG-4	16/06/15
4.2	Preface	8	Sentence Removed	PRG-4	16/06/15
4.2	Preface	9	Organisational DSA changes	PRG-4	16/06/15
4.2	Preface	10	Rewording	PRG-4	16/06/15
4.2	Preface	12	Reworded	PRG-4	16/06/15
4.2	Preface	13	Organisational DSA changes	PRG-4	16/06/15
4.2	4	6c	IExpE added	PRG-4	16/06/15

Issue 4.1					
No.	Section	Par	Amendment Summary	Agreed	Date
4.1	Forward	-	New forward from C Baker	Du-Policy	27/11/14
4.1	Preface	2	Small arms	Du-Policy	27/11/14
4.1	Preface	3	Who are	Du-Policy	27/11/14
4.1	Preface	5	About, to be applied	Du-Policy	27/11/14
4.1	Preface	6	Regulations, shall and should	Du-Policy	27/11/14
4.1	Preface	9	New address	Du-Policy	27/11/14
4.1	Preface	10	Update to 4.1	Du-Policy	27/11/14
4.1	Preface	12	Update to 4.1	Du-Policy	27/11/14

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1 Overview

1. This leaflet provides guidance in the setting and determination of competence requirements within the Ordnance, Munitions and Explosives (OME) domain with consideration to safety-related systems. This is achieved through the application of the competence management process as detailed within Section 2.

Competency Requirements

2. For a person to be deemed competent they would require a combination of qualifications and experience as appropriate to their role. Other qualities may be required in certain circumstances to enable the role to be carried out successfully such as:

- a. The ability to communicate effectively.
- b. The knowledge and understanding of the working practices used in the organisation for which they work.

3. The Health and Safety at Work Regulations (1999) has an explicit requirement for duties to be carried out by competent persons. In the Managing for Health and Safety¹ a competent person is defined as *“a person who has sufficient training and experience or knowledge as to enable them to assist in securing compliance, on the part of the employee, with the necessary safety legislation and maintenance procedures”*. MOD has benchmarked its own arrangements to be equally as good as those required by legislation.

¹ Management of Health & Safety (HSG65).

2 Process for Determining MOD Competency Requirements

Overview

1. There are three formal methods, within the MOD, to define the work activities for an individual's role. These are:

- a. Terms of Reference (TOR) and / or Role Profiles.
- b. Letter of Delegation, or
- c. Licensing.

2. These methods will be used to set and determine safety related competency requirements within the OME domain. This section presents the competence management process to be followed and an outline of this process is presented within Figure 1.

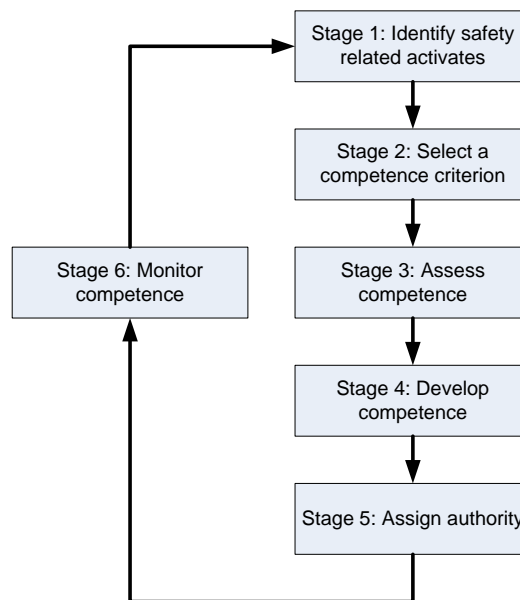


Figure 1: Competence Management Process

Stage 1 - Identify Safety Related Activities

3. The first stage of developing competency is to understand and identify all the activities within the Team, particularly safety. These activities will be identified from MOD policy, project requirements, Letters of Delegation, Licensing, Terms of References, Role Profile etc.

4. Some activities may require more skill and knowledge than any one person can provide, in which case they may need to be addressed by a team, (e.g. Safety and Environmental Panel (SEP), OME Safety Review Panel (OSRP)).

5. The safety related activities should be clearly defined in the TORs / Role Profiles, to ensure all identified activities are captured. These TORs / Role Profiles should be subjected to regular review and updated in line with PARs. 'Role Profiles' have been created to assist managers identify competences for particular activities².

Stage 2 - Select A Competence Criterion

6. Before any individual / team is assessed, there is a need to match competencies to the various roles which cover all of the related activities, particularly safety.

7. The team needs to identify the appropriate competence for each activity (e.g. Functional Competencies: WOME, System Safety – Safety Critical Systems, etc). Further guidance is provided within the Weapon Ordnance, Munitions and Explosives Functional Skills Framework.

8. When assigning / deriving competencies to a particular role, it is important to ensure the ability to assess an individual or team is realistic to the activity, (e.g. It would not be expected for a person cutting the grass within an explosives area to undertaken National Occupational Standards (NOS)). When identifying appropriate competencies to a particular role, consideration should be given as to how competency will be assessed.

9. Competence criterion against each role (whether by individuals or as a team) should be clearly defined in the TORS / Role Profile and recorded on the HRMS Post Profile. This criterion should include knowledge, skills, experience, qualifications (e.g. relevant degrees or attendance to specific courses) and professional status (e.g. Chartered Engineer) that are necessary to undertake the activities of the role. The competence criterion should be subjected to regular review and update in line with PARs.

Stage 3 - Assess Competence

10. The first step in the assessment of competency is by selecting the individuals who have the ability to undertake the role. This can be achieved through an interview process, where the TORs requirements are a pre-condition for the selection process.

11. The competency of an individual should be assessed against the competency criterion. The assessment should be conducted in accordance with the Top Level Budget holder (TLB)'s policy for all functional skills. When considering whether an individual is competent, the Team should consider:

- a. Previous experience (e.g. work experience and on-the-job training).
- b. Collect evidence of performance (using both documented evidence and observation).
- c. Qualifications and training (These can be used as evidence to support the assessment).

² Defence Weapon Ordnance, Munitions and Explosives (WOME) Functional skills Framework.

d. Suitability of an individual to undertake the role, (e.g. attitude and integrity, fitness, and confidence).

12. The assessment of the individual should be undertaken by a competent person who has delegated responsibility. e.g., Line Managers.

13. Where an individual does not meet the competency level required for their role a training need is identified and recorded on HRMS. These training needs should be recorded in a training action plan, which will identify sufficient actions to address the experience or skill gap.

14. It is sometimes necessary to assign safety-related activities to an individual who does not yet meet the full requirements of a role, (e.g., experience, but is likely gain these requirements by undertaking the activities). This is acceptable provided that the individual remains under supervision, until they have fully developed the required competencies. The acceptability to supervise a role, will depend on the level of responsibility the role presents.

15. The assessment of individuals and teams is a continual process, throughout the lifecycle of the project.

Stage 4 - Develop Competence

16. Those individuals within the organisation that are responsible for personnel training, (e.g., mentors, supervisors, etc,) should ensure that individuals skills and knowledge is kept current. Factors effecting training and skill include:

- a. Certifications / Licensing of individuals lapsing.
- b. New requirements from TLBs.
- c. Change in MOD policy.
- d. Change in use of equipment / systems.
- e. Change to the role.

17. Each individual should have a personal development plan, developed in consultation with the Line Manager, to record shortfalls in the individual's competency and identify development needs. Each development opportunity should be linked to the competence requirement, including present status, and expected outcome on completion. This is recorded within the individual's personal development plan.

18. Evidence of training can be achieved though issuing of certificates for attendance or passing examinations; to support future assessment of competence.

Stage 5 - Assign Authority

19. Authority may be assigned to an individual, through letters of delegation, TOR, licensing, etc. where competence has been demonstrated to fully meet the competency criterion.

20. Individuals should not be asked to undertake responsibilities in controlling a risk, if they do not have the authority to take the necessary action to control it. In

addition, individuals should be given sufficient resources and time to carry out their responsibility.

Stage 6 - Monitor Competence

21. Regular reviews should be undertaken as part of PADR process to ensure that individuals and teams continue to have the correct competence and resources they require to undertake the identified roles / activities, particularly those relating to safety, which they have been assigned authority for.

22. These reviews should at least be undertaken annually and may be prompted by:

- a. Change in the individual's or team's responsibility.
- b. Change in competency requirements.
- c. Individual personnel development plan.
- d. Observations.

23. It is important that individuals are regularly evaluated, to assess their performance to undertake the roles, against the competency criterion. Performance of an individual or team may come from audits, assessments, and / or accident, near misses and incidents reports. The results of this assessment may highlight additional development needs.

3 Functional Competence

OME Competence

1. All individuals with significant OME safety management responsibilities and / or those claiming to be suitably qualified and experienced (e.g., safety managers / focal points, OME Safety Advisors, Independent Safety Auditor (ISAs), Subject Matter Expert (SMEs) and contracted staff), will be assessed against the appropriate National Occupational Standards (NOS) for Explosives Substances and Articles (ESA).
2. As stated in section 2 'Role Profiles' have been created to assist managers identify competencies for particular activities, these can be found within the WOME Functional Skills Framework³.

System Safety And System Environmental Competences

3. In addition to the OME domain specific development activities previously discussed, there are a range of functional competences within the MOD 'Single Skills Framework, applicable to all civilian staff, as the foundation of its staff appraisal and reporting system:
 - a. System Safety Functional Competences.
 - b. System Environmental Functional Competences.

Contractor Competence

4. The MOD authority maintains responsibility for safety irrespective of where its resources come from, as described under sections 2 and 3 of the Health and Safety at Work Act 1974. Although there is a duty upon the contractor under this Act to make certain that all workers are competent for the related task, the MOD authority must be satisfied that this is being managed effectively. This activity may be satisfied through joint working processes and activities, or by the use of audit.
5. The contract between the MOD authority and the contractor may include arrangements defining who is responsible for competence management, although the PTL needs to be assured that contractors are competent. The MOD authority must take ultimate responsibility to demonstrate that all personnel working on the project are competent, whichever competence management system is used. As an example, the competence of an Independent Safety Auditor (ISA) must be ascertained due to the reliance on the expert opinions that they provide. The MOD authority is responsible for determining the suitability of the ISA to the individual requirements of the project or task.

Independent Safety Auditor Competence

6. As defined in Defence Standard 00-56⁴ 4 an Independent Safety Auditor (ISA) is '*An individual or team, from an independent organisation, that undertakes audits*

³ Defence Weapon Ordnance, Munitions and Explosives (WOME) Functional skills Framework.

⁴ DefStan 00-56 Safety Management Requirements for Defence Systems.

and other assessment activities to provide assurance that safety activities comply with planned arrangements, are implemented effectively and are suitable to achieve objectives; and whether related outputs are correct, valid and fit for purpose’.

7. The competence of an ISA must be ascertained due to the reliance on the expert opinions that they provide. There are currently no established MOD criteria for assessing ISA competence, and as such, the MOD authority is responsible for determining the suitability of the ISA to the individual requirements of the project or task.

8. When choosing an ISA, consideration should be given to the qualifications / accreditations, auditor experience, and the technical knowledge in relation to the task at hand. Technical Knowledge can include experience of Land System projects; system / equipment being assessed; risk management principles etc. The “MOD Guidance for PTs in contracting for Independent Safety Auditor (ISA) Services” document⁵ contains guidance on the ISA role, how to select ISAs and the scopes of work for ISAs at different lifecycle phases. It is guidance for a PT that can be used in part or additional work items can be added. Some or all of the activities may be appropriate depending on the system complexity and the information that the PT may require in order to assure themselves of the validity of a safety argument. ISA Competence should be reviewed if any project or task requirements change. The MOD authority should ensure that any additional tasking is within the ISA competence.

9. The Institution of Engineering Technology (IET) / British Computer Society (BCS) Independent Safety Assurance Working Group provides various fact files that are applicable to independent safety audit, including a Code of Practice for Independent Safety Assessors⁶ and a competency framework for independent safety assessors⁷. These documents can help project staff understand what to expect from an ISA and how to assess their competence for a particular task.

⁵ Services Document reference STG/181/1/9/1 Version 1.0 dated 1 June, 2004.

⁶ Code of Practice for Independent Safety Assessors (ISAs), Version 2, IET, dated 6th May 2009.

⁷ Competency Framework for Independent Safety Assessors (ISAs), Issue 1, IET, dated 22nd October 2009.

4 Records

1. Arrangements for the retention and management of competency records will be implemented. This will also enable the demonstration that requirements have been met, and provide auditable evidence of an individuals or teams competency.
2. The Team should clearly identify who is responsible for the management of competency, including training records.
3. Records will be retained pertaining to an individual's education, training, and experience in performing their duties. The identification of training needs, provision and evaluation of the training will be recorded.
4. A method currently used within the MOD is a Training Needs Matrix. This approach can be used to record required competencies and actual competency for staff members, thereby showing any training requirements. The safety and environmental training needs can be recorded within the same matrix or separately as desired.

Further Guidance

5. There are a number of sources for detailed guidance on competence that is not reproduced within this document. These should be referred to where appropriate.
 - a. JSP 822⁸, Governance and Management of Defence Individual Training and Education.
 - b. Core and Functional Competence frameworks.
 - c. National Standards, (e.g. Occupational Standards, professional recognition, etc).
 - d. Audit Competency Interim Guidance⁹.
 - e. Project Orientated Safety Management System¹⁰ (POSMS) manual.
 - f. Project Orientated Environmental Management System¹¹ (POEMS) manual.
6. There are also a number of key industry documents that discuss competency assessment in more detail. These include:
 - a. Institute of Electrical Engineers (IEE) / BCS Competence Criteria for Safety-Related System Practitioners (Guidance provided by the IET in collaboration with the HSE and BCS, 1999).
 - b. Engineering Safety Management Yellow Book 3 Application Note 4, Independent Safety Assessment. (Rail Safety and Standards Board, 2003).
 - c. **Insitute of Explosive Engineers (IExpE).**

⁸ JSP822 Governance and Management of Defence Individual Training and Education.

⁹ Acquisition Safety and Environmental Management (ASEMS) Guidance leaflet AAP01a/G/01.

¹⁰ See Acquisition System Guidance (ASG).

¹¹ See Acquisition System Guidance (ASG).