

Defence Equipment & Support

Acquisition Safety Assessment of Safety Delegated (SD) Assignment Holders

Guidance for Assessors

# Document Ownership and Version Control

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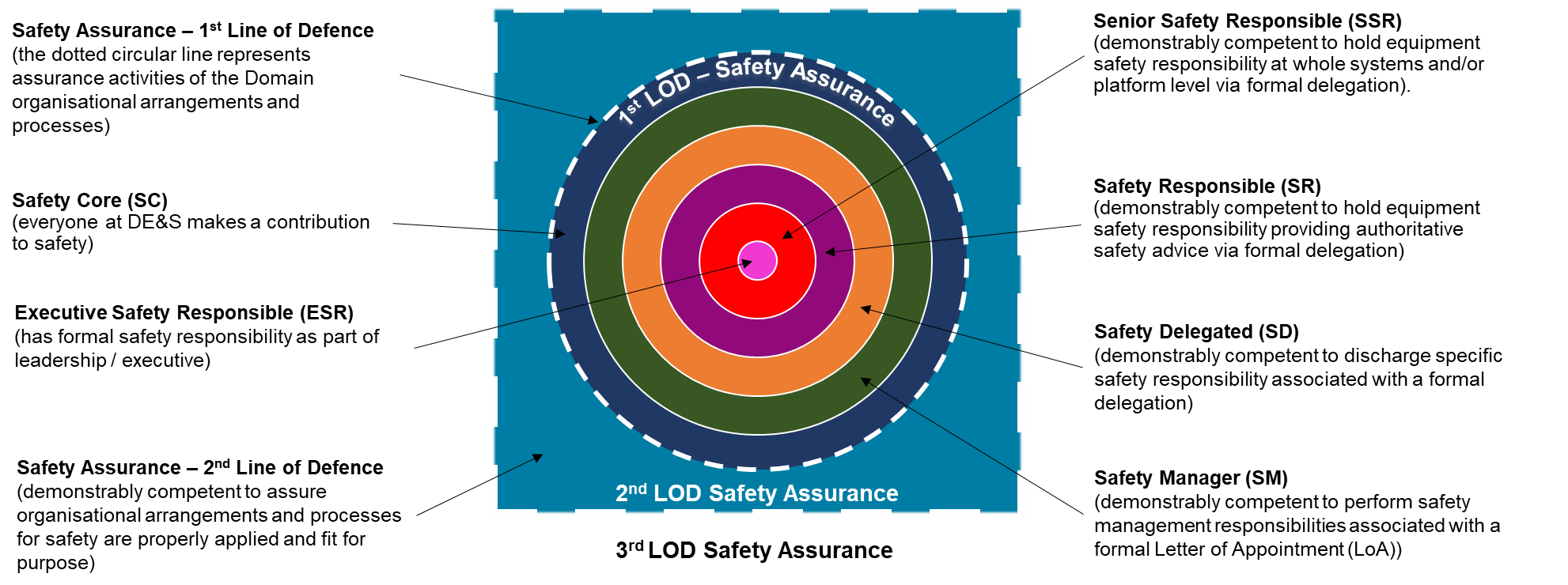
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# Assessment Context – DE&S Acquisition Safety Taxonomy

The DE&S Acquisition Safety Project was established to deliver a measurably capable organisation with a strong safety culture, clear governance and safety roles fulfilled by a demonstrably competent workforce, underpinned by three principles:

* **Culture**: Everyone in DE&S is responsible for safety. Currently it is seen as an engineering discipline.
* **Organisation**: We need to be clear who makes the key safety decisions.
* **Capability**: We need to consistently deploy the right people in the right assignments using the balanced matrix. Currently we cannot.

A new, precise vocabulary (taxonomy) to describe safety responsibilities for all assignments in DE&S, has been rolled out helping *everyone* to understand their safety responsibility, no matter where they work or which function they belong to (Figure 1).



*Figure 1: DE&S Acquisition Safety Assignment Taxonomy*

It is not only important that DE&S is able to identify where the key safety decisions are made, but also to demonstrate that staff are competent to undertake these assignments. Definitions of these safety related/responsible assignments have been created that define the competences, qualifications and experience required to successfully discharge these responsibilities.

# Definition of a Safety Assignment – Basis of Assessment

The details of a specific SD assignment will be defined in an Assignment Specification. It includes the competences, qualifications and experience required to undertake this assignment. It includes details of what Success Profile(s) individuals who undertake this assignment will have competence for, typically Engineering Manager – Professional II or above. The Success Profile specifies the generic requirement (i.e., what a good Engineering Manager would possess) and the Assignment Specification has the specific details of the assignment to be undertaken by such an individual. This is shown diagrammatically in Figure 2.

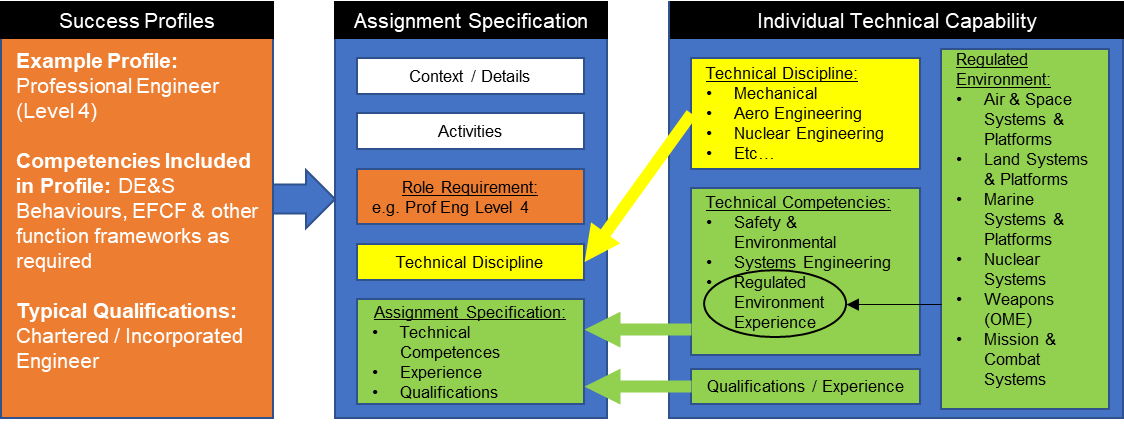


Figure : The Assignment Specification links all the key information together to be assessed against.

Key documents for the prospective Assignment Holder and Assessor are the Assignment Specification and the associated Engineering Function Success Profile. All Engineering Function Success Profiles can be found on the HR Portal, linked [here](https://modgovuk.sharepoint.com/teams/17406/SuccessProfiles/Engineering/Forms/AllItems.aspx). The Success Profiles and Assignment Specification of relevance to the SD assignment are included in the following Annexes to this document:

* Annex A – Engineering Success Profiles
* Annex B – SD Assignment Specification

The Assignment Specifications are also included in the Acquisition Safety & Environmental Management System (ASEMS) Safety and Environmental Protection Leaflet 17/2023, linked [here](https://www.asems.mod.uk/guidance/safety-and-environmental-protection-leaflets).

# Assessment Process

An assessment framework and process - based on skills, experience, and competence - has been created for staff taking on (or potentially able to take on) SD assignments. This comprises the following 4 steps illustrated in Figure 3:

* Evidence preparation by the assignment holder,
* Preview of evidence by the assessor(s),
* Assessment interview,
* Assessment outcome and next steps.



Figure : Four Step SD Assessment Process

The scope of SD assignments and associated safety responsibilities will vary within and across the Regulated Environments. The assessment process for SD assignment holders should therefore be tailored accordingly, applying proportionality whilst maintaining compliance with the core principles of ASP.

## Your Role As An Assessor

Where the Assignment Specification includes specialist or scarce skills requirements, then a second assessor with suitable knowledge and experience may also be involved in the assessment, a specialist from the relevant Regulated Environment for example.

The key consideration in all cases should be the scope and content of the Assignment Specification, as this will dictate the level of evidence required from the individual being assessed, along with the breadth and depth of questioning required during the assessment.

Your role as an assessor is to understand what an effective individual will be able to do on a given assignment to ensure “safe to operate” equipment and services:

* **Firstly**, this involves carefully reading the Assignment Specification and associated Success Profile, which define the assignment.
* **Secondly**, there are five core areas that SD staff will be assessed against associated with the assignment. You must be familiar with these core areas and how they are defined (see next section for further details).
* **Thirdly**, as an assessor, you are required to apply a consistent approach through Steps 2, 3 and 4 of the assessment process (Step 1 will be driven by the administrator of the assessment process and will ensure that the individual provides appropriate evidence for you to review against the five core areas).

## Core Areas of Assessment

There are five core areas that SD staff will be assessed against associated with the assignment. These areas are:

* **Area 1 - DE&S Success Profile Behaviours**. For example, Communication and Influencing, Leadership – which are integral to making good safety decisions.
* **Area 2 - Engineering Function Competency.** Core engineering knowledge and skills that are essential to the engineering of equipment and services.
* **Area 3 - System Safety Competency.** Understanding core safety concepts and the process of management of safety.
* **Area 4 - Systems Thinking and Integration Competence.** The ability to understand the different aspects (sub-systems, environment, human factors) and how they come together to create hazards and risks.
* **Area 5 - Regulated Environment, Technical Discipline & Specialism.** Understanding the specific environmental context in which an individual will be making safety decisions (e.g., air environment for fixed wing aircraft).

These five core areas are shown in more detail in Annex C – Competence Assessment Framework & Definitions Grid. Ensure you are familiar with what these areas of competence are and how they are defined.

## Step 1 – Evidence Preparation

The applicant will complete their sections of Annex D – Assessment Outcome Evidence & Record Sheet and send this, together with a recent C.V. and a copy of their Letter of Delegation to the assessor(s) as directed by the administrator of the assessment process.

## Step 2 – Preview by Assessors

You should review the submitted evidence against the five core areas and identify strengths and gaps that exist in their knowledge and/or experience that may require further testing at the assessment.

Using the information submitted, prepare questions, using the examples provided at Annex E – SD Example Interview Questions, as a starting point. From these example questions you may expand as required to ensure appropriate coverage of the competence set and relevant skills and experience.

## Step 3 – Assessment Panel/Assessment

Unlike SSR and SR assessments, where a minimum of two assessors are required, SD assessments may be undertaken by the relevant SSR or SR only, provided they are suitably competent to assess all aspects of the SD assignment in question.

Where the Assignment Specification includes specialist skills requirements, then a second assessor with suitable knowledge and experience may also be involved in the assessment, a specialist from the relevant application area for example.

Figure 4 provides further detail of the elements to be covered during the assessment panel/assessment.



Figure : Five Stages of the Assessment Panel/Assessment Process

The five core areas will be covered during Stages 2, 3 and 4 as outlined in the following sections.

### Assessment Stage 1 - Introduction and Overview

Personal introductions should be made, and a brief overview of the purpose and context of the assessment given. It is important to stress that the assessment is to ensure individuals are competent to discharge the safety aspects of the SD assignment – it is not about being interviewed for the job. The assessment itself should last between 30 – 45 minutes, depending on the level of probing required, and should be as relaxed as possible to enable the individual to express themselves confidently.

There are three main areas to cover (Stages 2, 3 and 4 in Figure 4) to incorporate the five core areas being tested (shown in orange in the diagram) and these are expanded in the following sections.

### Assessment Stage 2 – Application and Understanding of Acquisition Safety Process

|  |  |
| --- | --- |
| **Purpose** | To ensure the individual really understands core safety concepts, safety management processes, associated artefacts and how to apply these to achieve “safe to operate” outcomes. |
| **Core Areas** | * **Area 1 - DE&S Success Profile Behaviours:** Such as Communication and Influencing, Leadership. * **Area 3 - Systems Safety Competences:** These focus on the system and environmental management processes, concept and approach in the MOD and Defence environment. * **Area 5 - Regulated Environment, Technical Discipline & Specialism:** Understanding the specific environmental context in which an individual will be making safety decisions (e.g., Air environment for fixed wing aircraft). |
| **Guidance to Assessor** | * Focus on individual’s ability to communicate effectively in a team, listening carefully to safety related matters and their ability to challenge/lead a response. * Focus on core safety concepts and the ability of individual to apply these in a real application (e.g., ALARP and allowable risk levels across systems). * Look for real examples and evidence rather than just theory. |

### Assessment Stage 3 – Understanding Safety Risks Through Lifecycle

|  |  |
| --- | --- |
| **Purpose** | To ensure the individual understands how hazards and risks evolve through the lifecycle of equipment (from concept, through acquisition, to support and finally into disposal). |
| **Core Areas** | * **Area 2 - Engineering Function Competency:** Core engineering knowledge and skills that are essential to the engineering of equipment and services. * **Area 5 - Regulated Environment, Technical Discipline & Specialism:** Understanding the specific environmental context in which an individual will be making safety decisions (e.g., Air environment for fixed wing aircraft). |
| **Guidance to Assessor** | * This stage focuses increasingly on the application area knowledge and the application of engineering and safety to actual applications. Does the individual really know the environment and the emergent safety issues? * Do they have relevant general and cross-disciplinary knowledge of engineering, so they understand different types of risk? * Does the individual have a good knowledge of all the relevant sub-systems and the potential risks? If not, who do they go to in order to find out? * Look for real examples and evidence rather than just theory. |

### Assessment Stage 4 – Taking a Whole Systems View of Safety

|  |  |
| --- | --- |
| **Purpose** | In this step, we are focussing in on the systemic nature of risks. Safety risks will emerge often from a combination of technical, environmental, and human factors. An individual needs to have a whole system view to appreciate this. |
| **Core Areas** | * **Area 4 - Systems Thinking and Integration:** The ability to understand the different aspects (sub-systems, environment, human factors) and how they come together to create hazards and risks. * **Area 5 - Regulated Environment, Technical Discipline & Specialism:** Understanding the specific environmental context in which an individual will be making safety decisions (e.g., Air environment for fixed wing aircraft). |
| **Guidance to Assessor** | * Does the individual have a “systems thinking” perspective and understand what that really means? * Can they articulate risks that emerge from a combination of technical, environmental, and human factors? (e.g., this system will be prone to fail in desert environment at high temperatures with frequent, high intensity action). * Look for real examples and evidence rather than just theory. |

### Assessment Stage 5 – Summing Up, Evidence Confirmation

At the end of the assessment, the lead assessor should confirm that all areas of the assessment have been covered and offer the individual the opportunity to add any further evidence they feel may have been missed. At this point, the next steps should be confirmed:

* Individuals will be notified of the outcome within 1 week of the assessment.
* Lead assessors will contact the individual by e-mail with the outcome and arrange a meeting to discuss if necessary. This is required where development needs have been identified for an individual to be deemed fully competent for the SD assignment.

## Step 4 – Assessment Outcome and Next Steps

During the assessment and on completion, you will be required to complete the relevant parts of the Annex D – Assessment Outcome Evidence & Record Sheet by recording evidence, confirming that all areas of the assessment have been covered and confirming next steps.

### Assessment Outcomes

You will need to record 1 of 3 outcomes for the individual:

* **Competent**: Fully satisfies all requirements of the relevant Assignment Specification in terms of academic and professional achievement, formal training, and relevant experience. For an individual to be deemed ‘Competent’, they must have provided sufficient evidence to demonstrate their ability to discharge the full set of responsibilities for SD assignment and satisfied the panel that they are competent to do so. The assessment will be valid for a maximum of 5 years or move of assignment, whichever is sooner, after which there will need to be a revalidation to ensure continued demonstrable competence.
* **Competent with Caveat(s)**: The individual may not be able to demonstrate full compliance with all aspects of the Assignment Specification, but their shortcomings are not sufficient to preclude them from discharging their safety responsibilities in an effective and efficient manner. For example, while individuals may not have completed essential training, the panel is able to satisfy itself via interview that the individual has an acceptable understanding of the subject to hold a formal delegation. In such instances, the individual may be issued with a caveated delegation. The caveats, which shall be determined by the panel, may include the need for key outputs to be peer reviewed by competent individuals or for the delegation holder to complete specified training within a stated timescale. A recommended approach to improving these areas, together with appropriate timescales, should also be recorded. All caveats are to be time limited, at which point the individual’s competence shall be re-assessed (either by a panel or the relevant individual[[1]](#footnote-2)) and a decision made on whether the caveats may be removed.
* **Not Yet Competent**: Where it is evident that the individual has significant gaps in competence and/or knowledge and skills, this should be recorded as ‘Not Yet Competent’. Individuals assessed as Not Yet Competent shall not be issued formal safety delegations. In such instances, the panel shall clearly record why they have reached their decision, and define the action required to achieve the required level of competence. As with ‘Competent with Caveat(s)’, a recommended approach to improving capability should be recorded and an additional recommendation on how the safety aspects of the assignment should be discharged. The panel’s findings are to be reported to the relevant individual1, who shall, in consultation with the relevant SSR, decide how to manage the consequences (for instance, replacing the incumbent with a safety competent individual or requiring temporary delegations to be issued to other members of the team who can demonstrate the necessary attributes).

For an individual to be deemed ‘Competent’, they must have provided sufficient evidence to demonstrate their ability to discharge the full set of responsibilities for the SD assignment and satisfied the assessor(s) that they are competent to do so. The assessment will be valid for a maximum of 5 years or move of assignment, whichever is sooner, after which there will need to be a revalidation to ensure continued demonstrable competence.

If the assessor(s) identify gaps in an individual’s competence or areas of knowledge and experience, this should be recorded as ‘Competent with Caveat(s)’ and the areas for improvement identified. A recommended approach to improving these areas, together with appropriate timescales, should also be recorded on the form.

Where it is evident that the individual has significant gaps in competence and/or knowledge and skills, this should be recorded as ‘Not Yet Competent’. As with Competent with Caveat(s), a recommended approach to improving capability should be recorded and an additional recommendation on how the safety aspects of the assignment should be discharged.

The outcome will be entered into MyHR.

The individual will then upload their Letter of Delegation on MyHR, which will be submitted for approval. MyHR will be the formal record of delegation being in place and it is important that this is completed.

### Development Plan

When completing the Annex D – Assessment Outcome Evidence & Record Sheet, it is important to ensure that all comments are constructive, particularly where gaps in competence or experience are identified. The outcome must inform the individual on what actions need to be completed, and in what timescales, to allow them to demonstrate competence in the future. Further guidance can be found in the Assessment Outcome Flowchart at Figure 5 and in Annex F – Assignment Holder Development Guidance.

When assessing a SD assignment holder, it may be evident that the individual has not only demonstrated competence to undertake the SD role but is also competent to fill an SR role or can be developed to become competent. It is important to capture this information to inform future succession planning and there is a separate box for this on the Assessment Outcome Evidence and Record Sheet.

Following completion of the Assessment Outcome Evidence and Record Sheet, the final outcome must be entered into MyHR by the individual for approval.

There is no formal appeals process. As assessors you have delegated authority to determine individual competence against the published criteria. If an individual disagrees with the assessment outcome, then they should raise it with the assessment panel chair and relevant DEFM Team/Corporate Engineering Function Manager (CEFM) if necessary.  If it can still not be resolved informally, the individual has recourse to the DE&S standard Grievance Process.

### Assessment Outcome Flowchart

**Assignment Holder assessed as ‘Competent’**

Evidence of competence recorded on the Assessment Record Sheet.

**Assignment Holder assessed as ‘Competent with Caveat(s)’**

Lead Assessor to record the areas for development identified; recommended development requirements and target completion dates on the Assessment Record Sheet.

**Assignment Holder assessed as ‘Not Yet Competent’**

Lead Assessor to record the areas for development identified and notify the relevant SSR Assignment Holder.

Lead Assessor to inform the Assignment Holder of the assessment outcome.

Lead Assessor to inform the Assignment Holder of the assessment outcome.

SSR to determine future arrangements.\*

Lead Assessor to send Outcome Record Sheet to Assessment Scheduler.

Assessment Panel to review individual’s progress against the recommended development requirements on a periodic basis.\*\*

On completion of the required development, Assessment Panel confirm competence or extend period for development.

Individual enters outcome in MyHR and submits for approval. Assessor files Outcome Record Sheet with DEFM Team.

Figure : Assessment Panel/Interview Outcome Flowchart

\* There are several options that should be considered when an Assignment Holder is considered Not Yet Competent, but the Safety Delegation may not be held by someone who is not considered competent. The Safety Delegation and associated responsibilities/authority may be:

1. Permanently removed from the Assignment Holder and retained by the delegating authority or delegated elsewhere (e.g., to the Chief Engineer).
2. Temporarily removed from the Assignment Holder until they are assessed as competent following appropriate development.

\*\* Depending on the target completion dates.

# List of Annexes

Annex A – Engineering Success Profiles

Annex B – SD Assignment Specification

Annex C – Competence Assessment Framework & Definitions Grid

Annex D – Assessment Outcome Evidence & Record Sheet

Annex E – SD Example Interview Questions

Annex F – Assignment Holder Development Guidance

# Annex A – Engineering Success Profiles

The Professional I and Professional II Engineering Success Profiles are defined within the suite of the Engineering Function Success Profiles. The authoritative source will not be held within this Annex and can be found [here](https://modgovuk.sharepoint.com/teams/17406/SuccessProfiles/Engineering/Forms/AllItems.aspx).

# Annex B – SD Assignment Specification

**GENERIC SAFETY DELEGATED ASSIGNMENT SPECIFICATION**

(Areas highlighted in yellow to be adapted for Domain / Application Area specific requirements)

|  |
| --- |
| **Safety Delegated Assignment Specification**  **(Typical assignment titles: Technical SME / ???? – replace [XXX] in document** |

| SECTION 1: Assignment Overview | |
| --- | --- |
| **Why the assignment exists?** | * The [XXX] is responsible for [XXX]. * This assignment specification should be read in conjunction with the relevant Letter of Delegation. |

| SECTION 2: The Individual | |
| --- | --- |
| **Success Profile** | |
| This assignment needs to be fulfilled by an individual aligned to and competent to undertake the following success profiles:   * Professional Engineer – Professional II or above. * Individual with equivalent level of core and Engineering competence aligned to Project Manager or Logistics – Professional II or above. | |
| **Certification / Qualifications / Registrations Required for this Assignment** | |
| * Incorporated Engineer status with a relevant Professional Body. * Any specific regulatory endorsement for this assignment (e.g., Type Airworthiness Authority from Military Aviation Authority). * Qualifications, Registrations, and generic competence requirements are specified in the Level x Engineering Manager Role Profile. | |
| **Professional Engineering Discipline** | |
| **Discipline (delete as appropriate)** | **Requirement** |
| Mechanical Engineering; Electrical Engineering; Systems Engineering & Integration; Sensors and Electronic Systems; Software and Missions Systems; Safety and Environment; | Identify Primary (Foundation), Secondary (Main Area of Expertise) and Tertiary (Useful other area of expertise)  - As appropriate to this assignment |
| **Training Relevant to this Assignment** | **Essential / Desirable** |
| Insert relevant training for assignment from [S&EP Leaflet 17/2023](https://www.asems.mod.uk/guidance/safety-and-environmental-protection-leaflets) Training Matrix for required Training | Insert relevant training for assignment from [S&EP Leaflet 17/2023](https://www.asems.mod.uk/guidance/safety-and-environmental-protection-leaflets) Training Matrix for required Training |

| SECTION 3: Assignment Specific Competence | |
| --- | --- |
| **Core Area 1: DE&S Success Profile Behaviours** | |
| **Behaviour** | **Minimum Level** |
| Changing and Improving | CSBC 3 |
| Leadership | CSBC 3 |
| Communicating and Influencing | CSBC 3 |
| Safety Focus | TBC |
| **Core Area 2: Engineering Function Competency** | |
| **Competence** | **Minimum Level** |
| EFCF 1 – Improve Engineering Capability | Supervised Practitioner |
| EFCF 2 – Application of Analytical Techniques | Practitioner |
| EFCF 3 – Technical Requirements, Evaluation & Acceptance | Practitioner |
| EFCF 4 – Technical Decision Making | Practitioner |
| EFCF 5 – Technical Risk Management | Practitioner |
| **Core Area 3: Systems Safety Competences** | |
| **Competence** | **Minimum Level** |
| SYSSAF 1 – Compliance with MOD policy and instructions, legislation and procedures for system safety management | Supervised Practitioner |
| SYSSAF 2 – Complies with the principles of System Safety management | Supervised Practitioner |
| SYSSAF 3 – Complies with MOD requirements for System Safety Management through life, monitoring arrangements, and required documentation | Supervised Practitioner |
| SYSSAF 4 – Adoption of a safety risk management process consistent with the level of safety risk | Awareness |
| SYSSAF 5 – Applies engineering and scientific knowledge within a domain and complies with applicable specialist safety requirements, procedures and regulations | Awareness |
| **Core Area 4: Systems Thinking and Integration Competence** | |
| **Competence** | **Minimum Level** |
| Systems Theory – Applying Systems Theory in Practice | Competent |
| Relationships – Taking account of relationships between equipment, systems and people when taking safety decisions. | Competent |
| Perspectives – Examining systems from multiple perspectives | Competent |
| Systems Thinking – Applying appropriate management styles for the safety system issue being considered | Competent |
| **Core Area 5: Regulated Environment, Technical Discipline & Specialism** | |
| **Domain Specific** | |
| **Competence** | **Minimum Level** |
| Specific Regulated Environment Competence | Specify level – typically Practitioner in any key application area competence. |
| **Assignment Specific Experience** | |
| * Engineering knowledge and experience appropriate to the application area. * Knowledge of the legal and regulatory framework. | |

| SECTION 4: The Activities  **Typical contents shown below but needs to be edited by DFM for generic domain version** |
| --- |
| **Key Activities and Tasks** |
| * Key responsibilities and activities of the [XXX] assignment are defined below:   + Insert key responsibilities here * Additional specific responsibilities are described in the associated Letter of Safety Delegation. |
| **Responsibilities/Direction/Authorisation** |
| * The [XXX] assignment is subject to a formal Letter of Safety Delegation from [XXX] * The SD is authorised to make key safety recommendations in line with the Letter of Safety Delegation. |
| **Accountability & Authority** |
| * The [XXX] is accountable to SR/SSR for safety recommendations detailed within the Letter of Safety Delegation. * The [XXX] is the FINAL signatory for the following Safety Artefacts as defined in the [OC Director]’s O&A Statement:   + INSERT LIST OF SAFETY ARTEFACTS HERE. |

| SECTION 5: Confirmation and Acceptance | |
| --- | --- |
| **Senior Safety Responsible** | **Individual Assigned** |
| Name: | Name: |
| Comments: | Comments: |
| Signature: | Signature: |
| Date: | Date: |

# Annex C – Competence Assessment Framework & Definitions Grid

## Assessment Scope and Coverage

There are five Core Areas that the competence of staff with safety responsibility will be assessed against. These are captured and summarised in Table 1, clicking the Core Area title in the left column will take you to further details within this Annex.

Table : Five Core Areas Staff Will be Assessed Against

| **Core Area** | **Summary Description** | | |
| --- | --- | --- | --- |
| Area 1 – DE&S Success Profile Behaviours | These are the Behaviours most relevant to roles with safety responsibility and are listed within each Role Success Profile. The complete list of DE&S Behaviours is: | | |
| * Seeing the Big Picture * Changing and Improving * Making Effective Decisions * Developing Self and Others | * Leadership * Communication and Influencing * Working Together | * Managing a Quality Service * Working at Pace * Safety Focus * Working as one with our Customer |
| Area 2 – Engineering Function Competency | These are the competencies defined as part of the Engineering Functional Competency Framework (EFCF):   * **EFCF 1 – Improve Engineering Capability** – Explores innovative opportunities and exploit emerging technology to develop, sustain and enhance Defence capability. * **EFCF 2 – Application of Analytical Techniques** – Applies systems thinking and analytical techniques to refine the approach, achieve intended outcomes and challenge assumptions. * **EFCF 3 – Technical Requirements, Evaluation and Acceptance** – Develops well-formed requirements and evaluates technical solutions against verified acceptance criteria whilst promoting best practice * **EFCF4 – Technical Decision Making** – Applies technical expertise and uses available evidence to make informed technical decisions on complex issues. * **EFCF 5 – Technical Risk Management** – Assesses, communicates, and manages technical risk associated with engineering activities to enable regulatory compliance and deliver operational effectiveness.   In addition to these EFCFs, Engineering Function Competency may also be demonstrated via applicable Professional Registrations (e.g., IMechE, IChemE, etc.). | | |
| Area 3 – Systems Safety | These are primarily focused on the System Safety Functional Competences:   * **SYSSAF 1** – Compliance with MOD policy and instructions, legislation, and procedures for system safety management * **SYSSAF 2** – Complies with the principles of System Safety management * **SYSSAF 3** – Complies with MOD requirements for System Safety Management through life * **SYSSAF 4** – Adoption of a safety risk management process consistent with the level of safety risk * **SYSSAF 5** – Applies engineering and scientific knowledge within a domain and complies with applicable specialist safety requirements, procedures, and regulations   In addition to these competences, this Core Area is also underpinned by the following:   * Acquisition Safety Process Understanding * Mandatory Safety Courses | | |
| Area 4 – Systems Thinking and Integration Competence | Systems Thinking and Integration plays a key role in safety with some key areas being:   * **Applying systems theory in practice** – Ensuring safety judgements are based upon an understanding of basic systems concepts (such as emergence and hierarchy) * **Taking account of relationships between equipment, systems and people when taking safety decisions** – Ensuring safety judgements are made based upon an understanding of how elements of the system work together. * **Examining systems from multiple perspectives** – Ensuring safety judgements are based upon a diverse range of views of the system (such as an operational perspective or sustainment perspective). * **Applying appropriate management styles for the safety system issue being considered** – Knowing when to think slow and apply systems thinking and when it is OK to take shortcuts and think fast. Focussing on the task at hand whilst exploring the wider context. Having the paradoxical mindset (Big-Picture Thinking and Attention to Detail, Strategic and Tactical, Analytic and Synthetic, Courageous and Humble, Methodical and Creative). Being adaptable. Abstracting. Having foresight and vision. * Understanding of CADMID acquisition and support lifecycle. | | |
| Area 5 – Regulated Environment, Technical Discipline & Specialism | This Area focusses on any competencies that are specific to the Regulated Environment the member of staff is being deployed in. Noting that, whilst there may be significant overlap, the Regulated Environment does not directly transfer as Domain, as some Regulated Environments may be cross-Domain. For example, the OME Regulated Environment may be relevant to the Land, Sea, or Air Domain.  Key areas this may include are:   * Technical Discipline & Specialism (e.g., Naval Architecture, Software Engineering, Mechanical Engineering, etc.). * Regulated Environment knowledge (e.g., Nuclear Systems, Maritime Systems & Platforms). * Product / equipment knowledge and understanding. * Regulated Environment specific safety experience such as knowledge of the regulatory environment and hazards. | | |

## Area 1 – DE&S Success Profile Behaviours

The DE&S Success Profile Behaviours and the expectations in each Behaviour against the applicable Civil Service Behaviour/Core (CSBC) grade, can be found [here](https://modgovuk.sharepoint.com/:b:/r/teams/5020/Library/Human%20Resources%20Portal%20Documents/CS_Behaviours_2018-DES-branded-v6.pdf?csf=1&web=1&e=GhclMR).

## Area 2 – Engineering Function Competency

The Engineering Function Competence Framework (EFCF) can be found [here](https://modgovuk.sharepoint.com/teams/5020/Library/Human%20Resources%20Portal%20Documents/DE&S_Engineering%20Competence%20Framework.pdf).

## Area 3 – Systems Safety Competences

The System Safety Functional Competences can be found [here](https://modgovuk.sharepoint.com/sites/IntranetCivilianHRPeoplePortal/Documents/Forms/AllItems.aspx?id=%2Fsites%2FIntranetCivilianHRPeoplePortal%2FDocuments%2FSystem%5FSafety%2Epdf&parent=%2Fsites%2FIntranetCivilianHRPeoplePortal%2FDocuments).

## Area 4 – Systems Thinking and Integration Competence

This section focusses on the System Thinking and Integration Competence required for staff who hold some safety responsibility. These have been developed by DES EngSfty-EG ITS-SE and have been compiled using:

* Existing US Department of Defence work
* National Aeronautics and Space Administration work
* Royal Academy of Engineering

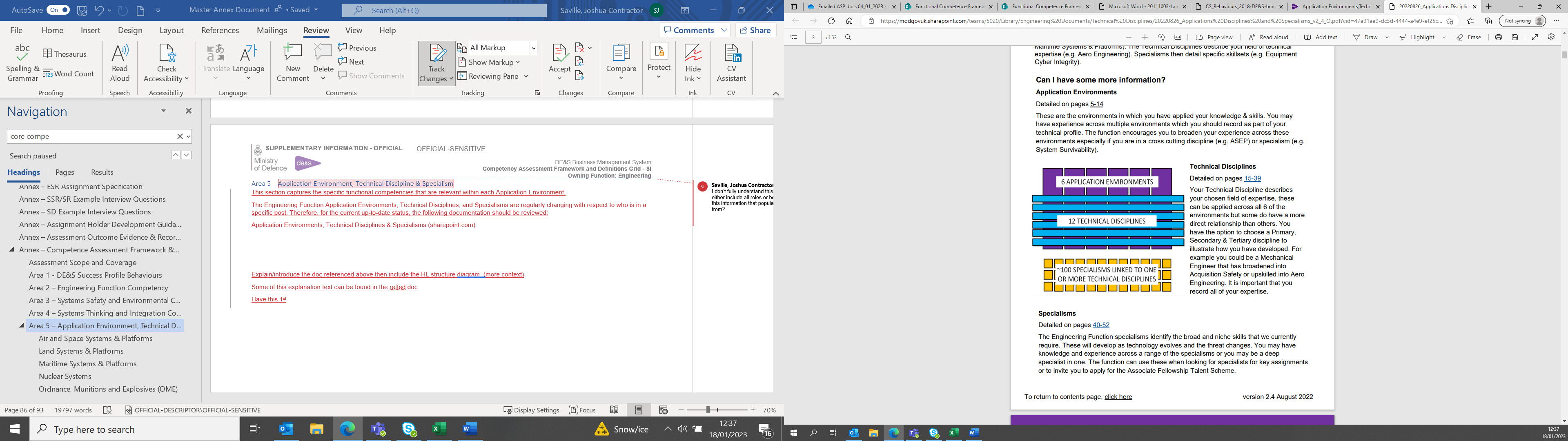
Competence in these areas is demonstrated by the Assignment Holder displaying all the positive indicators and none of the negative indicators against each of four Systems Thinking Competence Areas summarised in Table below.

Table 2: Summary of Systems Thinking and Integration Competence

| **Competence Area** | **Definition** | **Positive Indicators / Evidence** | **Negative Indicators / Evidence** |
| --- | --- | --- | --- |
| Applying Systems Theory in practice | Ensuring safety judgements are based upon an understanding of basic systems concepts (such as emergence and hierarchy). | * Recognises that small changes in one part of the system can result in safety or performance issues. * Recognises that single changes can impact multiple systems and processes, both within and outside their Area of Responsibility (AoR). * Recognises that changes in supply chain, operating environment, maintenance approach and operational use can result in safety or performance issues. | * Fails to investigate the performance/safety impact of (minor) changes to sub-systems and components. * Fails to investigate the performance / safety impact of (minor) changes in supply chain, operating environment, maintenance approach and operational use. * Fails to address issues if they are outside their formal responsibilities. |
| Taking account of relationships between equipment, systems and people when taking safety decisions. | Ensuring safety judgements are made based upon an understanding of how elements of the system work together. | * Predicts how key elements of the system work together to deliver the required levels of performance and safety and uses this to inform decisions. * Predicts how sub-system interactions can lead to safety and performance issues and uses this to inform decisions. * Predicts how system performance may be misunderstood by operators leading to safety issues. * Identifies when wider management structures and incentives are undermining safety. * Ensures that safety decisions take account of the role of people in managing systems. | * Fails to see the linkage between sub-system behaviour and wider system safety and performance. * Does not use understanding of how the sub-systems interact to inform decisions. * Assumes that the system is safe however the operators are using it. * Fails to recognise drifting goals eroding system safety. * Fails to consider how incorrect management of systems could lead to an accident. |
| Examining systems from multiple perspectives | Ensuring safety judgements are based upon a diverse range of views of the system (such as an operational perspective or sustainment perspective) and are based upon understanding of similarities and differences from other situations. | * Recognises that the system needs to be understood from multiple perspectives. * Can explain issues to people using multiple perspectives. * Challenges requirements and operational concepts that cannot be delivered safely. * Recognises unsafe worldviews and knows how to challenge and influence them. * Sees the similarities and differences between the current situations and previous accidents, near misses or safety issues and uses these similarities to shape their decisions and influence stakeholders | * Assumes that everyone sees the system in the way they do. * Assumes that ‘the customer is always right’ and doesn’t challenge their requirements or assumptions. * Fails to see the difference between situations, leading to unsafe situations or wasted time and effort. |
| Applying appropriate management styles for the safety system issue being considered. | Knowing when to think slow and apply systems thinking and when it is OK to take shortcuts and think fast[[2]](#footnote-3). Focussing on the task at hand whilst exploring the wider context. Having the paradoxical mindset (Big-Picture Thinking and Attention to Detail, Strategic and Tactical, Analytic and Synthetic, Courageous and Humble, Methodical and Creative). Being adaptable. Abstracting. Having foresight and vision. | * Recognises the need to make quick judgement calls *and* insist on more in-depth analysis depending on the situation. * Deals with the specific issue whilst taking account of wider safety and performance concerns. * Applies innovation and creativity whilst strictly following the safety management processes. * Changes their approach when the previous attempts have failed. * Identifies patterns of behaviour and develops hypothesis as to why they are happening. | * Sees related events as isolated incidents – doesn’t see the patterns. * Deals with the specific issue, or wider concern, but not both. * Fails to follow the basic processes. * Fails to apply innovation and creativity in solving system safety concerns. * Continues to apply approaches that have failed previously. * Fails to see emerging patterns of behaviour and predict safety or performance issues. |

## Area 5 – Regulated Environment, Technical Discipline & Specialism

This section captures the specific functional competencies that are relevant within each Regulated Environment. It is based upon the structure and information captured within the Engineering Function [Regulated Environments, Technical Disciplines, and Specialisms](https://modgovuk.sharepoint.com/teams/2228/Functions/Engineering/pages/Document.aspx?title=Application%20Environments,Technical%20Disciplines%20%26%20Specialisms&itempath=https://modgovuk.sharepoint.com/teams/2228/Functions/Engineering&author=Osmond,%20Amanda%20Professional%20I%20(DES%20Eng-CFM-7)&cat=Technical%20Disciplines&cat1=).

This document provides the Framework for the engineering knowledge, skills, and experience that DE&S requires both to develop individuals’ careers and assist the Engineering Function in developing the workforce. The framework that the Engineering Function uses is the ‘Regulated Environment, Technical Discipline and Specialisms Matrix’, which is captured in Figure 6. The Engineering Function Regulated Environments, Technical Disciplines, and Specialisms change with respect to who holds specific posts and titles. Therefore, for the current status, the hyperlink above should be us ed.

The knowledge, skills, and experience that the Engineering Function requires is defined in terms of 6 ‘Regulated Environments’, 12 cross-cutting ‘Technical Disciplines’ and 100+ ‘Specialisms’. The Regulated Environments describe the areas in which you work within DE&S (e.g., Maritime Systems & Platforms). The Technical Disciplines describe your field of technical expertise (e.g., Aero Engineering). Specialisms then detail specific skillsets (e.g., Equipment Cyber Integrity).

Figure : Regulated Environment, Technical Discipline and Specialisms Matrix

The key Regulated Environments referenced in the Engineering Function’s Regulated Environments, Technical Discipline & Specialisms document are as follows and are further developed under the following headings:

* Air and Space Systems & Platforms.
* Land Systems & Platforms.
* Maritime Systems & Platforms.
* Nuclear Systems.
* Ordnance, Munitions and Explosives (OME).
* Mission and Combat Systems (not currently captured within this set of functional competencies).

### Air and Space Systems & Platforms

This section details the specific competencies and requirements applicable to the Air and Space Systems & Platforms Regulated Environment. The specific indicators for each Assessment Level against all of the Air and Space Systems Competences; are provided in the Airworthiness Competence Set (ACS) [here](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1069069/Airworthiness_Competence_Set.pdf).

In addition, the key competencies from the ACS are captured in Table 3 below alongside the competency levels and placeholder cells, which may be used by the Regulated Environment specific Assessor to identify the required level for each safety-related role.

Table : ACS Key Competencies

| **Air & Space Systems Engineering Functional Competence** | **Levels** | **ESR / SSR / SR / SD / SM <For Assessor Delete as Appropriate>** |
| --- | --- | --- |
| ACS1 Core Function – The Core function encompasses those competences necessary to understand the regulatory context and associated behaviours in which Defence Aviation is conducted to facilitate the delivery of a safe environment within which Airworthiness may be established and preserved. | Awareness  Supervised Practitioner  Practitioner  Expert | To be determined by the Assessor who shall determine the competency level required for each Role. The required competency level should also be recorded in the relevant Assignment Specification. |
| ACS2 Type Airworthiness – The Type Airworthiness function encompasses all the actions associated with the upkeep of a Type Design and the associated Approved Data through life | Awareness  Supervised Practitioner  Practitioner  Expert |
| ACS3 Continuing Airworthiness Support – The CAw function encompasses those competencies necessary to provide satisfactory support to the Aviation Duty Holder/AM(MF)/ MilCAM to facilitate the delivery of a safe environment within which Airworthiness may be sustained. | Awareness  Supervised Practitioner  Practitioner  Expert |
| ACS4 Aircraft Systems – The Aircraft System function encompasses the knowledge and understanding of Aircraft System(s) that when required in a role ensures safe and effective military aircraft operation. | Awareness  Supervised Practitioner  Practitioner  Expert |
| ACS5 Air Safety Management – The Air Safety Management function encompasses knowledge and understanding of specialist safety management requirements and techniques. | Awareness  Supervised Practitioner  Practitioner  Expert |
| ACS6 Release to Service and Military Permit to Fly Management – The Release To Service (RTS) and Military Permit to Fly (MPTF) management function encompasses knowledge and understanding of preparing RTS/MPTF (In-Service) Recommendations. | Awareness  Supervised Practitioner  Practitioner  Expert |

For the Air Environment these ACS areas are further broken down into lower-level competencies. The ACS is used to define competence requirements for Airworthiness but can be used as a reference when assessing competence of other staff. For example, the DE&S Airworthiness Competency Assessment Tool (DASCAT) can be used to assess competence.

Assessment of competence within the Air Environment is managed by the [Director General Air Safety Policy Instruction (DGAPI) 03](https://modgovuk.sharepoint.com/teams/5020/Library/Air%20Safety%20Portal%20Documents/Air%20Safety%20Documents/DGAPIs/20220817_%20DGAPI%2003%20V3.0%20O.pdf), which refers to the ACS and means in which competence with respect to safety must be assessed.

### Land Systems & Platforms

This section details the specific competencies and requirements applicable to the Land Systems & Platforms Regulated Environment.

To see the specific Effective Indicators for each Assessment Level against all of the Land Systems Competences; see the Land Systems Engineering Functional Competences [here](https://modgovuk.sharepoint.com/sites/IntranetCivilianHRPeoplePortal/Documents/Forms/AllItems.aspx?id=%2Fsites%2FIntranetCivilianHRPeoplePortal%2FDocuments%2FLand%5FSystems%5FEngineering%2Epdf&parent=%2Fsites%2FIntranetCivilianHRPeoplePortal%2FDocuments).

In addition, the key competencies from the Land Systems Engineering Functional Competences Framework are captured in Table 4 below alongside the competency levels and placeholder cells, which may be used by the Regulated Environment specific Assessor to identify the required level for each safety-related role.

Table : Land Systems & Platforms Competencies

| **Land Systems Competence Areas** | **Land Systems Engineering Functional Competence** | **Levels** | **ESR / SSR / SR / SD / SM <For Assessor Delete as Appropriate>** |
| --- | --- | --- | --- |
| Land Systems Competence Area 1 – Land Systems Operations | LSFC1.1 – Land Vehicles Operations | Awareness  Practitioner  Expert | To be determined by the Assessor who shall determine the competency level required for each Role. The required competency level should also be recorded in the relevant Assignment Specification. |
| LSFC1.2 – Soldier System Operations | Awareness  Practitioner  Expert |
| LSFC1.3 – Operational Infrastructure | Awareness  Practitioner  Expert |
| Land Systems Competence Area 2 – Land Systems Design | LSFC2.1 – Land Vehicle Design | Awareness  Practitioner  Expert |
| LSFC2.2 – Soldier System Design | Awareness  Practitioner  Expert |
| LSFC2.3 – Electrical and Mechanical Systems | Awareness  Practitioner  Expert |
| LSFC2.4 – Systems Integration | Awareness  Practitioner  Expert |

### Maritime Systems & Platforms

This section details the specific competencies and requirements applicable to the Marine Systems & Platforms Regulated Environment.

To see the specific Indicators of Knowledge and Experience for each Assessment Level against all of the Marine Systems Competences; please see the Maritime Engineering Functional Competence Framework [here](https://modgovuk.sharepoint.com/sites/IntranetCivilianHRPeoplePortal/Documents/Forms/AllItems.aspx?id=%2Fsites%2FIntranetCivilianHRPeoplePortal%2FDocuments%2FMaritime%5FEngineering%2Epdf&parent=%2Fsites%2FIntranetCivilianHRPeoplePortal%2FDocuments).

In addition, the key competencies from the Maritime Engineering Functional Competence Framework are captured in Table 5 below alongside the competency levels and placeholder cells, which may be used by the Regulated Environment specific Assessor to identify the required level for each safety-related role.

Table : Marine Systems & Platforms Engineering Function Competences

| **Maritime Systems Engineering Functional Competence** | **Levels** | **ESR / SSR / SR / SD / SM <For Assessor Delete as Appropriate>** |
| --- | --- | --- |
| ME1 – Naval Architecture and Warship Engineering | Awareness  Supervised Practitioner  Practitioner  Expert | To be determined by the Assessor who shall determine the competency level required for each Role. The required competency level should also be recorded in the relevant Assignment Specification. |
| ME2 – Marine Engineering (Mechanical) Knowledge | Awareness  Supervised Practitioner  Practitioner  Expert |
| ME3 – Marine Engineering (Electrical) Knowledge | Awareness  Supervised Practitioner  Practitioner  Expert |
| ME4 – Marine Engineering (Naval Electronic Combat Systems) Knowledge | Awareness  Supervised Practitioner  Practitioner  Expert |
| ME5 – Maritime Safety and Environmental Knowledge | Awareness  Supervised Practitioner  Practitioner  Expert |
| ME6 – Warship In-Service Support | Awareness  Supervised Practitioner  Practitioner  Expert |

### Nuclear Systems

This section details the specific competencies and requirements applicable to the Nuclear Systems Regulated Environment.

To see the specific Indicators of Knowledge and Experience for each Assessment Level against all of the Nuclear Systems Competences; please see the Nuclear Competence Framework [here](https://modgovuk.sharepoint.com/sites/mod-dneskillscommunityportal/Shared%20Documents/Forms/AllItems.aspx?id=/sites/mod-dneskillscommunityportal/Shared%20Documents/2023_Nuclear%20Competence%20Framework_ver_2.0_O.pdf&parent=/sites/mod-dneskillscommunityportal/Shared%20Documents).

In addition, the competence groups from the Nuclear Competence Framework are captured in Table 6: Nuclear Competence Groups below alongside the placeholder cells, which may be used by the Regulated Environment specific Assessor to identify the required level for each safety-related role.

Table : Nuclear Competence Groups

| **Nuclear Competence Groups** | **ESR / SSR / SR / SD / SM <For Assessor Delete as Appropriate>** |
| --- | --- |
| Competence Group 1 – Nuclear Safety and Security | To be determined by the Assessor who shall determine the competency level required for each Role. The required competency level should also be recorded in the relevant Assignment Specification. |
| Competence Group 2 – Defence Nuclear Programme Management |
| Competence Group 3 – Nuclear Emergency Response |
| Competence Group 4 – Concept, Assessment and Design of Nuclear Systems and Infrastructure |
| Competence Group 5 – Manufacturing, Testing, Commissioning and Acceptance of Nuclear Systems and Infrastructure |
| Competence Group 6 – In-service, Support and Maintenance of Nuclear Systems and Infrastructure |
| Competence Group 7 – Nuclear Liabilities Management (Decommissioning and Disposal) |

### Ordnance, Munitions and Explosives (OME)

This section details the specific competencies and requirements applicable to the OME Regulated Environment.

To see the specific Effective Indicators for each Assessment Level against all of the OME Competences; see the WOME Functional Skills Framework [here](https://modgovuk.sharepoint.com/sites/IntranetCivilianHRPeoplePortal/Documents/Forms/AllItems.aspx?id=%2Fsites%2FIntranetCivilianHRPeoplePortal%2FDocuments%2FWOME%5FFunctional%5FSkills%5FFramework%2Epdf&parent=%2Fsites%2FIntranetCivilianHRPeoplePortal%2FDocuments).

The Weapons OME (WOME) Skills Framework uses Explosives Substances & Articles (ESA) National Occupational Standards (NOS), to assess competence. These not only benefit the MOD but provide a criterion of good practice across the whole sector thereby enabling all employers to engage in a national strategy to sustain national WOME capability. The ESA NOS are external standards approved by the Qualification and Curriculum Authority (QCA) which sit as part of the wider National Occupational Standards framework.

Each area of the ESA NOS cascades into more specific units of competence which are divided into Performance Criteria & Knowledge Requirements with statements of the contexts in which users should demonstrate their competence, making it easier to match a role or a person to a specific standard. The ESA NOS are listed by functional area, however not all of the units within each ESA NOS functional area are included in MyHR (to avoid duplication with other skills frameworks and core competences).

The Functional Areas of the ESA NOS and number of units (competences) which are in MyHR are captured in Table 7: Functional Areas of the ESA NOS below.

Table : Functional Areas of the ESA NOS

|  |  |  |
| --- | --- | --- |
| **ESA NOS Functional Area  included in MyHR** | **Number of competences included in MyHR** | **Competences applicable to SSR/SR/SD/SM Roles <For Assessor Delete as Appropriate>** |
| 1. Research, Design & Development | 14 |  |
| 1. Safety Management | 22 | WOME SM 2.3, 2.4, 2.4A, 2.9, 2.12 |
| 1. Test & Evaluation | 20 |  |
| 1. Manufacture | 14 |  |
| 1. Maintenance | 16 |  |
| 1. Procurement | 3 |  |
| 1. Storage | 18 |  |
| 1. Transport | 14 |  |
| 1. Facilities Management | 5 | WOME FM 9.1, 9.2, 9.3 |
| 1. Not Used (Not Included in MyHR) | 0 |  |
| 1. Disposal | 27 |  |
| 1. Not Used (Not Included in MyHR) | 0 |  |
| 1. General | 9 |  |

From these 13 Functional Areas, the Safety Management and Facilities Management Functional Areas include specific units (competences) which apply to roles with safety responsibilities within both Defence Munitions (DM) and OME Delivery Teams (DTs), as presented in Table 8 and Table 9: Defence Specific OME Competence Areas. See the WOME Functional Skills Framework [here](https://modgovuk.sharepoint.com/sites/IntranetCivilianHRPeoplePortal/Documents/Forms/AllItems.aspx?id=%2Fsites%2FIntranetCivilianHRPeoplePortal%2FDocuments%2FWOME%5FFunctional%5FSkills%5FFramework%2Epdf&parent=%2Fsites%2FIntranetCivilianHRPeoplePortal%2FDocuments).

Table : WOME ESA NOS Competence Areas

| **ESA NOS Functional Areas (relevant to safety-related roles)** | **Competence Areas (Units)** | **Levels** | **ESR / SSR / SR / SD / SM  <For Assessor Delete as Appropriate>** |
| --- | --- | --- | --- |
| 2. Safety Management (SM) | WOME SM 2.3 Review the factors affecting the safety of specific explosive substances and/or articles. | Basic  Skilful  Expert | To be determined by the Assessor who shall determine the competency level required for each Role. The required competency level should also be recorded in the relevant Assignment Specification. |
| WOME SM 2.4 Analyse the acceptability of safety control measures for specific explosive substances and/or articles. | Basic  Skilful  Expert |
| WOME SM 2.4A Review safety control measures for specific explosive substances and/or articles. | Basic  Skilful  Expert |
| WOME SM 2.9 Determine and implement aggregated risk control measures for explosives. | Basic  Skilful  Expert |  |
| WOME SM 2.12 Investigate explosives-related safety incidents. | Basic  Skilful  Expert |
| 9. Facility Management (FM) | WOME FM 9.1 Define explosives facilities requirement. | Basic  Skilful  Expert |
| WOME FM 9.2 Ensure explosives facilities are fit for purpose. | Basic  Skilful  Expert |
| WOME FM 9.3 Conduct safety checks on explosives facilities. | Basic  Skilful  Expert |

Table : Defence Specific OME Competence Areas

|  |  |  |  |
| --- | --- | --- | --- |
| **Defence Specific OME Competence** | **Competence Area** | **Levels** | **ESR / SSR / SR / SD / SM  <For Assessor Delete as Appropriate>** |
| Environment (Context) | WOME Env 1 – Domain Regulatory Requirements (see Note 1 below) | Basic  Skilful  Expert | To be determined by the Assessor who shall determine the competency level required for each Role. The required competency level should also be recorded in the relevant Assignment Specification. |

**Note 1**

The OME environment differs from the other Regulated Environments as it is key that there is an understanding of operating and acquisition context. There are significant differences in cultures and ways of working between the different armed forces, acquisition approaches and supply chains.

Although OME is regulated by the Defence Ordnance Safety Regulator (DOSR), Weapons DTs deliver into all other domains. Safety-related assignments will need knowledge of regulatory requirement for the domain they are supplying equipment to and may require competence assessment by the domain regulator e.g. Airworthiness, Maritime, Nuclear and Land.

DOSR mandate a specific 2nd Party Assurance regime for OME known as OSRP. Staff in safety-related assignments will need to be familiar with this process.

DOSR Regulations mandate that an independent Safety Advisor (SA) is appointed. The SA must be able to demonstrate competence in applicable UK legislation, regulations, and policy. DOSG WS can provide this function. Staff in safety-related assignments must be at least aware of the necessity to engage with DOSG through the lifecycle of OME.

DOSR Regulations mandate competence assessment against ESA NOS. Any equivalence with other Competence Frameworks (e.g. SYSSAF) will need to be documented and the assessment should be looking for competence in OME.

# Annex D – Assessment Outcome Evidence & Record Sheet

**(Assessors to complete relevant sections during Assessment)**

**When returning document before assessment, you should also attach your C.V. and a copy of your Letter of Delegation. Further information and guidance can be found in the Guidance for Assignment Holders ASP specific to the assignment being assessed for.**

|  |  |  |
| --- | --- | --- |
| **Assignment associated with evidence** |  | |
| **Assignment Holder** | Name: | Date of taking up assignment: XX/XX/XXXX |
| ASP Safety Tag: SSR/SR/SD/SM (Delete as appropriate) | |
| **Date of Assessment** | XX/XX/XXXX | |
| **Assessors** | Assessor 1: | |
| Assessor 2: | |
| Assessor 3 (optional): | |

The following sections focus on the three main stages of the Assessment process. The stages in the Assessment process are captured in Figure 7. The document contains tables to be populated by both the Assignment Holder and Assessor. Areas to be populated by the Assignment Holder are Grey and areas to be populated by the Assessor are Lilac.



Figure : Five Stages of the Assessment Panel/Assessment Process

The 3 main stages that are focussed on in the following sections are:

* Stage 2: Application and Understanding of the Acquisition Safety Process
* Stage 3: Understanding of Safety Risks Through the Lifecycle
* Stage 4: Taking a Whole Systems View of Safety

## Summary of Core Areas and Competencies

The following sections focus on Stages 2-4 of the Assessment Panel/Assessment Process and consider the five Core Areas that each applicant is being assessed against. This section provides a summary of the five Core Areas and their comprising Behaviours and Competencies.

| **Core Areas** | **Behaviours & Competencies** | **Level** |
| --- | --- | --- |
| Area 1 – DE&S Success Profile Behaviours | * Seeing the Big Picture * Changing and Improving * Making Effective Decisions * Leadership * Communicating and Influencing * Working Together * Developing Self and Others * Managing a Quality Service * Delivering at Pace * Safety Focus * Working as one with our Customer | <TBC by Assessor depending on Role> |
| Area 2 – Engineering Function Competency | **EFCF 1 – Improve Engineering Capability** – Explores innovative opportunities and exploit emerging technology to develop, sustain and enhance Defence capability.  **EFCF 2 – Application of Analytical Techniques** – Applies systems thinking and analytical techniques to refine the approach, achieve intended outcomes and challenge assumptions.  **EFCF 3 – Technical Requirements, Evaluation and Acceptance** – Develops well-formed requirements and evaluates technical solutions against verified acceptance criteria whilst promoting best practice  **EFCF4 – Technical Decision Making** – Applies technical expertise and uses available evidence to make informed technical decisions on complex issues,  **EFCF 5 – Technical Risk Management** – Assesses, communicates and manages technical risk associated with engineering activities to enable regulatory compliance and deliver operational effectiveness. | <TBC by Assessor depending on Role> |
| Area 3 – Systems Safety Competences | **SYSSAF 1** – Compliance with MOD policy and instructions, legislation and procedures for system safety management  **SYSSAF 2** – Complies with the principles of System Safety management  **SYSSAF 3** – Complies with MOD requirements for System Safety Management through life  **SYSSAF 4** – Adoption of a safety risk management process consistent with the level of safety risk  **SYSSAF 5** – Applies engineering and scientific knowledge within a domain and complies with applicable specialist safety requirements, procedures and regulations | <TBC by Assessor depending on Role> |
| Area 4 – Systems Thinking and Integration Competence | * **Applying systems theory in practice** – Ensuring safety judgements are based upon an understanding of basic systems concepts (such as emergence and hierarchy) * **Taking account of relationships between equipment, systems and people when taking safety decisions** – Ensuring safety judgements are made based upon an understanding of how elements of the system work together. * **Examining systems from multiple perspectives** – Ensuring safety judgements are based upon a diverse range of views of the system (such as an operational perspective or sustainment perspective). * **Applying appropriate management styles for the safety system issue being considered** – Knowing when to think slow and apply systems thinking and when it is OK to take shortcuts and think fast. Focussing on the task at hand whilst exploring the wider context. Having the paradoxical mindset (Big-Picture Thinking and Attention to Detail, Strategic and Tactical, Analytic and Synthetic, Courageous and Humble, Methodical and Creative). Being adaptable. Abstracting. Having foresight and vision. | <TBC by Assessor depending on Role> |
| Area 5 – Application of Domain Technical Discipline & Specialism | **Air Systems and Platforms**   * ACS1 – Core Function * ACS2 – Type Airworthiness * ACS3 – Continuing Airworthiness Support * ACS4 – Aircraft Systems * ACS5 – Air Safety Management * ACS6 – Release to Service and Military Permit to Fly Management   **Land Systems and Platforms**   * LSFC 1.1 – Land Vehicle Operations * LSFC 1.2 – Soldier Systems Operations * LSFC 1.3 – Operational Infrastructure * LSFC 2.1 – Land Vehicle Design * LSFC 2.2 – Soldier System Design * LSFC 2.3 – Electrical and Mechanical Systems * LSFC 2.4 – Systems Integration   **Maritime Systems & Platforms**   * ME1 – Naval Architecture and Warship Engineering * ME2 – Marine Engineering (Mechanical) knowledge * ME3 – Marine Engineering (Electrical) knowledge * ME4 – Marine Engineering (Naval Electronic Combat Systems) * ME5 – Maritime Safety & Environmental Knowledge * ME6 – Warship In-Service Support   **Nuclear Systems**   * Competence Group 1 – Nuclear Safety and Security * Competence Group 2 – Defence Nuclear Programme Management * Competence Group 3 – Nuclear Emergency Response * Competence Group 4 – Concept, Assessment and Design of Nuclear Systems and Infrastructure * Competence Group 5 – Manufacturing, Testing, Commissioning and Acceptance of Nuclear Systems and Infrastructure * Competence Group 6 – In-service, Support and Maintenance of Nuclear Systems and Infrastructure * Competence Group 7 – Nuclear Liabilities Management (Decommissioning and Disposal)   **OME**   * WOME SM 2.3 – Review the factors affecting the safety of specific explosive substances and/or articles. * WOME SM 2.4 – Analyse the acceptability of safety control measures for specific explosive substances and/or articles. * WOME SM 2.4A – Review safety control measures for specific explosive substances and/or articles. * WOME SM 2.9 – Determine and implement aggregated risk control measure for explosives. * WOME SM 2.12 – Investigate explosives-related safety incidents. * WOME FM 9.1 – Define explosives facilities requirement. * WOME FM 9.2 – Ensure explosives facilities are fit for purpose. * WOME FM 9.3 – Conduct safety checks on explosives facilities. | <TBC by Assessor depending on Role> |

## Stage 2: Application and Understanding of the Acquisition Safety Process

This Stage considers the following Core Areas:

* Area 1 – DE&S Success Profile Behaviour
* Area 3 – Systems Safety Competences
* Area 5 – Application of Domain Technical Discipline & Specialism

| **Supporting Evidence**  *To be completed by Assignment Holder* | |
| --- | --- |
| Safety Competence including experience with formal system safety management (e.g., ASEMS, safety case development) |  |
| Experience of producing, approving, or obtaining safety artefacts (e.g., Naval Authority Certificates, CCUs, etc.) |  |
| Previous experience of holding and executing formal safety delegations. |  |
| Previous experience of making difficult, complex, or challenging decisions and communicating (2 way) effectively where safety was at stake. |  |
| Experience and understanding of the specific Regulated Environment (platform, equipment, etc.) related safety management systems. |  |

| **Safety Training** | **Please refer to the Training Matrix.** | **Date Completed** |
| --- | --- | --- |
| Formal Systems and Environment Safety Training |  |  |

| **Requirements and Evidence**  *To be completed by Assessor* | | **Assessment Outcome:**  - Competent  - Competent with Caveat(s)  - Not Yet Competent |
| --- | --- | --- |
| Safety Competence including experience with formal system safety management (e.g., ASEMS, safety case development). |  |  |
| Experience of producing, approving, or obtaining safety artefacts (e.g., Naval Authority Certifications, CCUs, etc.) |  |  |
| Previous experience of holding and executing formal safety delegations |  |  |
| Previous experience of making difficult, complex, or challenging decisions and communicating (2 way) effectively where safety was at stake. |  |  |
| Experience and understanding of the specific Regulated Environment (platform, equipment, etc.) related safety management systems |  |  |
| **Safety Training** | **Please refer to the Training Matrix.** | **Assessors Comments** |
| Formal Systems and Environment Safety Training |  |  |

## Stage 3: Understanding of Safety Risks Through the Lifecycle

This Stage considers the following Core Areas:

* Area 2 – Engineering Function Competency
* Area 5 – Application of Domain Technical Discipline & Specialism

| **Supporting Evidence**  *To be completed by Assignment Holder* | |
| --- | --- |
| Qualifications |  |
| Membership and Registrations |  |
| Understanding of safety risks across Equipment and Service Lifecycle (CADMID) and the different types of risk at each stage (e.g., maintenance related issues during in-service). |  |
| Experience and understanding of the specific platform, equipment or domain related technical risks arising at each stage (e.g., airworthiness considerations in air domain). |  |

| **Requirements and Evidence**  *To be completed by Assessor* | | **Assessment Outcome:**  - Competent  - Competent with Caveat(s)  - Not Yet Competent |
| --- | --- | --- |
| Qualifications |  |  |
| Membership and Registrations |  |  |
| Understanding of safety risks across Equipment and Service Lifecycle (CADMID) and the different types of risk at each stage (e.g., maintenance related issues during in-service). |  |  |
| Experience and understanding of the specific platform, equipment, or domain technical risks at each stage (e.g., airworthiness considerations in air domain). |  |  |

## Stage 4: Taking a Whole Systems View of Safety

This Stage considers the following Core Areas:

* Area 4 – Systems Thinking and Integration Competence
* Area 5 – Application of Domain Technical Discipline & Specialism

| **Supporting Evidence**  *To be completed by Assignment Holder* | |
| --- | --- |
| Systems integration experience (e.g., platform / combat system integration, mechanical / electrical integration). (Matched against competencies) |  |
| Evidence of thinking through “whole system” usage risks. This includes interaction of environmental, human factors and technical risks (e.g., aircraft used in hot, dry climate at lower altitudes). |  |

| **Requirements and Evidence**  *To be completed by Assessor* | | **Assessment Outcome:**  - Competent  - Competent with Caveat(s)  - Not Yet Competent |
| --- | --- | --- |
| Systems integration experience (e.g., platform / combat system integration, mechanical / electrical integration). (Matched against competencies) |  |  |
| Evidence of thinking through “whole system” usage risks. This includes interaction of environmental, human factors and technical risks (e.g., aircraft used in hot, dry climate at lower altitudes). |  |  |

## Summary and Recommendations

| **Summary and Recommendations**  *To be completed by Assessor* | |
| --- | --- |
| **Overall Assessment – Commentary** | |
| **Decision**  **Select Appropriate Assessment:**  - Competent  - Competent with Caveat(s)  - Not Yet Competent | **Recommended caveats including additional training requirements and target completion dates, specifying whether the caveat is MAJOR or MINOR:** |
| If found competent for INSERT APPLICABLE ROLE, does the Assignment Holder have potential to hold an INSERT APPLICABLE ROLE assignment?  Yes / No | **Recommended caveats for candidate deemed to have potential to hold higher safety responsibility assignment:** |
| **Assessor 1 Signature, Date and Position** |  |
| **Assessor 2 Signature, Date and Position** |  |
| **Assessor 3 Signature, Date and Position**  **(Where required)** |  |

# Annex E – SD Example Interview Questions

This section provides some Example Interview Questions that can be used to prompt and test specific competencies with the Role being interviewed. The Interview Questions are separated into each Core Area that the staff are being assessed against.

## Area 1 – DE&S Success Profile Behaviours

Only the DE&S Success Profile Behaviours that are within the Success Profiles pertinent to the SD role have Example Questions captured below. Currently there are no associated Example Questions with the Safety Focus Behaviour as it is a new Behaviour that is not included in the Success Profiles. Despite this, it is clear that the Safety Focus Behaviour will be relevant to the SD role, so a placeholder for Example Questions is left in the table below.

| **DE&S Success Profile Behaviour** | **Example Questions** | **Key Outcomes Being Tested** |
| --- | --- | --- |
| Changing and Improving | * Can you tell me of a time when you have been faced with a problem that required a change and improvement of approach to resolve it? What were the circumstances? How did you approach it? What was the outcome? * Can you tell me of a time when you dealt with an issue that required a quick resolution? How did you approach it? How did you ensure that your resolution was appropriate? | - Sees old problems and provides opportunities for changes or improvements to resolve the problems.  - Thinks in terms of desired outcomes, not just reactive, quick solutions.  - Experiments with new ideas, methodologies, and procedures. |
| Making Effective Decisions | * Tell us about a decision you made too quickly and got wrong. What made you take that decision? * What big decision did you make recently? How did you go about it? | - Make well-informed, effective, and timely decisions, even when data is limited, or solutions produce unpleasant consequences.  - Make decisions in difficult or ambiguous situations when time is critical.  - Make judgements based on sound evidence and expert insight.  - Analyse evidence and evaluate options before arriving at well-reasoned justifiable decisions. |
| Leadership | * Can you tell me how you have built and led a multi-disciplinary technical team? How did you ensure a diversity of views? How did you make decisions when your team members disagreed? How did you manage conflict? * Can you tell me of a time when your boss was unhappy that you had changed your mind? | - Builds and orchestrates a diverse team recognising different perspectives and harnessing their assorted input.  - Operates in an open environment where challenge is accepted and encouraged.  - Focusses the team on meeting the stakeholders’ / customers’ needs in a safe, effective & efficient manner.  - Recognises and balances safety with performance, cost, and timescales.  - Preserves others’ self-confidence and dignity and shows regard for their opinions. |
| Communicating and influencing | * Can you tell me of a time when someone didn’t understand what you wanted them to do? How did you change your approach? What happened? * Can you tell me of a time when you had to say ‘no’ for safety reasons? What happened? | - Addresses issues in an open, constructive & professional manner.  - Doesn’t seek to lay blame.  - Challenges risky behaviours in a firm, but collaborative manner.  - Explains issues in the way that will work with recipients.  - Builds influence with people who they might need help from in the future. |
| Working Together | * Can you tell me of a time when you have supported your colleagues in the achievement of deliverables in a particularly challenging environment? What happened? * Provide an example of a time when you successfully organized a diverse group of people to accomplish a task. * Can you tell me when you have sought advice and ideas from colleagues within your team to achieve goals? How did you go about this? | - Knows and supports colleagues in difficult circumstances.  - Seeks and considers ideas from those who are reluctant to express their point of view.  - Demonstrates a balance between building a rapport and getting the work done.  - Can engender a team spirit to achieve outcomes in difficult circumstances. |
| Developing Self and Others | * Can you tell me how you ensure that your staff have the requisite skills to discharge their roles and accountabilities? What do you do when you identify gaps and areas of weakness? * Can you tell me of a time when you have delegated work to team members? How did you decide who to delegate the work to? What factors did you consider in making your decision? How did you monitor their ability to undertake the work? | - Manages staff in ways that improve their ability to succeed on the job.  - Works to create a strong team treating all staff fairly and consistently, sharing accountability when delegating.  - Provides direction when needed without micro-management. |
| Safety Focus | TBC | TBC |

## Area 2 – Engineering Function Competency

| **Engineering Function Competency Framework** | **Example Questions** | **Key Outcomes Being Tested** |
| --- | --- | --- |
| EFCF 1 – Improve Engineering Capability | * When have you brought an innovative idea into your organisation? What did you do to ensure it was successful? How was it received? * Give an example of where you needed to ‘think outside the box’ to come up with a solution to a challenging problem * Tell us about a time that called for your creative and original input. * Talk about a situation where you trusted your team to create a new approach to an old problem. How did you manage the process? * Tell us about a time when you had to convince a senior colleague or stakeholder that change was necessary. What made you think that your new approach would be better suited? * Name a time when your creativity or alternative thinking solved a problem in your workplace | - Devising an innovative way of organising new projects.  - Finding creative solutions for repeated problems, such as finding a new way to cut company costs.  - See EFCF |
| EFCF 2 – Application of Analytical Techniques | * Can you tell me of a time you had to persuade someone to take a counterintuitive (but correct) course of action? * Can you tell me of a time when you compared a situation you were in to a previous accident, near miss or safety issue? * Can you tell me of a time when you were able to dismiss a comparison to a previous accident, near miss or safety issue? * Can you tell me of a time when you have used statistical and quantitative techniques and principles to support your decision in a safety environment? How did you select the appropriate methodology? Why? * Can you tell me of a time when your safety concern was overruled by a senior manager or operator? What happened? What did you do and why? | - Applies logic and lines of reasoning to identify solutions and support sound arguments.  - Ensures safety judgements are made based upon a sound understanding of statistics and probability.  - Sees the differences between current situation and previous accidents / near misses / safety issues and uses these similarities to shape their decisions and influence stakeholders.  - Ensures safety judgements are made based upon a sound understanding of statistics and probability.  -Identifies potential conflicts and takes steps to resolve them before they grow.  - Thoughtfully intervenes in conflicts to improve communication, diffuse tension, and resolve problems. |
| EFCF 3 – Technical Requirements, Evaluation & Acceptance | * Describe a situation where you were able to influence others on an important issue. What approaches or strategies did you use? * Describe how you needed to influence different stakeholders who had different agendas. What approaches or strategies did you use? * Tell me about an experience in which you analysed information and evaluated results to choose the best solution to a problem. * Provide a time when you were able to identify a complex problem, evaluate the options, and implement a solution. How did the solution benefit? | - Considers DE&S’ positioning in industry and worldwide. Talks about what challenges may face its stakeholders, and how they can contribute to overcoming them.  - Identifies and understands the motivations of anyone who can affect the outcome of a project.  - See EFCF |
| EFCF 4 – Technical Decision Making | * Tell us about a time when someone asked you to do something you objected to. How did you handle the situation? * Have you ever gone against policy? Why did you do it and how did you handle it? * Using examples drawn from your experience, describe how you measure and take account of the impact of your decisions. * Give an example where you underestimated the impact of your decisions on stakeholders external to your organisation. * Talk through a situation where you had to make a decision without the input of key players who would later hold you to account on that decision. * Share an experience in which your ability to consider the costs or benefits of a potential action helped you choose the most appropriate action. | - Keeps promises, sticks to the rules, and behaves honestly and ethically. Demonstrates strong moral principles. They are diplomatic and have strength of character.  - See also outcomes for Decision Making  - See EFCF |
| EFCF 5 – Technical Risk Management | * How do you ensure compliance with policy in your AoR? * Tell me about the last time you monitored or reviewed information and detected a problem. How did you respond? * Describe a recommendation you made which successfully controlled or reduced a risk. * Tell me about a report or presentation you produced which effectively outlined findings or explained risk positions. * Share an experience in which you conducted an effective statistical analysis to quantify risk. | - See EFCF |

## Area 3 – Systems Safety Competences

| **Systems Safety Competences** | **Example Questions** | **Key Outcomes Being Tested** |
| --- | --- | --- |
| SYSSAF 1 – Compliance with MOD policy & instructions. | * Can you explain the MOD’s approach to compliance with safety legislation? * Can you tell me how you have gone about identifying the relevant requirements that apply to your projects? How did you go about ensuring they were complied with? * Can you tell me about a time when you have had to adapt a project to meet new or changed policy or legislative requirements? * Can you tell me about a time when policy or legislation appeared inappropriate for your project? How did you resolve the situation? | - Is aware of the Secretary of State’s policy statement and the Defence Safety Authority Regulations.  - Ensures that MOD delivers outcomes that are at least as good as civilian arrangements, so far as is reasonably practicable.  - Proactively identifies relevant requirements through use of subject-matter experts  - Builds the groundwork for compliance into project plans.  - Does what is reasonably practicable to ensure that projects comply with requirements once they are identified.  - Follows proper process to justify and sanction any necessary non-compliance, without presuming a dispensation will be agreed. |
| SYSSAF 2 – Compliance with System Safety Management | * Can you explain to me what the key principles of system safety management are? How do you apply them in your area? * Can you tell me how you ensure that good system safety management practice is used in your area? * Can you tell me about a time when your team did not have the resource it needed to make well-founded safety decisions? How did you go about obtaining the advice and support you needed? * Can you tell me about what you have done to promote a strong safety culture in your team? | - Robust management of System Safety  - Best practice is disseminated and applied consistently across the MOD.  - A strong safety culture is established, that is a just, learning, reporting, flexible and questioning culture. |
| SYSSAF 3 – System Safety Management Through Life | * Can you tell me how you have assured yourself that safety management is robust and coherent in your area? * Can you tell me how you get confidence that your team is meeting all its obligations for safety management? * Can you tell me about a time you had to justify the safety of a system to your customers? How did you demonstrate it was safe? * Who is responsible for producing a safety case? Who signs it off? What would they expect to see in it? On what do they judge their decision to sign it? * Can you tell me about a time when you refused to sign off a safety assessment or safety case report? What were the implications? How did you resolve the situation? * Can you tell me about a system whose safety you have had to manage in-service? How did the need for safety management change as the system aged? | - A coherent Safety Management System is maintained that enables continuous improvements in performance.  - Gains appropriate independent assurance that the safety management system is effective and will remain so through the system’s life.  - Ensures structured arguments are produced to demonstrate the safety of all systems.  - Ensures systems comply with the appropriate certification and/or approval requirements.  - Puts clear plans are in place to define how safety management will be carried out, setting out what needs to be done and who is responsible for what. |
| SYSSAF 4 – Safety Risk Management Process | * Can you tell me about the MOD’s legal obligations for safety risk management? What does this mean for your team? * Can you tell me how you make the Duty Holder aware of the contribution to safety risk from the products and services you deliver? * Can you tell me about a time when you had to demonstrate that a risk was ALARP? How did you go about doing this? What would you do if the risk was not ALARP? * Can you tell me about a time that there was disagreement between stakeholders on whether a risk was ALARP or if it could be tolerated? How did you resolve the situation? How was the final decision made? * Can you tell me about a time when a risk-based approach was not appropriate? * Can you tell me how you have gone about setting safety targets for systems you manage? How have you been able to tell that these were being met? | - Safety risk management is carried out consistently across the MOD.  - Understands the role of the Duty Holder and knows who the Duty Holder is for their systems.  - Works with the Duty Holder to ensure that they have the information to support decisions on risk, and to ensure their equipment’s contribution to system safety risks is reduced to a level that is As Low as Reasonably Practicable and either broadly acceptable or tolerable.  - Sets appropriate targets to allow safety performance to be measured.  - Mitigates the impact of unplanned events to an acceptable level. |
| SYSSAF 5 – Application of Engineering and Scientific knowledge within Domain | * Can you tell me how the safety management requirements for your domain differ from those in other areas? * Can you tell me about a time when the regulator challenged arrangements in your area? How did you satisfy them? | - MOD meets its obligations for self-regulation and management of System Safety in specific domains. |

## Area 4 – Systems Thinking and Integration Competence

|  |  |  |
| --- | --- | --- |
| **Systems Thinking and Integration Competency** | **Example Questions** | **Key Outcomes Being Tested** |
| Applying systems theory in practice  EFCF2, 3 and 4 | * Can you tell me of a time when you were concerned about the safety implication of a minor change? * Can you tell me of a time when you dealt with a safety issue that wasn’t your responsibility? | - Ensures safety judgements are based upon an understanding of basic systems concepts (such as emergence and hierarchy).  - Recognises that small changes in one part of a system can result in performance or safety issues.  - Recognises that single changes can impact multiple systems and processes, both within and outside their AoR. |
| Taking account of relationships between equipment, systems & people when taking safety decisions  EFCF2 and 4 | * Can you tell me of time when you looked for safety issues based upon you understanding of how the system worked? * Can you tell me of a time when you looked for safety issues based upon your understanding of how the operators normally behave? * Can you tell me of a time when you looked for safety issues based upon your understanding of how MOD normally behaves? | - Ensures safety judgements are made based upon an understanding of how elements of the system work together.  - Predicts how key elements of the system work together to deliver the required levels of performance and safety and uses this to inform decisions.  - Predicts how sub-system interactions can lead to safety and performance issues and uses this to inform decisions.  - Recognises the need to make quick judgement calls and insist on more in-depth analysis depending on the situation. |
| Examining systems from multiple perspectives  EFCF2, 3 and 4 | * Can you tell me of a time you had to explain a safety issue to someone who clearly didn’t understand what was of concern? * Can you tell me of a time that you had to challenge the customer because a requirement or operational concept was unsafe? | - Ensures safety judgements are based upon a diverse range of views of the system (such as an operational perspective or sustainment perspective).  - Predicts how system performance may be misunderstood by operators leading to safety issues.  - Recognises that the system needs to be understood from multiple perspectives.  - Can explain issues to people using multiple perspectives.  - Challenges requirements and operational concepts that cannot be delivered safely.  - Deals with the specific issue whilst taking account of wider safety and performance concerns. |
| Applying appropriate management styles for the safety system issue being considered.  EFCF1, 4 and 5 | * Can you tell me of a time where you have acted after seeing a worrying pattern of behaviour? * Can you tell me of a time you have had to solve a wider process / structural / systemic issue as well as the specific task you had? * Can you tell me of a time that your approach failed? What did you do? | - Knowing when to think slow and apply systems thinking and when it is ok to take shortcuts and think fast.  - Focusses on the task in hand whilst exploring the wider context.  - Has a paradoxical mindset (big-picture thinking and attention to detail, strategic and tactical, analytical and synthetic, courageous and humble, methodical and creative).  - Is adaptable.  - Has foresight and vision.  - Addresses safety issues outside of their AoR if no one else is addressing them.  - Recognises that changes in supply chain, operating environment, maintenance approach and operational use can result in safety or performance issues.  - Identifies when wider management structures and incentives are undermining safety.  - Ensures that safety decisions take account of the role of people in operating and managing systems.  - Applies innovation and creativity whilst strictly following the safety management processes.  - Changes their approach when the previous attempts have failed.  - Identifies patterns of behaviour and develops hypotheses as to why they are happening.  - Addresses issues in an open, constructive, and professional manner. |

## Area 5 – Regulated Environment, Technical Discipline & Specialism

There are not any Example Interview Questions relating to the specific Regulated Environment. These will be handled and managed by the Regulated Environment Specific Assessor.

# 

# Annex F – Assignment Holder Development Guidance

The following guidance outlines development options for anyone who is considered *Competent with Caveat(s)* or *Not Yet Competent* following an assessment panel/assessment process. The options may form part of the recommended approach to improving any gaps in an individual’s competence or areas of knowledge and experience and should be specified with the appropriate timescales.

The **development options** are split into four key areas. This includes the three main stages of the assessment panel/assessment process (Stages 2, 3, and 4 in Figure 8) and Regulated Environment specific development:

* Stage 2: Application and Understanding of the Acquisition Safety Process
* Stage 3: Understanding of Safety Risks Through the Lifecycle
* Stage 4: Taking a Whole Systems View of Safety
* Area 5: Regulated Environment, Technical Discipline & Specialism



Figure : Five Stages of the Assessment Panel/Assessment Process

All development guidance should be read in conjunction with the DE&S Way to Learning.

## Development For Stage 2: Application and Understanding of Acquisition Safety Process

|  |  |
| --- | --- |
| **Purpose** | To ensure the individual really understands core safety concepts, safety management processes, associated artefacts and how to apply these to achieve “safe to operate” outcomes. |
| **Core Areas** | * **Area 1 - DE&S Success Profile Behaviours:** Such as Communication and Influencing, Leadership. * **Area 3 - Systems Safety Competences:** These focus on the systems safety management processes, concept and approach in the MOD and Defence environment. * **Area 5 - Regulated Environment, Technical Discipline & Specialism:** Understanding the specific environmental context in which an individual will be making safety decisions (e.g., Air environment for fixed wing aircraft). |
| **Guidance to Assessor** | * Focus on individual’s ability to communicate effectively in a team, listening carefully to safety related matters and their ability to challenge / lead a response. * Focus on core safety concepts and the ability of individual to apply these in a real application (e.g., ALARP and allowable risk levels across systems). * Look for real examples and evidence rather than just theory. |
| **Relevant Development** | **Area 1 – DE&S Success Profile Behaviours**  See DE&S Way to Learning and Civil Service Learning options.  **Area 3 – Systems Safety Competences Development**  The Training Matrix for Systems Safety Training, relevant to safety-related assignments can be found under [S&EP Leaflet 17/2023 – Delegated Acquisition Safety Responsibilities in DE&S](https://www.asems.mod.uk/guidance/safety-and-environmental-protection-leaflets).  **Area 5 – Regulated Environment, Technical Discipline & Specialism**  See Development For Area 5: Regulated Environment. |

## Development For Stage 3: Understanding Safety Risks Through Lifecycle

|  |  |  |  |
| --- | --- | --- | --- |
| **Key** | Formal Training | Peer-to-peer | Everyday Learning |

|  |  |
| --- | --- |
| **Purpose** | To ensure the individual understands how hazards and risks evolve through the lifecycle of equipment (from concept, through acquisition, to support and finally into disposal). |
| **Core Areas** | * **Area 2 – Engineering Function Competency**: Core engineering knowledge and skills that are essential to the engineering of equipment and services. * **Area 5 – Regulated Environment, Technical Discipline & Specialism**: Understanding the specific environmental context in which an individual will be making safety decisions (e.g., Air environment for fixed wing aircraft). |
| **Guidance to Assessor** | * This stage focuses increasingly on the Regulated Environment knowledge and the application of engineering and safety to actual applications. Does the individual really know the environment and the emergent safety issues? * Do they have relevant general and cross-disciplinary knowledge of engineering, so they understand different types of risk? * Does the individual have a good knowledge of all the relevant sub-systems and the potential risks? If not, who do they go to in order to find out? * Look for real examples and evidence rather than just theory. |
| **Relevant Development** | **Area 2 – Engineering Function Competency Development**  Note: This list is not exhaustive and should support the 70:20:10 principle |
| * Engineering Functional Learning – DLE (School – DE&S) |
| * GEAR Training |
| * Academic Upskilling – See Engineering Function Training Catalogue |
| * Peer to Peer Learning and On the Job Training |
| * Mentoring and Coaching |
| * Professional Institution Continuous Professional Development – Webinars and online reading |
| * Attendance at the Professional Engineers Forum and Domain led Symposiums |
| * Attendance at events provided by the Technical Discipline Leads |
| * Additional Engineering tasks to provide experiential development |
| **Area 5 – Regulated Environment, Technical Discipline & Specialism**  See Development For Area 5: Regulated Environment |

## Development For Stage 4: Taking a Whole Systems View of Safety

|  |  |
| --- | --- |
| **Purpose** | In this stage, we are focussing in on the systemic nature of risks. Safety risks will emerge often from a combination of technical, environmental, and human factors. An individual needs to have a whole system view to appreciate this. |
| **Core Areas** | * **Area 4 – Systems Thinking and Integration**: The ability to understand the different aspects (sub-systems, environment, human factors) and how they come together to create hazards and risks. * **Area 5 – Regulated Environment, Technical Discipline & Specialism**: Understanding the specific environmental context in which an individual will be making safety decisions (e.g., Air environment for fixed wing aircraft). |
| **Guidance to Assessor** | * Does the individual have a “systems thinking” perspective and understand what this really means? * Can they articulate risks that emerge from a combination of technical, environmental, and human factors? (e.g., this system will be prone to fail in desert environment at high temperatures with frequent, high intensity action). * Look for real examples and evidence rather than just theory. |
| **Relevant Development** | **Area 4 – Systems Thinking and Integration**  A Systems Thinking Masterclass is available to be booked via e-Solutions.  **Area 5 – Regulated Environment, Technical Discipline & Specialism**  See Development For Area 5: Regulated Environment |

## Development For Area 5: Regulated Environment, Technical Discipline & Specialism

|  |  |  |  |
| --- | --- | --- | --- |
| **Key** | Formal Training | Peer-to-peer | Everyday Learning |

| **Regulated Environment** | **Development Options** |
| --- | --- |
| **Land Systems and Platforms** | Applied Systems Thinking |
| Land Power, Equipment and Capability |
| Systems Approach to Engineering |
| Failure of Structural Materials |
| Shadow a Safety and Environmental Panel for a Land System |
| Conduct a peer review of a Safety Case for a Land System |
| Familiarisation of DSA02.DLSR.LSSR |
| Familiarisation of JSP 309: Fuels and Gases Safety and Environment Regulations |
| Familiarisation of JSP 317: Safety Regulations for the Storage and Handling of Gases |
| Familiarisation of JSP 800: Defence Movement and Transport Regulations |
| Familiarisation of the system/platform, its key safety risks, and control measures. |
| **Ordnance, Munitions and Explosives** | Design for Munition Safety |
| Weapons, Ordnance, Munitions and Explosives Online Training |
| Ordnance, Munitions and Explosives Awareness Course |
| Ordnance, Munitions and Explosives Intermediate |
| Introduction to Explosives |
| Weapons Systems Performance Assessment |
| Guided Weapons |
| Guided Weapons Control Theory |
| Guided Weapons – Applications – Propulsion and Aerodynamics |
| Guided Weapons – Warheads, Explosives and Materials |
| Guided Weapons – Structures, Aeroplasticity and Power Supplies |
| Explosives Ordnance Engineering MSc |
| Guided Weapon Systems MSc |
| Shadowing an Ordnance Safety Review Panel (OSRP) |
| Conducting a peer review of a OME Safety Case |
| Familiarisation of JSP 390: Military Laser Safety-Military laser systems |
| Familiarisation of JSP 403: Handbook of Defence Land Ranges Safety- MOD ranges used for trials and live-firing training |
| Familiarisation of JSP 482: MOD Explosives Regulations |
| Familiarisation of JSP 520: Safety and Environment Management of OME over the Equipment Acquisition Cycle |
| Familiarisation of the OME system, its key safety risks, and control measures. |
| **Electrical Power and Distribution** | Electro-optic and Infrared Systems |
| Military Electronic Systems Engineering MSc |
| **Mission and Operational Systems** | Military Operational Analysis Appreciation |
| Intelligent Systems |
| **Software, Sensors, and Electronic Systems** | Electromagnetic Propagation and Devices |
| Foundations in Information Systems |
| Radar Principles |
| Software Engineering |
| Advanced Sensor Data Processing |
| **Science and Nuclear (CBRN related)** | Chemical, Biological, Radiological and Nuclear Science |
| **Maritime Platforms, Systems and Equipment** | Safety and Environmental Management Training (SEMT) |
| Maritime Environmental Management Training (MEMT) |
| Safety and Environmental Management Refresher Training (SEMRT) |
| Certification Training |
| Refer to the [Engineering Community Learning Offer (All Courses)](https://emvz.fa.em1.ukg.oraclecloud.com:443/hcmUI/faces/deeplink?objType=WLF_LEARN_LEARNING_ITEM&action=NONE&objKey=learningItemId%3D300001861222177) for Engineering and Technical Discipline specific training. |
| Shadow a Safety and Environmental Panel for a Maritime Platform/System/Equipment. |
| Conduct a peer review of a Safety Case for a Maritime Platform/System/Equipment. |
| Nominated SME oversight to ensure an appropriate level of support and provide additional assurance to the SSR/SR over the SD safety activities. |
| Time bound requirement to discuss and agree with a nominated SME all Safety Artefacts for which the SD is responsible, before signature. |
| Familiarisation of DSA02-DMR – Defence Maritime Regulations for Health, Safety and Environmental Protection. |
| Familiarisation of the Platform/System/Equipment, its key safety risks, and control measures. |
| Ship visits to develop a practical understanding of the design of warships, their general layout and systems architecture. |

1. As defined by ESR. [↑](#footnote-ref-2)
2. There is a big difference between knowing *how to* systems think and *doing* systems thinking when required. [↑](#footnote-ref-3)