|  |
| --- |
|  |
| ONR Technical Inspection Guide (TIG)  Licence Condition 10 - Training |



ONR Technical Inspection Guide

Licence Condition 10 - Training

Authored by: Nuclear Equivalence Inspector

Approved by: Principal Inspector

Professional Lead: Operational Inspection

Issue No.: 4

Publication Date: Dec-2022

Next Major Review Date: Dec-2025

Doc. Ref.: NS-INSP-GD-010

Record Ref. No.: 2022/72621

Table 1: Revision commentary

|  |  |
| --- | --- |
| Issue No. | Description of Update(s) |
| 3 | Update to explain interactions between safety and safeguards inspections under the topics covered by this licence condition. |
| 4 | Revision of content to align with NS-TAST-GD-027 revision and update to new TIG format. |

Contents

[1. Introduction 4](#_Toc121912429)

[1.1. Purpose 4](#_Toc121912430)

[1.2. Definitions 5](#_Toc121912431)

[2. Licence Condition 10 – Training 6](#_Toc121912432)

[3. Purpose of the Licence Condition 6](#_Toc121912433)

[4. Guidance on Arrangements for Licence Condition 10 7](#_Toc121912434)

[5. Guidance on Inspection of Arrangements 9](#_Toc121912435)

[5.1. General Elements 9](#_Toc121912436)

[5.2. Key Elements 9](#_Toc121912437)

[5.3. Supporting Elements 10](#_Toc121912438)

[6. Guidance on Inspection of Implementation of Arrangements 12](#_Toc121912439)

[6.1. Key Elements 12](#_Toc121912440)

[6.2. Supporting Elements 14](#_Toc121912441)

[References 16](#_Toc121912442)

[Appendix A – Safeguards 17](#_Toc121912443)

# Introduction

1. Many of the licence conditions attached to the standard nuclear site licence require, or imply, that licensees should make arrangements to comply with regulatory obligations under the conditions. ONR inspects compliance with licence conditions, and also with the arrangements made under them, to judge the suitability of the arrangements made and the adequacy of their implementation. Most of the standard licence conditions are goal setting, and do not prescribe in detail what the licensees' arrangements should contain; this is the responsibility of the dutyholder who remains responsible for safety.

## Purpose

1. To support inspectors undertaking compliance inspection, ONR produces a suite of guides to assist inspectors to make regulatory judgements and decisions in relation to the adequacy of compliance, and the safety of activities on the site.   
   This Technical Inspection Guide (TIG) has been prepared as a guide to inspections performed by ONR inspectors during which they judge the adequacy of licence condition compliance arrangements and their implementation.
2. The purpose of this guidance is to promote a consistent approach to Licence Condition 10 (LC 10) Training compliance inspection and to provide a framework for LC 10 inspection activities, within which inspectors are expected to exercise their discretion. This guide complements the TIG on LC 12 (ref. [1]), which provides guidance to ensure that only suitably qualified and experienced persons (SQEP), appointed or otherwise, perform duties which may affect the safety of operations.
3. The guidance should not be regarded as either comprehensive or mandatory. Further guidance is also available in the relevant Technical Assessment Guide (TAG) for Training and Assuring Personnel Competence (ref. [2]).
4. Inspectors may also take account of relevant requirements in The Nuclear Safeguards (EU Exit) Regulations 2019 (NSR19) and the associated ONR Guidance for Nuclear Material Accountancy, Control and Safeguards (ONMACS). For roles that have safeguards and safety functions, LC 4 roles for example, there are links with ONR Safeguards expectations. Guidance on the safeguards-relevant aspects of LC 10 is provided in the appendix of this document.

## Definitions

1. Table 2 holds a list of terms/acronyms which will aid the inspector when using the document.

Table 2: Table of definitions

| Term/Acronym | Description |
| --- | --- |
| Competence | The ability to put skills and knowledge into practice in order to perform a job in an effective and efficient manner to an established standard. |
| DAP | Duly authorised person |
| NSR19 | Nuclear Safeguards (EU Exit) Regulations 2019 |
| ONMACS | ONR Guidance for Nuclear Material Accountancy, Control and Safeguards |
| Role | A broad term encompassing a defined set of duties / tasks / functions / that are required to support an activity or set of activities delivered in the work place. |
| SAT | Systematic Approach to Training – a systematic approach that provides a logical progression from the identification of the competencies required to perform a role, to the development and implementation of training programmes to achieve those competencies, and subsequent evaluation of the training |
| SQEP | Suitably qualified and experienced person |
| TAG | Technical Assessment Guide |
| TIG | Technical Inspection Guide |

# Licence Condition 10 – Training

10(1) The Licensee shall make and implement adequate arrangements for suitable training for all those on site who have responsibility for any operations which may affect safety.

10(2) The Licensee shall submit to ONR for **approval** such part or parts of the aforesaid arrangements as ONR may **specify**.

10(3) The Licensee shall ensure that once approved no alteration or amendment is made to the approved arrangements unless ONR has **approved** such alteration or amendment.

# Purpose of the Licence Condition

1. The purpose of this Licence Condition is to ensure that all those people on the site who have responsibility for any operations which may affect safety are adequately trained for that purpose**.** It applies to all duly authorised persons (DAP) and other SQEPs required by LC 12 (ref. [1]), including those in managerial positions, contractors, and suppliers, where their duties may affect safety.
2. It should be recognised that training aids the development of competence and forms part of the competence management system (ref. [2]). As such, the training needs of individuals may vary to reflect previous experience and competencies.

# Guidance on Arrangements for Licence Condition 10

1. Inspection of a Licensee’s training arrangements should seek to provide the inspector with assurance that the training arrangements, used to produce training programmes, are suitable to support the development of competent staff who are able to reliably conduct operations which could affect safety.
2. LC 10 arrangements should identify those responsible for ensuring compliance with this Licence Condition and those responsible for managing the training function. Guidance on management of the training function can be found in the ref. [2].
3. The arrangements should ensure that the Licensee’s approach to LC 10 is systematic and effective. Current good practice for training and competence assurance is the Systematic Approach to Training (SAT) (ref. [3]).
4. The SAT approach provides a logical progression for the development of a training programme, starting by:

* identifying the competencies required for performing a role, then
* developing and implementing a training programme to achieve those competencies, and finally
* evaluating the training programme.

1. SAT incorporates a number of key elements or stages including; analysis, design, development, implementation, and evaluation of training programmes for roles which may affect safety.
2. Inspectors should be aware that Licensees can develop their own unique training arrangements. These unique arrangements should be assessed on a case-by-case basis. If a detailed inspection of a Licensee’s arrangements is required, the inspector should contact the Human and Organisational Capability specialism who will identify a suitable SQEP inspector who can provide specialist support.
3. LC10 arrangements should support the Licensee’s LC 36 arrangements for developing and maintaining its nuclear baseline. LC 36 arrangements should identify roles, at all levels in the organisation, which may affect safety. The LC 10 arrangements should then identify the competencies necessary to deliver these roles.
4. If the Licensee chooses a third-party training provider to deliver training, the Licensee’s arrangements should identify the means of monitoring the third-party training provider. The Licensee should seek assurance that the training provider is meeting the Licensee’s training requirements and confirm that the training programmes are effective in developing competence. The intelligent customer capability deployed to manage a third-party training provider should be delivered in accordance with the licensee’s LC 36 arrangements and the expectations in ref. [4].
5. Participation in formal training courses does not in itself result in achieving competence. To achieve the desired competencies, practical application of knowledge, skills gained, and the demonstration of attitudes should be sought, along with other development activities such as coaching or role sharing. Consequently, a Licensee’s competence management arrangements should ensure that training is then supported by appropriate activities to continually develop and maintain competence.
6. It is recommended that LC 10 and LC 12 compliance inspection are conducted in parallel due to the significant overlap between the two topic areas. Guidance on   
   LC 12 inspection is contained within ref. [2].

# Guidance on Inspection of Arrangements

1. This section is provided to assist inspectors in judging the adequacy of the Licensee's arrangements. It identifies general, key and supporting elements that can be used to judge compliance with LC 10.
2. The inspector should normally inspect against the general and key elements, as they are closely aligned to the wording of the licence condition, and are important regulatory expectations to the goal setting aspects of the licence condition.
3. The inspector may also choose to inspect against supporting elements to gain additional evidence with which to judge the adequacy of the arrangements.
4. Inspectors should endeavour, through a sampling approach, to review the arrangements against a suitable selection of the following elements and identify which elements have been considered as part of their reporting. This is important to facilitate the capture of regulatory intelligence and use of operational experience.

## General Elements

1. Confirm that the Licensee’s has arrangements in place for LC10.
2. Confirm that the arrangements make provision for submission for Approval to the ONR of those part or parts of the arrangements that the ONR may specify under LC10(2).
3. For those parts of the LC10 arrangements that are approved under LC10, confirm that those arrangements are in place, implemented and subject to configuration control and oversight.

## Key Elements

1. Check whether the Licensee has a training policy (or equivalent).

**Note:** The training policy should set out the licensee’s commitment to develop and maintain the competence of staff in order to achieve safety. The policy should affirm the licensee’s commitment to resource a training function and implement a training system to support staff competence development.

1. Check that the arrangements apply to all levels in the organisation, including contractor filled roles, which may affect safety.

**Note:** Contractors should be expected to undertake the training developed for the role they are fulfilling, or appropriate alternatives justified.

1. Check that the arrangements enable a systematic approach to developing a training programme for the roles which may affect safety. The arrangements should enable:
   * + Identification of roles which may affect safety (via the Licensee’s LC36 arrangements)
     + Identification of competencies required to perform a particular role (via the Licensee’s LC36 arrangements).
     + Analysis of the competence requirements to identify the training objectives, associated training needs, and training periodicities.
     + Design of the training programme e.g. initial training, role-specific training, training (including refresher training) and assessment periodicities, type of training material, programme delivery, assessment methods, etc.
     + Selection of a suitable training delivery method (e.g. classroom / on the job / brief / etc.) including assessment of the proposed role holder.
     + Preparation of training material to provide the knowledge and / or skill required so that the training objectives can be achieved, and training needs fulfilled.
     + Regular reviews of training programmes to determine their effectiveness, efficiency and impact, and to identify if revision or improvement is necessary. This should also include review of the effectiveness of knowledge transfer and application of the competencies in practice.
     + The transition of non-SAT training programmes to SAT training programmes within an appropriate timescale, and provide a justification for the use of legacy training programmes and material.
2. Determine if the LC10 arrangements are adequately integrated into organisational change arrangements (LC36) or any other relevant license condition which could change the design or safety case of plant e.g. plant modification (LC22).
3. Check that the arrangements make provisions for those who have failed training and how this may affect the role they will conduct.

**Note:** For example, if an operator has failed a particular element of training, the dutyholder should take a risk-based approach to allowing the operator to conduct their role (though further consideration should be given to operator suitability for that role if they continually fail training).

## Supporting Elements

1. The arrangements should provide for a training function that can develop and deliver training programmes.

**Note:** This capability can be delivered internally or by an external provider who is capable of meeting the Licensee’s needs for development and/or delivery.

1. Check that the arrangements enable tracking of the delivery of training, enable operators to undertake training, and identify when training has expired (in order to support refresher training).
2. Check that the arrangements enable training records to be managed in line with the Licensee’s LC6 arrangements

# Guidance on Inspection of Implementation of Arrangements

1. This section is provided to assist inspectors in judging the adequacy of the Licensee's implementation of their LC 10 arrangements. This section is neither exclusive nor exhaustive and will be subject to review and revision in light of operational experience. It identifies key and supporting elements that can be used to judge compliance with LC 10.
2. The inspector should normally inspect against the key elements, as they are closely aligned to the wording of the licence condition and are important regulatory expectations to the goal setting aspects of the licence condition.
3. The inspector may also choose to inspect against supporting elements to gain additional evidence with which to judge the adequacy of the implementation of arrangements.
4. Inspectors should endeavour, through a sampling approach, to review the implementation of the arrangements against a suitable selection of the following elements and should identify which elements have been considered as part of their reporting. This is important to facilitate the capture of regulatory intelligence and use of operating experience.

## Key Elements

1. Check that roles which may affect safety have been identified and there is a formal role profile/description in place (in accordance with the Licensee’s LC36 arrangements). Through discussion with plant operators, determine whether the role description is representative of the duties to be undertaken.
2. Check that the training programme has been produced through application of SAT or a suitable alternative. Where dutyholders are in the process of transitioning from legacy systems to SAT, Inspectors should check that the dutyholder has:
   * + Made clear within their arrangements or supporting guidance, how training programmes will be derived during the transition period.
     + Justified the use of any existing (i.e. legacy) training programmes or use of its constituent parts in the interim period.
     + Identified suitable timescales for transitioning to SAT.
3. Determine whether suitable competence analysis has been conducted of the role to identify the competence requirements to deliver that role reliably (via the Licensee’s LC36 arrangements).

**Note:** The analysis should identify knowledge (e.g., safety case, mechanical, physics, etc), skill (e.g., glovebox working, craft skill, etc), and behavioural / attitude requirements associated with all permitted operating modes. Cognitive requirements should also be identified if demanded by the task (e.g., decision making, information processing, spatial reasoning, etc.).

1. Check that a suitable training needs analysis of that role has been conducted and identifies the training that is required to meet the role competence requirements.

**Note:** This should include consideration of all permitted operating modes and all fault and accident conditions. The analysis of roles, competencies and training needs should take due account of relevant information sources e.g., safety case analyses, operating experience, event reports, investigations, information on changes to plant/facility/organisation and operational intelligence.

1. Check that there is a training programme in place for that role and determine whether the programme:
   1. Identifies appropriate learning objectives to support the development of each competence identified,
   2. Identifies, through the training needs analysis, initial and refresher training to ensure competence is maintained,
   3. Identifies (and justifies) the method of training delivery (e.g., classroom / on the job / etc.) and documents the plans and written procedures to ensure a consistent approach and quality in training delivery.
   4. Contains appropriate training material, e.g., course notes, handouts, study guides, etc., that is relevant to the training objectives and would support meeting the training objectives and the development of competence.
   5. Identifies appropriate periodicities and methods with which to assess competence (e.g., classroom test, on-the-job assessment, etc) as part of the training programme. The competence assessment should be challenging and reflective of the significance of the role.

**Note:** The inspector should seek to determine whether the training programme is suitable to train the competencies identified and is appropriate to cover the full range of safety related knowledge, skills and attitudes required for that role.

1. Check that regular reviews of the training programme are being conducted and that findings from the evaluation of the training programme are being used by the Licensee to identify if the programme is working to develop competent staff and identify improvements in the training programme or plant/facility.
2. Check that the Licensee has an appropriate mechanism for managing operators who fail their training (e.g., restriction of duties). If operators continually fail training, check that the Licensee’s has a process in place to determine the operators suitability for that role.

## Supporting Elements

1. The following points are prefaced by the element of SAT they relate to. Whilst all stages of the SAT process are important, there is often a focus on implementation, with less of a focus on the earlier analytical stages. In sampling, and across inspections, Inspectors should aim to consider each of the stages, as all are important in influencing the quality and completeness of training
2. Analysis – check that the licensee can provide a clear rationale for the adequacy of the training requirements in relation to particular roles and activities. Sample the underpinning analyses to gain confidence in their rigour and completeness.
3. Development – check that instructors have relevant experience on the topic they are teaching and are suitably qualified and experienced to deliver training.
4. Development – sample a number of risk important activities and check that key safety knowledge is included in the related training.
5. Implementation – check whether supervisors and managers are able to:
   * + readily identify the training requirements for particular roles and activities, and,
     + swiftly and easily confirm that individuals are competent (and “in-date” of training) to deliver that role and activity.

**Note:** This could be demonstrated through a real time interrogation of the Licensee’s or contractors competence management system (or equivalent) to determine if the individual has met the role competence requirements. This is important to facilitate effective deployment and ‘setting to work’.

1. Implementation - check that individuals are successfully completing the training identified for their role. Confirm that those individuals are still within date of their training to conduct their role.
2. Implementation - following review of the role’s training material, request operators to explain their understanding of the role and key safety knowledge. The inspector should consider walking down the plant with the operator for a demonstration of application of training knowledge and skills.
3. Implementation - check that training programme objectives are being met and that operational requirements are not causing significant delays in achieving training programme objectives.
4. Evaluation - sit in on a session of training (e.g. classroom / on-the-job / etc.) and make a judgement on the overall effectiveness of the content and presentation of the training and the reaction of the trainees to the training.
5. Determine whether the training function is appropriately resourced to deliver the training programme and its objectives. Check whether programmes are developed and implemented in a timely way, and whether there are any backlogs in relation to training delivery.

# References

|  |  |
| --- | --- |
| [1] | ONR, “NS-INSP-GD-012 - LC12 Duly authorised and other suitably qualified and experienced person”. |
| [2] | ONR, “NS-TAST-GD-027 - Training and Assuring Personnel Competence”. |
| [3] | IAEA, “Technical Report Series 380 - Nuclear Power Plant Personnel Training and its Evaluation: A Guidebook”. |
| [4] | ONR, “NS-TAST-GD-049 - Licensee Use of Contractors and Intelligent Customer Capability”. |
| [5] | ONR, “ONR Nuclear Material Accountancy Control & Safeguards (ONMACS)”. |

# Appendix A – Safeguards

1. Many of the expectations for LC 10 arrangements in this guidance are applicable to compliance with NSR19 and expectations within ONMACS (ref. [5]). NSR19 does not contain explicit requirements regarding training of safeguards staff, only that defined roles and responsibilities be assigned and communicated. Expectations for training of safeguards staff are found in ONMACS Fundamental Safeguards Expectation (FSE) 3, “Competence Management”. For safeguards purposes the term SQEP is used for personnel with roles that have direct operational responsibility for nuclear material in a facility.
2. Safeguards training expectations can only be considered relevant to LC 10 where the role affects both safeguards and safety. For this reason, the inspectors should carefully consider the scope of any joint inspection that focuses on both LC 10 and training for safeguards roles. Inspectors should also note the definition of “qualifying nuclear material” (QNM), for safeguards. QNM is defined in the Nuclear Safeguards Act 2018 and Nuclear Safeguards (Fissionable Material and Relevant International Agreements) (EU Exit) Regulations 2019 as natural uranium, depleted uranium, uranium enriched to less than 20%, uranium enriched to 20% or above, thorium and plutonium. Where a joint inspection is appropriate the inspectors should consider the key synergies between the Material Accountancy and Control Expectations (MACEs) 3.1-3.4 and this document, as listed below:
   * + MACE 3.1 – Role identification and training needs analysis is expected for both safety and safeguards, MACE 3.1 defines these expectations from a safeguard’s perspective. It is in alignment with some of the Key Elements of this TIG concerning the task-analysis of roles.
     + MACE 3.2 – Following task-analysis in MACE 3.1, the operator is expected to define learning objectives which inform the development of a set of training needs. These objectives are then used to derive the criteria, or standards, against which the trainee is assessed during and/or after training (refer to MACE 3.3 for assessment). For dual purpose roles some of learning objectives may be the same across both functions and so this part of ONMACS ties in well with some of the Key Elements in this document.
     + MACE 3.3 – Measurement of competence follows from the identification of training needs and learning objectives. Operators are expected to be able to demonstrate that the learning objectives for safeguards roles have been met.
     + MACE 3.4 – This section of ONMACS concerns organisational support of the training function. For roles which impact both safety and safeguards, the same training function is likely relevant to both purposes. Elements of this function that might impact both safety and safeguards include:

* Management of the function
* Commitment in policy to maintaining required competence levels
* Ensuring the function is adequately resourced
* Active identification of training needs
* Training records

1. Inspectors may also wish to consider the links between FSE 3 and the LC 12 TIG which are listed in a similar appendix in ref. [1].