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| ONR Technical Inspection Guide (TIG)  LC 26 – Control and supervision of operations |



ONR Technical Inspection Guide (TIG)

LC 26 – Control and supervision of operations

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| Issue | Description of update(s) |
| 6.1 | Minor update to update format of document and extend review date by 3 months to allow time for major update. |
| 6.2 | Minor Update - Review of content, no fundamental changes to the basis of the guidance, however there has been a focus on the regulatory language and flow of the document to better support inspectors application. |

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# Introduction

1. Technical Inspection Guides (TIG) support inspectors undertaking compliance inspections to make regulatory judgements in relation to the adequacy of compliance and in providing regulatory advice on specific Licence Conditions (LCs) to licensees.
2. The purpose of this guidance is to facilitate a consistent approach to Licence Condition (LC) 26 - Control and Supervision of Operations**.**
3. The guidance should not be regarded as exhaustive or mandatory, but provides a clear framework for inspectors to judge the suitability of the licensee's arrangements and the adequacy of their implementation, whilst ensuring that the licensee has sufficient Suitably Qualified and Experienced Persons (SQEP) to undertake in-house work, oversee contractors, and manage safety-related activities.
4. The outcomes of LC 26 inspections typically focus on verifying compliance with the following requirements:

* Ensuring that work planning and delivery processes are well-defined and effectively implemented.
* Confirming that personnel understand their roles in controlling and supervising operations.
* Observing operations to ensure that safety protocols are followed and that tasks are coordinated effectively.

1. This guidance should be read in conjunction with the ONR procedure on Risk-Informed and Targeted Engagements (RITE) [1], which sets out how ONR expects inspectors to target regulatory engagements in a risk-informed manner. It supports inspectors in deciding what to engage Dutyholders on, based on their judgement of risk prior to and during regulatory engagements

# LC 26 – Control and supervision of operations

1. The LC states ‘The licensee shall ensure that no operations are carried out which may affect safety except under the control and supervision of suitably qualified and experienced persons appointed for that purpose by the licensee.’

# Purpose of LC 26

1. The regulatory outcome being sought by this LC is to ensure that the licensee maintains responsibility for, and control over, the day-to day activities on its site which may impact on nuclear safety. This is a fundamental aspect for nuclear operations undertaken by the licensee. This LC links specifically to other LC’s as follows:
   1. Operations are as defined in LC1 ‘“*operations” includes maintenance, examination, testing and operation of the plant and the treatment, processing, keeping, storing, accumulating or carriage of any radioactive material or radioactive waste and “operating” and “operational” shall be construed accordingly*’
   2. LC 23 – Operating Rules (3) which states ‘*The licensee shall ensure that operations are at all times controlled and carried out in compliance with such operating rules. Where the person appointed by the licensee for the purposes of Condition 26 identifies any matter indicating that the safety of any operation or the safe condition of any plant may be affected that person shall bring that matter to the attention of the licensee forthwith who shall take appropriate action and ensure that the matter is then notified, recorded, investigated and reported in accordance with arrangements made under Condition 7*.’
   3. The SQEP required to control and supervise all such operations will be identified and appointed. For the control and supervision of operations in appropriate cases (generally those that are most safety significant), Duly Authorised Persons may be appointed under condition 12(2).

# Guidance on the Arrangements for LC 26

1. LC 26 does not formally require the licensee to make and implement adequate arrangements as some other LC’s do. To effectively comply with this LC the licensee will have established arrangements, process or procedures which provides them with assurance that this LC is met.
2. How the licensee ensures that operations which may affect safety are carried out under the control and supervision of suitably qualified and experienced persons appointed for that purpose by them, is for them to define in their arrangements, which you will need to clarify as part of the inspection.
3. The licensee’s arrangements for LC26 will cascade down into site level arrangements. To demonstrate that the licensee is in day-to-day control of work activities being carried out on the licensed site and can supervise them effectively, the licensee should ensure that it has within its own organisation:

* Sufficient SQEPs to undertake its own in-house work and to oversee and direct as necessary its delivery recognising the hazards, safety requirements, and risks associated with the undertaking and ensuring there is suitable time to complete these activities.
* Sufficient SQEPs to manage and supervise the work undertaken by contractors on site subject to the same recognition.
* Sufficient Intelligent Customer and design authority capability to define all work specifications and to review and accept back the work delivered. The specifications should include the definition of appropriate standards and the duties incumbent upon the contractor in carrying out any on-site work.
* Systems in place to enable it to check and monitor that any other body carrying out control and supervision activities both on and off site (off-site includes supply/manufacture/design etc.), is carrying out those activities in line with either the licensee’s arrangements and standards, or with arrangements and standards deemed by the licensee to be compatible and equivalent.
* Contractors (including sub-contractors) working on site should be using SQEPs and the licensee should satisfy themselves through their own SQEPs that the contractor’s arrangements for demonstrating ‘SQEPness’ of the contract staff align with their own).
* Sufficient SQEP capability for preparing (or managing preparation of) working level documentation and for establishing work controls appropriate to the safety significance of the activities being undertaken, and for monitoring /reviewing /authorising the implementation of these work instructions and controls.
* Systems of checks and balances to provide the means of reporting back and addressing as appropriate any non-compliances.

1. The licensee’s arrangements further cascade down into local arrangements /procedures that address control and supervision at the workface for the range of activities that are undertaken on its site.
2. A licensee’s operational activities can be split into a number of areas which will usually be subject to different arrangements, procedures and controls integrated within the organisation’s management system:

* Project work/new build/design
* Routine operational work
* Maintenance and test work (routine and reactive)
* Plant modification/improvement work
* Waste management work
* Decommissioning and dismantling work

1. It is suggested that unless the inspection is a ‘deep dive’ into LC26, only one or two of these areas be sampled for each inspection.
2. Derived from international guidance[2][3][4], the inspection scope could consider whether there are arrangements in place related to:

* Assessment of risks and classification of safety significance of the sampled activities and with a corresponding graded approach to their control and supervision.
* Clarity on the nuclear baseline of the roles and responsibilities for staff controlling and supervising the activities; and licensee associated training and experience expectations for those roles.
* Sufficiency of baseline roles to support the required control and supervision.
* Arrangements and standards for contract staff undertaking the activities.
* Arrangements and standards for tenants on the site undertaking the activities.
* Work planning and co-ordination arrangements.
* Work instruction/documentation preparation.
* Work authorisation arrangements.
* Work controls, instructions and handovers conducted at the workplace.
* Plant configuration management and communication/visibility of its status.
* Intelligent customer and design authority capability within the licensee.

1. International guidance related to control and supervision in the IAEA Safety Standards. Safety Guide NS-G-2.14 [2] covers Conduct of Operations at Nuclear Power Plants (NPPs). This focuses on the Operations and the shift nature of those operations. It includes guidance with respect to work handovers, shift logs, and plant configuration aide memoirs for pre-job briefings, work control procedures, and handovers that are relevant to wider application than NPPs.
2. International guidance for Management Systems (GSR Part 2 2013) [3] and the Guidance for Safety Fundamentals and Safety Requirements [4], address the organisation’s management system and support its aim which is ‘to improve the safety performance of the organisation through the planning, control, and supervision of safety related activities in normal, transient, and emergency situations’.

# Guidance on the inspection of arrangements and their implementation

1. A licensee may have in place a comprehensive suite of documentation representing arrangements for complying with LC26, the greater test of the adequacy of its provisions for control and supervision will lie in the implementation of these arrangements.
2. It is therefore important to sample not only the scope and adequacy of the arrangements, but also how these arrangements are being directly applied in practice at the work place, ensuring discussions are held with various levels of management involved and also with the workforce physically undertaking the tasks at the workplace.
3. The elements that should be examined in any inspection on LC26 have been drawn out from licensees’ relevant good practice, information from previous inspections and existing guidance, and include:

* Whether suitable and sufficient persons are appointed to control and supervise operations which may affect safety, commensurate with the nuclear safety risks and significance of the tasks being undertaken.
* Whether the SQEP capability of operators exercising direct control over the work has been established.
* Adequacy of demonstration of SQEP capability of team leaders/supervisors for the work.
* Adequacy of arrangements for the preparation of instructions for the work/task and determination of safety significance of the task and associated equipment should be considered.
* Whether a work planning system has been implemented and activities integrated within it.
* Effectiveness of authorisation systems which can be applied by individuals or groups within the work planning system.
* Adequacy of any learning factors affecting the successful and safe execution of the work pack, and briefing the workers on these factors.
* Content and conduct of briefing on the work pack.
* Adequacy of arrangements for release of plant to workers, clarifying and confirming plant configuration, including tagging/isolations/safety measures/permits/lockouts etc., and confirming understanding of the nuclear safety significance of the work and associated equipment.
* Confirmation that safety related information is available at the workface
* Confirmation that front line supervision is effectively implemented at the workface and is commensurate with the nuclear safety risks and significance of the tasks being undertaken
* Confirmation there are clear return to service arrangements, including details on plant configuration and any issues relating to plant status. Ensure adequate debrief is undertaken and learning is captured from the task.
* Adequacy of arrangements for effective management of contractors/leaseholders where appropriate.
* Confirmation that there is effective management of interfaces and communications between work teams during progression of the work.

1. Appendix 1 provides further guidance on pre-job briefs and their content.
2. Appendix 2 provides further regulatory background and information taken from HSE and ONR guidance. Definitions are also provided on the meaning of control, supervision, operations and what appointed means in the context of LC26.
3. Conclusion - LC26 provides a comprehensive framework for ensuring that operations affecting safety are controlled and supervised by suitably qualified and experienced persons. It emphasises the importance of maintaining the licensee's responsibility for day-to-day control and supervision of activities on its site, ensuring effective management of contractors, and establishing systems for monitoring and reporting non-compliances.

# Reference

* 1. Risk-informed and targeted engagements (RITE) ONR-RD-POL-002
  2. IAEA Safety Guide NS-G-2.14 ‘Conduct of Operations’
  3. IAEA Safety Requirements GSR Part 2 2013 ‘Leadership and Management for Safety’
  4. IAEA Safety Guide GS-G-3.1 ‘Application of the Management System’
  5. HSE/ONR Operational Experience: Advice Note 02/13 CM9 2013/421376

# Appendix 1 – Pre-job briefings guide

The following guidance is based around NS-G-2.14 [2] and licensee good practices

**Briefing type**

The planner for the work should determine whether a formal (written) pre-job brief or a verbal brief is required for the work. It would be expected that a formal pre-job brief would be prepared for work involving significant co-ordination between work groups, complex, hazardous, or infrequent work, or safety significant work.

**Formal (written) briefs**

If a formal brief is required, this should be based on a documented discussion with relevant stakeholders the recorded outcome of which should then accompany the work pack. (Stakeholders would typically include the Subject Matter Expert, Contractors, Health Physics personnel, Control room or equivalent personnel, and the work team conducting the task).

There should be a procedure for the carrying out of these pre-job briefing discussions by the person organising the work. This should identify where formal written briefs would be expected and the need for them to accompany the work pack. The procedure should also identify who is required to attend the meetings, how the meeting should be conducted, and what content should be covered.

**Checklist for content of a formal pre-job brief discussion and record.**

Identification of:

* The purpose and scope of the work and expectations.
* Applicable procedures, instructions, drawings and other information.
* Key aspects of the risk assessment/potential hazards associated with the work.
* Protective measures in place with respect to the hazards.
* Protective measures which are unavailable.
* Any relevant standards or behaviours that need to be applied.
* Nuclear safety aspects of the work including any relevant limits and conditions.
* Conventional safety issues.
* Any relevant dose control issues.
* Communication between other members of the work team and the supervisor.
* Interfaces with other work teams in the area of the work-front.
* Approximate time needed to perform the work.
* Possible disrupting factors, plant movements and operations that might impact the work.
* Contingency actions.
* Plant status changes to avoid.
* Factors to be monitored.
* Any feedback/learning from experience relevant to the work

**Informal (verbal) briefs**

Where the work is not complex or is of limited safety significance a less formal briefing might be appropriate. The supervisor/team leader should nevertheless still prepare for the brief by assuring a full understanding of the information in the work pack, the relevant risks and hazards, and the protective measures against them. The brief should typically enable the supervisor/team leader to address the key areas suggested in the following bullet points:

* What experience does the team have of this work?
* What are the critical steps in carrying out the work?
* What mistakes could be made in undertaking the work?
* What is the worst thing that could happen and how would the team deal with it if it happened?
* Are there any Human Factors considerations the team could apply to minimise risk of errors?

**Conduct of the team pre-job briefing**

Whether they are formal or informal, pre-job briefings should be used by the supervisor/team leader receiving the work packs from the planner, at the start of each work period and for all operations other than daily, routine activities.

The briefing should where possible be carried out in a quiet location with minimal distractions as near to the task start time as possible. In some cases, it may best be undertaken at the location of the task or may involve a walk down of the task workplace.

The briefing should be interactive with the team and should cover an outline of the task and expectations before engaging in a more detailed briefing. This briefing should utilise the formal documented brief derived from the above checklist or the informal brief based on the verbal brief bullet points.

Three way communications should be encouraged during briefings, open questions should be used to check understanding of the tasks being undertaken and to confirm that individuals have fully understood the brief.

The end of the briefing should include a recap and opportunity for questions from the team.

# Appendix 2 – Definitions, context and regulatory framework

Oxford Dictionary definitions:

* **To control:** To have power over; to limit or regulate
* **To supervise:** To watch and direct the performance of a task or the work of a person
* **Operation:** An organised action involving a number of people
* **Appointed:** Assigned a job or role to someone

There are a wide range of LC’s other than LC26 which include control and supervision aspects in particular LC3 Property Transactions, LC9 Instructions to Persons on Site, LC10 Training, LC12 Duly Authorised (DAPs) and other Suitably Qualified and Experienced Persons (SQEPs), LC17 Management Systems, LC19-22 Control of Construction, Modification and Commissioning, LC23 Operating Rules, LC24 Operating Instructions, LC27 Safety Mechanisms, LC28 Examination, Inspection, Maintenance and Testing (EIMT), and LC36 Organisational Capability.

HSE/ONR guidance promulgated in 2013[5] identifies control as being largely procedural whilst supervision is largely behavioural.

Control is about ensuring that everything is carried out in conformity with the relevant plans, standards, instructions, etc., and involves the application of appropriately proportional constraints in the form of both procedural and physical measures.

Supervision is about oversight and guidance as necessary, and is largely concerned with managerial advice, communication, monitoring and influence, steering those carrying out the activities to perform in accordance with expected responsibilities and behaviours.

‘Appointed’ in the context of control and supervision of operations means that persons should be identified through individual role profiles commensurate with the safety significance of the tasks being undertaken. Where there is a control and supervision requirement, roles should be identified through the nuclear base line and persons identified for these roles should be demonstrated as SQEP.

Some examples of formally appointed roles include;

* Duly Authorised Persons who are appointed in writing under LC12.
* Members of the nuclear safety committee who are appointed under LC13.
* Appointed persons to carry out conformity assessment procedures as identified in Pressure Systems Safety Regulations (PSSR) 2000.
* Principal Designer, Designer, Principal Contractor and Contractor as identified in the Construction (Design and Management) Regulations 2015 (CDM).

The licensee may choose to formally appoint other persons for certain activities which may not be a requirement under LC’s; the number of persons appointed should be proportionate so as not to degrade the importance of key safety significant roles.

Construction Design and Management (CDM) requires that formal appointments are made in writing by the Client for the Principal Designer and Principal Contractor. This can be individuals or more commonly organisations. Where this is the case, they will still retain a responsibility under LC26 to oversee and control the overall construction work being undertaken.

**Regulatory Framework**

Whilst LC26 does not specifically require the licensee to make and implement adequate arrangements for compliance, this LC does have strong links and interfaces with other LC’s which do and can be used to demonstrate compliance.. In addition, the licensee may reference other supporting arrangements under other regulatory requirements such as Management of Health and Safety at Work (MHSW), Lifting Operations and Lifting Equipment Regulations (LOLER), Construction Design and Management (CDM), Pressure Systems Safety Regulations (PSSR) etc. The duties and liabilities placed upon the licensee through the Nuclear Installations Act 1965 (NIA65) require that the licensee is a corporate body which must secure the absence of injury to any person from occurrences involving nuclear matter on its site.

The Licensee also has a duty under section 4 of NIA65 (as a relevant statutory provision of the Energy Act 2013), not to contravene any condition attached to its licence. To discharge these duties the licensee must be in day-to day control of the licensed site, and needs to have arrangements in place both to secure this control and to achieve compliance with the related licence condition.

The site licensee organisation is normally the corporate body which will operate the installation. Section 4(6) of the NIA65 provides that in the event of any contravention of any condition attached to a nuclear site licence, the licensee and any person having duties upon the site by whom the contravention was committed shall be guilty of an offence. Hence, even if the contravention is committed by a tenant or contractor, the licensee is also guilty. The licensee should, therefore, be in a position to exercise effective day-to-day control over all activities on the site whether undertaken by its own people, by contractors or by tenants.

The requirement to be in day-to-day control of the site is further derived from the duty placed on the licensee by Section 7 of the NIA65 to secure that no occurrences involving nuclear matter cause injury to any person or damage to property, and by Section 12 of NIA65 for liability to pay compensation for any such injury or damage caused by breach of that duty. Licensees cannot legally pass these duties or liabilities on to others and hence must be able to demonstrate that they are in control of the activities on the licensed site.

Where the licensee body is owned by a parent company, that parent company may set the strategic direction of its subsidiary body and maintain oversight of its business planning and performance monitoring, but may not usurp the licensee’s authority over the day-to day operations of the prescribed installations. The licensee must have authority to control those operations including autonomy to shut down, stop operations or take other appropriate action in the interests of safety without recourse to the parent company. It must also have access to sufficient funds to support its safety obligations with respect to its day-to-day activities.

Where the licensee leases its site or part of it, it is required to make and implement adequate arrangements to control all property transactions affecting the site to ensure that the licensee remains in overall control of the site.

In all circumstances, the licensee must supply the controlling mind and specify and drive the activities undertaken on its site to ensure that they are done to the appropriate standards and in line with its arrangements put in place to comply with the conditions of its licence. The licence is granted when the corporate body has demonstrated (inter alia) that it has adequate management structures, capability and resources to discharge the obligations associated with holding a site licence.

Through the licence conditions, ONR requires that the licensee is fully in control of activities on its site, understands the nuclear safety implications of its activities and how to control them, and is an intelligent customer for any work it commissions externally. The conditions require suitably qualified and experienced staff to undertake all activities that could affect safety on the site and the licensee must ensure that this requirement is implemented throughout its own organisation and also through its supply chain.

Under LC17, ONR requires a licensee to demonstrate the adequacy of its arrangements for managing safety through its safety management systems (usually documented through a Safety Management Prospectus), and show how the management controls are appropriate and sufficient.

A nuclear baseline, under LC36, is also expected as part of the licensee’s safety management system to demonstrate that it has suitable and sufficient organisational structures staffing and competences in place to effectively and reliably carry out those activities which could impact on nuclear safety.

The licensee must have sufficient knowledge of the plant design and safety case for all plant and operations on the site to ensure that it is in control of the activities on its site, understands the hazards associated with the activities and how to control them, and will be an intelligent customer for any external work it commissions.

To ensure on-going control of the design of the plant throughout its life, there needs to be a formally appointed design authority.