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| ONR Technical Inspection Guide (TIG)  LC2: Marking of the site boundary |



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LC2: Marking of the site boundary

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Revision commentary

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| Issue | Description of update(s) |
| 1 | Routine review resulting in minor formatting and additional information relevant to defence and decommissioning sites. |
| 2 | Updated review period. |
| 3 | Minor update, format update, addition of new references and RITE guidance. |

# Introduction

1. Many conditions attached to the standard nuclear site licence require licensees to make arrangements to comply with regulatory obligations. ONR inspects compliance with these conditions and the arrangements made under them to judge their suitability and adequacy. Most standard licence conditions are goal-setting, leaving the responsibility for safety arrangements to the duty-holder. To support inspectors, ONR provides a suite of guides to assist in making regulatory judgements and decisions regarding compliance and safety on the site.
2. The purpose of this guidance is to facilitate a consistent approach to Licence Condition 2 (LC2) Marking of the Site Boundary compliance inspections and to provide outcomes and a framework for LC2 inspection activities, within which inspectors are expected to exercise their discretion.
3. LC2, requires that nuclear site licensees properly define and mark the boundaries of the licensed nuclear site. The key outcome of an inspection of LC2 is to ensure that the site boundary is clearly identified, controlled, adequately maintained, prevents unauthorised entry and protects the public and workers from danger.
4. This guidance should be read in conjunction with the ONR procedure on Risk-informed and targeted engagements (RITE), 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.

## LC2: Marking the Site Boundary

(1) The licensee shall make and implement adequate arrangements to prevent unauthorised persons from entering the site or, if so directed by the ONR, from entering such part or parts thereof as the ONR may specify.

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

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

(4) The licensee shall mark the boundaries of the site by fences or other appropriate means and any such fences or other means used for this purpose shall be properly maintained.

(5) The licensee shall, if so directed by the ONR, erect appropriate fences on the site in such positions as the ONR may specify and shall ensure that all such fences are properly maintained.

## Purpose and Outcomes of LC2 Inspections

1. **Legal Compliance**:

* Verify that the licensee has properly defined the licensed nuclear site boundary. Confirm that site plan records the data required for reproducing the physical location of the boundary and this is identical to the map supplied by the licensee during licensing.
* For compliance with LC2 the boundaries of a licensed nuclear site are to be clearly marked to prevent unauthorised entry and protect the public from danger. This includes using fences and warning notices to indicate the boundary, allowing the licensee to control access and apply different conditions for different classes of people, such as the public and worker
* Compliance will also be linked to the requirements of LC 8, 9,16 and 28. Particular attention should be paid to frequency of signage and visibility of boundary markers, such that it remains clear at all times whether someone is on or off the licensed site. The latter is particularly important at locations where the boundary of the licence site is not coincident with the means of preventing unauthorised persons from entering the site.
* In cases where the fence and boundary are not coincident, confirm the boundary is delineated with appropriate notices to alert people as to where they are in relation to the licensed site. An example is where a shoreline is part of the licensed site or part of a carpark is on the licensed site, but is outside the fence.
* Inspect the maintenance records LC2 (4) and confirm that they accord with the arrangements and that any corrective actions raised have been addressed appropriately.

1. **Adequate Arrangements LC2 (1) / Documentation**:

* Assess whether the site plan and boundary records are accurate, up to date, and aligned with legal requirements.
* Examine the site plan showing the location of the boundary and confirm that this is the extant copy submitted to, and retained by, ONR (LC16(1) and LC16(3)). Ensure that any changes to the site boundary have been properly documented and communicated.
* To prevent inadvertent entry to site, the arrangements should require that the boundaries of the site are marked by fences (or other appropriate means) and include procedural controls, as well as physical barriers.
* Arrangements should define requirements for maintenance LC2 (4) of the boundary fences, or other means by which the boundary is marked including the maintenance of gates, turnstiles and access routes.

1. **Access Control**:

* Verify that the site boundary supports measures preventing unauthorised access or interference.
* Ensure that access control features (e.g., fencing, barriers, and signage) are adequate and well-maintained.
* Confirm that site boundary markings help control access and reduce the risk of unauthorised personnel entering hazardous areas.
* Ensure that boundaries clearly delineate areas where radiological or other hazards exist.
* In cases where the fence and boundary are not coincident, the boundary should be delineated with appropriate notices to alert both the public and employees/workers as to where they are in relation to the licensed site. Note, whilst the inspection against LC 2 will look at the adequacy of the marking of the site boundary and the arrangements to prevent unauthorised persons from inadvertently entering the site this will not be a security inspection and will focus on preventing inadvertent access.
* Review the procedural controls implemented by the site and confirm with those responsible for delivering these controls that they have an appropriate understanding of the arrangements and have been provided with appropriate training.
* Review a sample of different classes of persons on site, visitors, staff, contractors etc. and confirm that site arrangements have been appropriately implemented to confirm who is on the site and who has left the site and that they permit the licensee to account for all persons on the site at any time.

1. **Defence Sites**: Defence sites will often be conducting licensable activities, regulated by ONR, within the nuclear licensed site boundary, in addition to Ministry of Defence authorised activities, within the defence authorised site boundary where the Licensed/authorised sites are coincident.
2. At sites where the licensed/authorised sites are not coincident, it should be confirmed that the boundary is delineated by appropriate means to alert people as to where they are in relation to the licensed and authorised sites.
3. **Nuclear New Build – Construction Activities:** During the early stages of construction where there is no nuclear hazard on the licensed site, ONR recognises there may be practical difficulties in marking the nuclear site boundary during major construction works. For example, the licensee and its contractors will need to work freely across the boundary between the licensed site and the wider construction site.
4. In these circumstances the site inspector, in consultation with ONR’s licensing specialist, may consider an application for excluding LC2(4) from the site licence subject to the following:

* Using the map submitted with their revised site licence application letter, the prospective licensee should record boundary information (including GPS data) under their LC16 arrangements.
* The licensee should use this data to temporarily mark the boundary using appropriately spaced physical markers. This will demonstrate their ability to reproduce the boundary. The site inspector should walk the boundary and check it against submitted plans.
* The licensee should post plans showing the nuclear licensed site boundary at appropriate locations on the development site e.g. entrances.
* An agreement regarding reinstatement of the boundary markings should be sought from the potential licensee to coincide with an appropriate construction milestone (generally defined as pouring of the first safety related concrete).
* As this key milestone approaches, boundary markings should be reinstated and verified by the site inspector prior to grant of the licence variation.

1. **Decommissioning Sites**: ONR regulates decommissioning sites until the point at which licensees can demonstrate there is no danger from ionising radiation and the licence is revoked or they are granted a no-danger notice (as required by the Nuclear Installation Act 1965). Licensees often elect to release parts of the site in a phased approach, provided they are able to demonstrate to ONR’s satisfaction that there is no danger from ionising radiation from the part of the site they wish to delicence. It is common at decommissioning sites, that land within the security fence has been de-licenced, in a process of licence revocation and re-licensing.
2. The site inspector should confirm that the boundary is delineated with appropriate notices to alert people as to where they are in relation to the licensed site against the version of the map supplied by the licensee and agreed by ONR during the re-licencing process. Current guidance on re-licensing can be found on ONR’s web site.
3. **Conclusion.** Inspecting LC2 Marking the Site Boundary, is crucial for ensuring that licensed nuclear sites have clearly defined and controlled boundaries to maintain safety of the employees/workers and the public. The inspection ensures compliance with legal requirements, minimises risks of unauthorised access and provides assurance to the public and stakeholders about the site's safety management.

# References:

1. [ONR-RD-POL-002 - Risk-Informed and Targeted Engagements (RITE) Policy](https://www.onr.org.uk/publications/regulatory-reports/regulatory-policy/onr-rd-pol-002-risk-informed-and-targeted-engagements-rite-policy/)
2. [Licence Condition 8 - Warning Notices](https://prodonrgov-my.sharepoint.com/personal/jonathan_evans_onr_gov_uk/Documents/Devonport/AWE/Operational%20Inspection/Documentation/NS-INSP-GD-002%20-%20LC%202%20Marking%20the%20Site%20Boundary.docx)
3. [Licence Condition 9 Instructions to Persons on Site](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.onr.org.uk%2Fmedia%2Fkq1m0obz%2Fns-insp-gd-009-lc-9-instructions-to-persons-on-site-1.docx&wdOrigin=BROWSELINK)
4. [LC 16 Site Plans, Designs and Specifications](https://www.onr.org.uk/media/x3lnk3pa/ns-insp-gd-016.pdf)
5. [LC 28 – Examination, Inspection, Maintenance and Testing (EMIT)](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.onr.org.uk%2Fmedia%2Ff0yaceif%2Fns-insp-gd-028.docx&wdOrigin=BROWSELINK)
6. [Nuclear site licensing | Office for Nuclear Regulation](https://www.onr.org.uk/our-work/how-we-regulate/nuclear-site-licensing/)

# Glossary

| Term/Acronym | Description |
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| LC | Licence Condition |
| ONR | Office for Nuclear Regulation |
| TIG | Technical Inspection Guide |