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| ONR Technical Inspection Guide (TIG)  LC 5 – Consignment of nuclear matter |



ONR Technical Inspection Guide

LC 5 – Consignment of nuclear matter

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| 5.1 | Updated into new TIG format and review date extended from Feb-2022 to Feb-2023. |
| 5.2 | Updated into new accessible format. Improved clarity of Appendix A regarding key definitions. |
| 5.3 | Clarification added for definition of “excepted matter.” |

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# 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. It is to be used by ONR inspectors when judging the licensees’ compliance with the requirements of Licence Condition (LC) 5, Consignment of nuclear matter.
2. This guidance provides a framework for these inspection activities, within which the inspector is expected to exercise their discretion. This framework is provided to facilitate a consistent approach to LC 5 compliance inspection at all nuclear licensed sites.

## Scope and Applicability

1. The guidance is for use by all ONR inspectors. The guidance does not indicate when or to what extent LC 5 inspections should be carried out, as these matters are covered in individual inspectors’ inspection programmes.
2. 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). The main caveat for application to safeguards is that safeguards only apply to qualifying nuclear material, (as defined in the Nuclear Safeguards Act 2018), rather than nuclear matter. Guidance on the safeguards-relevant aspects of LC 5 is provided in Appendix B, which is aimed at ONR inspectors conducting cross-purpose [or integrated] interventions. The guidance provided is split into three main elements:
   1. Purpose of the Licence Condition
   2. Guidance on arrangements for LC 5
   3. Guidance on inspection of arrangements for LC 5 and their implementation

## Definitions

1. An important aspect of LC 5 is a good understanding of the terms "nuclear matter", "relevant site", "excepted matter", and "radioactive waste". Appendix A and Section 6 (‘Further Reading’) provide additional detail on the meaning of these terms.
2. There is no statutory definition of “consign” within the Nuclear Installations Act 1965 (NIA 65), and as such the meaning of “consign” should be taken to be the ordinary common sense meaning of the word, i.e., to deliver or transmit goods for sale or custody.

# Licence Condition 5: Consignment of nuclear matter

5(1) The licensee shall not consign nuclear matter (other than excepted matter and radioactive waste) to any place in the United Kingdom other than a relevant site except with the consent of ONR.

5(2) The licensee shall keep a record of all nuclear matter (including excepted matter and radioactive waste) consigned from the site and such record shall contain particulars of the amount, type and form of such nuclear matter, the manner in which it was packed, the name and address of the person to whom it was consigned and the date when it left the site.

5(3) The licensee shall ensure that the aforesaid record is preserved for 30 years from the date of dispatch or such other period as ONR may approve except in the case of any consignment or part thereof subsequently stolen, lost, jettisoned or abandoned, in which case the record shall be preserved for a period of 50 years from the date of such theft, loss, jettisoning or abandoning.

# Purpose of the Licence Condition

1. LC 5 is a condition attached to all nuclear site licences. Licensees are required to comply with the licence condition. How this compliance is achieved is for the licensees to decide. However, ONR must judge the adequacy of this compliance. It carries out this function by compliance inspection.
2. The purpose of LC 5 is to require that the licensee follows certain requirements with regard to consigning nuclear matter from the licensed nuclear site. Firstly, to ensure that the transfer of nuclear matter, other than excepted matter and radioactive waste, to sites in the UK other than relevant sites is carried out only with the consent of ONR. Secondly, that records are kept of all nuclear matter, including excepted matter and radioactive waste, consigned from the site. The records should be kept for a minimum of 30 years to comply with condition 5(3) except for the case of theft, loss, etc. in which case retention for 50 years is required.
3. LC5 (1) allows “excepted matter” and “radioactive waste” to be consigned to any place in the United Kingdom without the consent of ONR. The exclusion of “excepted matter” and “radioactive waste” from LC 5(1) removes an onerous task for what are low hazard materials with limited radiological consequence.
4. For example, the exclusion of “excepted matter” from LC5(1) allows many isotopes to be consigned to hospitals without requiring the consent of ONR. In the case of radioactive waste, the majority of this is consigned for the purpose of processing and/or disposal. Waste processing facilities which typically handle low levels of radioactivity (for example incinerators), or disposal facilities may not meet the prescribed activities defined in NIA 65 and the Nuclear Installations Regulations 1971 and are therefore unlikely to hold a nuclear site licence. As such, the majority of radioactive waste consignments are to non-relevant sites (although there may still be safeguards requirements for nuclear material accountancy reporting and/or agreement with ONR on whether safeguards can be terminated). In this case there is alternative legislation in place, which requires prior authorisation from the relevant environment agency in the form of an environmental permit or authorisation for the transfer of radioactive waste. Without these exceptions in LC 5(1) for excepted matter and radioactive waste, all such consignments would require consent from ONR regardless of where they are sent which is disproportionate to the hazard potential from such consignments.
5. The Nuclear Installations Regulations 1971 prescribe activities which cannot be undertaken unless a nuclear site licence is in place; the activities include nuclear fuel element manufacture, the processing of enriched uranium or plutonium, the storage of fuel elements, irradiated nuclear fuel, and bulk quantities of any radioactive matter, etc. However, assay or metallographic investigation of enriched uranium or plutonium compounds was excluded from the list of prescribed activities, meaning these activities do require a nuclear site licence. Such compounds are not excepted matter and probably not classified as radioactive waste. Hence, if a licensee wishes to send such material to a nonrelevant site, a university for example, for assay, then a consent under LC 5(1) will be required from ONR.
6. This shows that with the exception of those transfers which are explicitly stated to be outside the scope of LC 5(1), (“excepted matter”, “radioactive waste” and transfers to “relevant sites “), the requirements of LC 5 apply to all transfers of nuclear matter from a licensed site, to places other than a relevant site, irrespective of whether some or all of that matter will subsequently be returned to that site.

## Defence material

1. LC 5 consents are not granted for Crown owned nuclear matter, including, but not limited to, nuclear submarine fuel where the refuelling activities are undertaken on licensed sites. In these instances, the Defence Nuclear Safety Regulator (DNSR) is the regulating body.

## Radioactive waste that is out of scope of Radioactive Substances Regulation

1. The Environmental Permitting (England and Wales) Regulations (EPR 2016) and the Environmental Authorisations (Scotland) Regulations 2018 (EASR 2018) are collectively referred to as the radioactive substances regulations (RSR). There is now a revised definition for radioactive waste within RSR which excludes some waste as being “out of scope” on the basis that the radiological exposure from these substances is too small to warrant the regulatory control normally required for radioactive waste. Similarly, RSR also make provision for some radioactive wastes, which contain very low levels of activity, to be “exempt” from permitting.
2. Wastes which are “out of scope” are not defined as “radioactive waste” in RSR, but they still meet the definition of “nuclear matter” as defined within NIA 65. These changes in the environmental legislation result in a requirement on ONR to provide consent for the consignment of these “out of scope” wastes to a non-relevant site since the “radioactive waste” exclusion no longer applies.
3. However, ONR considers this to be disproportionate and as such will not issue a consent under LC 5(1) for waste which meets the definition of “out of scope” in Part 6 of Schedule 23 of EPR 2016 and Part 1, Schedule 8 of EASR 2018. This anomaly will be articulated within the next iteration of the ONR Licence Conditions.

## Guidance on processing a request for Consent under LC 5(1)

1. Requests for consent under 5(1) should be supported by sufficient justification for consignment. The inspector should create a new permissioning record within WIReD for the LC 5 Consent. During permissioning the inspector should:
   1. Check that the site receiving the nuclear matter does not require licensing and whether a permit under section 2 of NIA65 is required.
   2. Contact the relevant ONR operational inspector (Transport SQEP), to obtain advice on the safe transport of the nuclear matter and to provide opportunity to ensure that the appropriate regulations for road, sea, rail or air transport of radioactive material are complied with.
   3. Contact the relevant ONR security inspector to ensure that the movement has the necessary approvals under the Nuclear Industries Security Regulations 2003 (NISR 2003).
   4. Contact the relevant HSE inspector responsible for inspecting the place to which the nuclear matter is being sent to provide opportunity to confirm that any required radioactive notifications and assessments are made.
   5. Contact the relevant site regulator for the Environment Agency, Scottish Environment Protection Agency or Natural Resources Wales as appropriate, to confirm that the receiving site has the necessary permits and authorisations in place under EPR2016 or EASR2018, as appropriate.
   6. Contact the relevant ONR safeguards inspector to ensure that the movement meets the requirements under the Nuclear Safeguards (EU Exit) Regulations 2019 (NSR19).

# Guidance on Arrangements for Licence Condition 5

1. LC 5 does not formally require the licensee to make and implement adequate arrangements. However suitable written procedures should be produced to enable compliance with this condition to be visible. These procedures should ensure that a consent is sought from ONR before nuclear matter is sent to non-relevant sites in the UK as required by condition 5(1).
2. The procedures should be readily available and should be up to date, signed by an appropriate senior manager and controlled under a system compliant with the requirements of LC 17 – Management systems. Modifications to such procedures should be conducted in line with the licensee’s LC 22 arrangements (‘Modifications or Experiment on Existing Plant’).
3. The licensee should include in the procedure the following definitions;

* Relevant Site;
* Nuclear Matter;
* Excepted Matter;
* Radioactive Waste; and
* Radioactive Material.

1. The procedures should ensure that nuclear matter, other than excepted matter and radioactive waste, is only consigned to a relevant site and prevent the consigning of nuclear matter to any other site except with the consent of ONR. Person(s) responsible for complying with this requirement should be identified.
2. The procedures should ensure that when nuclear matter, including excepted matter and radioactive waste is consigned from site, records are made of the amount, type and form of such nuclear matter, details of packaging, the name and address of the consignee and the date it left the licensee's site.
3. The procedures should ensure that records made under LC 5(2) align with the arrangements for compliance with LC 25 (‘Operational Records’) and should be kept for a period of 30 years from the date of consignment unless:

* The consignment, or part thereof, has been lost, stolen, jettisoned or abandoned, in which case a period of 50 years applies or,
* A different record retention period is approved by ONR.

1. The procedures should identify the person(s) responsible for seeking the consent of ONR if nuclear matter is to be consigned to any location other than a relevant site.
2. The procedures should identify the person(s) responsible for complying with any approval of record retention period made by ONR, and should identify the system whereby constraints, caveats or conditions imposed by ONR are implemented.

# Guidance on Inspection of Arrangements and their Implementation

1. The following list is neither exclusive nor exhaustive and will be subject to review and revision in light of operational experience. It does, however, provide a list of aspects of LC 5 that can be examined during routine inspections.
2. Check that procedures have been made to demonstrate compliance with the LC.
3. Examine the documentation layout and check that it is consistent. Review the procedures to establish validity, whether any changes have been made since the last review and whether the identified responsible persons are correct. Note whether instructions, methods and quality assurance requirements claimed in procedures have been followed and whether any changes that have been made have been correctly incorporated and validated. The inspector should check that any review/updating of the licensee’s procedures has included consideration of relevant Learning from Experience (LFE).
4. Check that the procedures contain suitable and sufficient definitions as per paragraph 22. Note that nuclear site licences issued in England, Wales and Scotland refer to the permitting regulations in force at the time of their issue. The definitions should cross-refer to the relevant legislation and the procedures should provide a clear interpretation on the meaning of the definitions.
5. Examine procedures concerning consignment and check that they identify that nuclear matter, other than excepted matter and radioactive waste, can only be consigned to a relevant site. Otherwise, the procedures should identify that a consent is required from ONR prior to consignment.
6. Examine procedures concerning consignment and check that the procedures adequately detail the requirement to keep a record of all nuclear matter (including excepted matter and radioactive waste) consigned from the site. The record should contain particulars of the amount, type and form of such nuclear matter, the manner in which it was packed, the name and address of the person to whom it was consigned and the date when it left the site.
7. The LC 5 arrangements should link to the licensee’s arrangements for protecting its records and for ensuring their long-term durability made under LC 6 (and LC 25).
8. The inspector should ascertain the roles, responsibilities, authorities and accountabilities of relevant licensee staff with respect to the consignment of nuclear matter. The inspector should check how the licensee ensures that its processes for; receipt, dispatch and transport of consigned materials are safe, secure and undertaken by Suitably Qualified and Experienced Persons (SQEP). This should include a check by the licensee prior to consignment that the consignor at the receiving site has confirmed that it can receive the consignment and that it has suitable and sufficient SQEP staff to receive it.
9. The following paragraphs provide a list of aspects of LC 5 that can be examined during routine inspections to check the licensee is implementing its own arrangements. The list is neither exclusive nor exhaustive and will be subject to review and revision in light of operational experience.
10. Examine a number of nuclear matter consignment records to check whether any consignments have been made that involve the requirements of LC 5(1). If so, check against LC 5(1) with respect to an application for a consent; check that there are legitimate reasons for the transfer of nuclear matter and that the site receiving the nuclear matter does not need to be licensed under NIA 65. Check whether or not a permit is required under section 2 of NIA 65 and, if so required that it has been granted. It may be useful to review safeguards accountancy data in identifying LC 5(1) consignments (for consignments of safeguarded material). This information is available from the ONR Safeguards Accountancy and Reporting function separately to the inspection.
11. Check a sample of records held in the site's documentation or record centre and establish that they satisfy LC 5(2) and LC 5(3) in respect of storage records. Confirm that they contain suitable signatures and are dated as required.
12. With respect to any consignment of nuclear matter or any part thereof which has been lost, stolen, jettisoned or abandoned, check the records to ensure that this is recorded appropriately. Such records should be allocated a storage period of 50 years from the date of any such occurrence.
13. Discuss with the responsible person identified in the compliance procedures the requirements of this licence condition and confirm that suitable control is being exercised. Identify whether there are any constraints, caveats or conditions imposed by the licensee or ONR and confirm that they are being duly complied with and that records show this to be the case.
14. The licensee should identify any LFE and review its procedures accordingly.
15. Roles and responsibilities for the consignment of all nuclear matter should be clearly defined. For Crown owned nuclear matter, procedures should clearly articulate the interface between both the licensee and authorisee.
16. The licensee should be able to demonstrate adequate training and/or refresher training for infrequent operations, in line with LC 10 (‘Training’).

# Further Reading

1. Department of Business, Energy and Industry Strategy, Guidance Document, “Scope and Exemptions from the Radioactive Substances Legislation in England, Wales and Northern Ireland”, August 2018.

# Appendix A – Definitions

1. Throughout this appendix, the relevant legislation is referred to as follows:

* The Nuclear Installations Act 1965 is referred to as NIA 65.
* The Nuclear Installations (Excepted Matter) Regulations 2017 are referred to as NIEMR 2017
* The Environmental Permitting (England and Wales) Regulations 2016 are referred to as EPR 2016.
* The Environmental Authorisations (Scotland) Regulations 2018 are referred to as EASR 2018.
* The Radioactive Substances Act 1993 is referred to as RSA 93.
* The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 are referred to as CDG 2009.
* The Nuclear Safeguards (EU Exit) Regulations 2019.

1. The interpretation of whether a substance or article is “nuclear matter”, “radioactive waste” or “radioactive material” for the purposes of licence condition compliance can be complex and where necessary inspectors should seek advice from the Nuclear Liabilities Regulation specialism.

# Nuclear Matter

1. The meaning of nuclear matter is defined in section 26(1) of NIA 65 as:

subject to any exceptions which may be prescribed-

a) any fissile material in the form of uranium metal, alloy or chemical compound (including natural uranium), or of plutonium metal, alloy or chemical compound, and any other fissile material which may be prescribed; and

b) any radioactive material produced in or made radioactive by exposure to the radiation incidental to, the process of producing or utilising any such fissile material as aforesaid.

1. The bounds of “radioactive material”, within the NIA 65 section 26 (b) “nuclear matter” definition, is broader than the definition of “radioactive material” provided by EPR 2016 and can be looked upon as meaning any material on the nuclear licenced site that has been made radioactive intentionally, or otherwise. Legal advice provided to ONR’s predecessor organisation confirmed that the “radioactive material” referred to under NIA 65 section 26 (b) cannot equal that as provided under the environmental legislation as it would exclude radioactive waste from the scope of NIA 65. Hence, “nuclear matter” includes both “radioactive material” and “radioactive waste”.
2. Practical examples of materials which are defined “nuclear matter” are dependent upon the activities being undertaken on the nuclear licenced site. The list provided below has been generically compiled and may not be applicable to all nuclear licenced sites. The list is not exhaustive but should be used to inform inspectors on the scope of materials which can be considered during inspection of LC 5. Inspectors should still target their efforts of the greatest hazards or those least well controlled.
3. NIA 65 section 26(1) a)

* New fuel (in any uranium or plutonium chemical composition or form)
* Spent fuel (in any uranium or plutonium chemical composition or form)
* Natural uranic materials

1. NIA 65 section 26(1) b)

* Radioacitve material (as defined in LC 1)
* Depleted (uranium tails) and low enriched uranium of any form, including depleted uranium containers for the storage of radioactive sources.
* Radioactive waste (as defined in LC 1)
* Exempt waste (as defined in EPR 2016), including laboratory samples
* Excepted matter (as defined in NIEMR 2017) which includes radioactive isotopes.

1. It is noted that the requirements of NIA 65 do not apply to Naturally Occurring Radioactive Materials (NORM), e.g., trace quantities of natural uranium in building materials, since NORM does not meet the requirements of nuclear matter as defined under NIA 65 section 26.

# Radioactive Material

1. Paragraph 9 (Contaminated substances or articles) of Schedule 23 to EPR 2016 excludes from the definition of “radioactive material” any substance or article which is contaminated but was not “contaminated with the intention of utilising its radioactive, fissile or fertile properties”, bar for the contamination “would not otherwise be radioactive material”, and “while the substance or article is kept on the premises on which the contamination occurred”.
2. Furthermore, if ONR to apply the definition of “radioactive material” from EPR 16 at sites in England and Wales, then this exclusion would remove such contaminated articles and substances from the scope of relevant licence conditions, thus limiting ONR’s regulatory power. ONR has therefore chosen to dis-apply paragraph 9, which is reflected in LC 1 for sites in England and Wales.
3. There is no equivalent exclusion under EASR 2018 meaning the definition used by ONR for sites in Scotland is equivalent to that applied by the Scottish Environment Protection Agency under EASR 2018.
4. The exception to this is that whilst Naturally Occurring Radioactive Material (NORM) is considered radioactive material subject to the definitions in EPR 2016 and EASR 2018, it is does not meet the definition of “nuclear matter” as discussed above and is hence outside of the scope of ONR’s regulatory vires under NIA 65.
5. Note that in the context of transport, the term “radioactive material” is defined in the IAEA 2018 Regulations as “material containing radionuclides where both the activity concentration and the total activity in the consignment exceed the values specified”. As such, under CDG 2009, “radioactive material” includes “radioactive waste”. However, this should have no bearing on licence condition compliance.

# Radioactive Waste

1. LC 1: Interpretation states that ‘“radioactive waste” has the meaning assigned thereto in:

* In England and Wales – Paragraph 3 of part 2 of Schedule 23 to the Environmental Permitting (England and Wales) Regulations 2016 (EPR 2016),
* In Scotland – section 1A of the Radioactive Substances Act 1993 (RSA 93). However, following revocation of RSA 93 in Scotland and the coming into force of EASR 2018, radioactive waste in Scotland is defined under paragraph 5 of Part 1 of Schedule 8 to EASR 2018.
* Note – Nuclear site licences issued in England and Wales prior to EPR 2016 coming into force, and those issued in Scotland prior to EASR 2018 coming in to force, refer to the previous radioactive substances legislation but these references should be interpretted as referring to the extant legislation in force, unless otherwise noted in relevant ONR guidance.

1. “Radioactive waste”, for the purposes of LC 5 is identical to the interpretation found under LC 1 (noting the legacy reference to RSA 93). It is substances and articles, as interpreted under EPR 2016 or EASR 2018, that satisfy the form, activity and “waste” criteria found in the relevant legislation, i.e., that it is scrap, surplus, requires to be disposed of, is discharged, discarded or dealt with as if it were waste.

# Excepted Matter

1. “Excepted matter” is a sub-category of “nuclear matter”. When “excepted matter” is present on a licensed site it should be treated in regard to regulatory control in the same manner as all other forms of “nuclear matter”. It is only when the “nuclear matter” has left the site that the term “excepted matter” takes on its special meaning. In broad terms, “excepted matter” is nuclear matter which, because of its nature, its preparation, or the small quantity, cannot give rise to the exceptional hazards for which NIA 65 provides. Hence, it falls outside of the liability regime established by NIA 65.
2. “Excepted matter” is defined in section 26(1) of NIA 65 and NIEMR 2017, as follows:
3. Section 26(1) of NIA 65 states that “excepted matter” means nuclear matter consisting only of one or more of the following, that is to say:
   1. isotopes prepared for use for industrial, commercial, agricultural, [medical scientific][[1]](#footnote-2) or educational purposes;
   2. natural uranium;
   3. any uranium of which isotope 235 forms not more than 0.72 per cent;
   4. nuclear matter of such other description, if any, in such circumstances as may be prescribed.
4. The isotopes referred to in Item (a) are in a form where they have completed the production process, are fully fabricated and ready for use. Item (c) includes depleted and low enriched uranic material.
5. Item (d) has been used to implement NIEMR 2017. To satisfy the definitions of “excepted matter” stated in these regulations, nuclear matter must meet the requirements of either regulation 3(2) or regulation 3(3).
6. Regulation 3(2) of NIEMR 2017 defines nuclear matter as “excepted matter” when the substance consists substantially of uranium in which:

* The total activity content per gram of that substance of all radioisotopes, other than any uranium isotopes which are normally present in natural uranium or any daughter products of such uranium isotopes.
* Does not exceed 3.3 kilobecquerels for all alpha emitting isotopes.
* Does not exceed 0.74 megabecquerels for all beta or gamma emitting isotopes; and,
* The mass of any isotope of uranium-235 does not exceed 1% of the total mass of all the uranium isotopes present.

1. Regulation 3(3) of NIEMR 2017 identifies that “excepted matter” is nuclear matter (excluding waste discharged or consigned from a relevant site) that has been consigned from a relevant site and at the time when it left that site:

* Is packed and labelled in accordance with the IAEA 2012 edition of the Regulations for the Safe Transport of Radioactive Material and
* Meets the fissile limits described in paragraph 417(a) to 417(f) in the IAEA 2012 regulations
* Meets the limits prescribed in regulation 4 of NIEMR 2017.

1. Note that LC 1 (Interpretation) definition of “excepted matter” refers to the Nuclear Installations (Excepted Matter) Regulations 1978, which have been revoked and superseded by the 2017 regulations. The LC 1 definition will be updated at the next LC review.

# Relevant Site

1. LC 1: Interpretation states that “relevant site” has the meaning assigned thereto in NIA 65. section 26 (1) of NIA 65 states: “a “relevant site” means any of the following, that is to say -
   1. a licensed site at any time during the period of the licensee’s responsibility;
   2. any premises at any time when they are occupied by the Authority;
   3. any site at any time when it is occupied by a government department, if that site is being or has been used by that department as mentioned in section 9 of the Act;
   4. any site in a relevant territory other than the United Kingdom at any time when that site is being used for the operation of a relevant installation by a relevant foreign operator.
2. The meaning of item a) above needs no further explanation. Item b) above is no longer of such significance since four of the UKAEA sites involved in nuclear activities are now licensed sites and hence covered by item a) above. The UKAEA site at Culham is not licensed and hence is a relevant site under item b) above. Item c) refers to section 9 of the Act; in the context of this guidance, it means the site to which the transfer is being made would be a licensed site if the 1965 Act applied to the Crown. Item d) does not apply since the LC only applies to Great Britain.

# Appendix B – Safeguards

1. Many of the expectations for LC 5 arrangements in this guidance are applicable to compliance with NSR19 and expectations within ONR Nuclear Material Accountancy, Control, and Safeguards Assessment Principles ([ONMACS](https://www.onr.org.uk/operational/other/onr-cnss-man-001.pdf)). Most of the commonality centres on the records made, competence of staff, and adequacy of procedures concerning the consignment of qualifying nuclear material (QNM). Inspectors should note the different definitions of “nuclear matter” above, and “qualifying nuclear material”. 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.
2. For LC 5 and consignment of QNM, the key links with NSR19 and ONMACS are regulations 6 (including Schedule 2(12)), 10, 21, 22, 23 & 25 of NSR19, and Fundamental Safeguards Expectations (FSEs) 3 & 7 and Material Accountancy and Control Expectations (MACEs) 8.3 & 9.1 of ONMACS.
3. There are a number of inspection activities carried out by ONR Safeguards that may provide opportunity for joint inspection in which assurance against both LC 5 and NSR19 can be gained, if scoped correctly. Please refer to the [ONR Safeguards Technical Inspection Guide](https://www.onr.org.uk/operational/tech_insp_guides/sg-insp-gd-001.pdf) (SG-INSP-GD-001) for further guidance on ONR Safeguards inspection activities. For instance, safeguards compliance inspections focussing on Accountancy and Control Plans (ACPs), and nuclear material accountancy may assess an operator’s receipt and shipment procedures (NSR19, Schedule 2(12)).
4. Specific paragraphs in the main body of this TIG that are relevant to safeguards include:
5. Paragraph 24 – Safeguards inspectors should note the requirements of regulation 10 and Schedule 2(6) & (12) of NSR19. Records of transfers of nuclear material are considered operating records for safeguards under regulation 10. Operator shipment and receipt procedures, Schedule 2(12), should check the quantity and characteristics of QNM entering or leaving the qualifying nuclear facility (QNF), so that the movement of QNM can be documented and tracked, Schedule 2(6). ONR Safeguards expectations relevant here are FSE 7 and MACEs 8.3 and 9.1. FSE 7 expects operators’ systems for accountancy and control to be capable of tracking all QNM within a QNF at all times. MACE 8.3 describes expectations for appropriate management of safeguards records, and MACE 9.1 describes expectations for shipment and receipt procedures for QNM from a safeguard’s perspective.
6. Paragraph 25 – The record retention period for LC 5 exceeds the 5-year retention required under regulation 6 of NSR19.
7. Paragraph 33 – Similar parallels can be drawn here as for above.
8. Paragraph 35 – The identification of LC 5 roles and appointment of SQEP staff to these roles is of relevance to safeguards expectations in FSE 3 of ONMACS and to the requirement of Schedule 2 (2) of NSR19. The inspector should check whether operators are managing the competence of these staff in line with the expectations of MACEs 3.1-3.4. There is further guidance on FSE 3 for safeguards within annexes of the LCs 10 and 12 TIGs.
9. Paragraph 34 – ONR Safeguards expectations for the management of safeguards records are provided in MACE 8.3. As stated, the preservation time under LC 5 (and LC 6) exceeds that for safeguards. Evidence that an operator is adequately preserving and managing LC5/Safeguards records in line with LC 6 expectations may provide assurance regarding MACE 8.3 expectations for safeguards.
10. Paragraph 37 – Reviewing consignment records, which are operating records from a safeguard’s perspective (regulation 10), is in alignment with the general scope of ONR Safeguards accountancy-focused compliance inspections. The Safety inspector may be able to utilise the outcomes of any relevant accountancy inspections for regulatory intelligence regarding LC 5.
11. Paragraph 38 – Similarly to above, checking authorising signatures and correct dating of records is a potential activity of ONR Safeguards accountancy-focussed compliance inspections.
12. Paragraphs 42 and 43 – LC 5 roles are likely to have safeguards relevance, the Safeguards inspector may gain assurances here, as part of an LC 5 inspection, of compliance with the requirements of NSR19 Schedule 2(2) and expectations of FSE 3 of ONMACS.

1. The Energy Act 1983 amended the NIA65 section 26 definition of ’excepted matter’ by replacing “or scientific” with “scientific or educational” to add ‘educational’ to the list of purposes under paragraph a) of the definition to be consistent with the definition of "radioactive products or waste" in Article 1(a)(iv) of the Paris convention. However, the amendment omitted to a comma between ‘scientific’ and ‘medical’, inadvertently creating a new purpose of ‘medical scientific’. Legal advice has been sought on this change and we have been advised that the omission of a comma between ‘medical’ and ‘scientific’ is clearly a drafting error and that we should proceed on the assumption that the previously separate purposes ‘medical’ and ‘scientific’ remain separate. [↑](#footnote-ref-2)