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| ONR Guidance Document  Incident Notification Guidance for Nuclear Safeguards Incidents |



ONR Guidance Document

Incident Notification Guidance for Nuclear Safeguards Incidents

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Table 1: Revision commentary

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| 1 | New document. |
| 1.1 | Review date extended |
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# Purpose and Scope

## Purpose

This document gives Nuclear Safeguards operators guidance to promote consistent and transparent incidents notification. This will allow these operators to implement ONR’s incident notification process within their management systems or equivalent arrangements.

This guidance supports Nuclear Safeguards operators’ compliance with Nuclear Safeguards (EU Exit) Regulations 2019 (Ref. [1]) and the UK’s compliance with the IAEA Voluntary Offer Safeguards Agreement (VOA) (Ref. [2]). It provides greater depth of ONR’s expectations of the threshold and criteria for notifying an incident.

## Scope

This guidance supports the UK’s compliance with UK/IAEA VOA obligations for special reports and reports of unusual occurrences. The UK has enacted a legal duty to meet these reporting obligations in the Nuclear Safeguards (EU Exit) Regulations 2019.

This guidance applies to safeguards operators as defined in the Nuclear Safeguards (EU Exit) Regulations 2019. It will support the operators’ compliance with these regulations.

The ONR incident categories within the scope of this guidance are those with a Nuclear Safeguards category, as defined in ONR’s incident notification process (Ref. [3]).

## Roles and Responsibilities

Safeguards Operators are responsible for compliance with the Nuclear Safeguards (EU Exit) Regulations 2019. Compliance with this guidance will support their compliance with these regulations.

ONR is responsible for providing guidance to safeguards operators on understanding and implementation of this guidance within their arrangements.

## Definitions

Table 3: Table of Definitions

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| Term/Acronym | Description |
| FUR | Follow-up Report |
| ID | Inventory Difference |
| SRD | Shipper Receiver Difference |
| VOA | Voluntary Offer Safeguards Agreement (Ref. [2]) |

# Guidance for Nuclear Safeguards Operators to implement Safeguards Incident Categories

ONR intends this guidance to apply consistently to all Nuclear Safeguards Operators.   
The criteria are not technology or facility specific. The guidance uses general terminology that is closely aligned to international agreements. This will allow operators to use their existing Nuclear Safeguards compliance arrangements to implement these incident notification categories.

ONR’s notification criteria for Nuclear Safeguards incidents are defined in the notification process document (Ref. [3]). These criteria are the primary definition of incidents. They are repeated in **Appendix A** of this guidance, with commentary to assist safeguards operators. This commentary covers:

* Origin of the Categories;
* Discussion of the types of incidents that ONR intends this category to include; and,
* Interpretation of terminology in the categories and guidance for operators to implement the categories within their arrangements.

Additional guidance on Media Interest Incident Category is provided in **Appendix B**.

To assist smaller operators, this guidance includes illustrative examples, although these examples may not be relevant to all operators. Operators may choose to include examples in their implementation arrangements that are relevant to their technologies and facilities.

# References

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| [1] | HM Government, “The Nuclear Safeguards (EU Exit) Regulations 2019,” [Online]. Available: https://www.legislation.gov.uk/uksi/2019/196/contents/made. |
| [2] | IAEA, “INFCIRC/951/Add.1 - Protocol additional to the Agreement between the UK of GB and NI and the IAEA for the Application of Safeguards in the UK of GB and NI in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons,” 2021. [Online]. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/754614/MS\_12.2018\_VOA\_Protocol.pdf. |
| [3] | ONR, “ONR-RIO-PROC-002 - Process for Notifying Incidents to ONR”. |

# Appendix A - Nuclear Safeguards Incident Categories

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| SG01a – An event affecting IAEA safeguards arrangements:   1. IAEA Safeguards personnel’s Health and Safety   OR   1. IAEA Safeguards personnel’s access to a location is denied or restricted in contravention of international agreements.   OR   1. IAEA safeguards seals on equipment or plant are deliberately detached by non-IAEA staff, lost or showing signs of deliberate tampering, or evidence of tampering with IAEA equipment. |
| **Timing**  Immediate  **Origin of Category** |
| INFCIRC/951 - UK/IAEA Voluntary Offer Safeguards Agreement (VOA) (Article 43, 73 and 74)  Safeguards MRC (a), (b) & (e) |
| **Discussion** |
| This category is for dutyholders to notify ONR of instances where IAEA safeguards arrangements are challenged. This will allow ONR to inform the IAEA safeguards team without delay.  Dutyholders should use this category for:   * IAEA Safeguards’ personnel conventional health and safety injuries, unexpected radiological exposure/dose and any other accidents that have a negative impact on the individual’s health and safety. * IAEA Safeguards’ personnel have not complied with the dutyholders’ health and safety provisions and policies. * Any circumstance where IAEA Safeguards’ personnel are not given access to a location in contravention of Article 74 of INFCIRC/951 or any other international agreements. * Any evidence of deliberate interference with IAEA safeguards equipment.   **Illustrative examples**   * An IAEA safeguards representative is injured during an inspection at the Operator facility.   Cont’d.   * An IAEA safeguards representative receives an unexpected high radiation dose from radioactive material. * An IAEA safeguards representative breaches site safety-related requirements. * An IAEA safeguards representative is not granted security permission to inspect a location. * An IAEA safeguards representative is denied access to a site. * Dutyholders discover that IAEA safeguards seals have been removed without IAEA agreement. |

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| SG01b – A safeguards incident that meets any of the following criteria:   1. A discrepancy involving 1 significant quantity or more of qualifying nuclear material resulting from material unaccounted for (MUF), or shipper-receiver differences (SRD). 2. Failure to locate a discrete ‘item’ containing qualifying nuclear material as it is reported in the operator’s nuclear material accountancy system. |
| **Timing**  Immediate  **Origin of Category** |
| Nuclear Safeguards (EU Exit) Regulations 2019 (Regulation 17)  INFCIRC/951 - UK/IAEA Voluntary Offer Safeguards Agreement (VOA) (Article 66(a))  Note: This reporting category aligns with but does not replace the need for a special report under Article 66(a) of the VOA and in compliance with Nuclear Safeguards (EU Exit) Regulations 2019 (Regulation 17).  Safeguards MRC (c) & (d) |
| **Discussion** |
| This category is for dutyholders to notify ONR of instances of incidents that are a significant challenge to the UK’s International safeguards obligations. This will allow ONR to inform the IAEA safeguards team and UK government without delay.  **Illustrative examples**   * A Shipper Receiver Difference (SRD) or an Inventory Difference (ID) that exceeds one significant quantity; * An operator cannot locate an item when performing a physical inventory take (PIT) which is declared within the nuclear material accounts. |

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| SG02 - It is suspected that there has been, or might be, an unexpected loss or gain of qualifying nuclear material |
| **Timing**  Day  **Origin of Category** |
| Nuclear Safeguards (EU Exit) Regulations 2019 (Regulation 17)  INFCIRC/951 - UK/IAEA Voluntary Offer Safeguards Agreement (VOA) (Article 66(a))  Note: This reporting category aligns with but does not replace the need for a special report under Article 66(a) of the VOA and in compliance with Nuclear Safeguards (EU Exit) Regulations 2019 (Regulation 17). |
| **Discussion** |
| To ensure that ONR Safeguards, and the IAEA safeguards inspectorate are informed without delay of unexpected changes in the inventory of nuclear material subject to safeguards.  Events matching this category may also match Radiological Safety categories RS13 or RS14.  Dutyholders should assess whether an incident in this category meets the threshold for SG01b.  **Illustrative examples**   * Failure to locate a discrete ‘item’ containing qualifying nuclear material as it is reported in the Operators’ nuclear material accountancy system; * Shipper Receiver Difference or Inventory Difference figures that do not meet operator justified levels of acceptability; * ‘Finds’ of qualifying nuclear material that are considered to be unexpected. Such as, not currently reported within the operators’ nuclear material accountancy system. |

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| SG03 - Information that qualifying nuclear material shipped by, or to the operator has been or may have been lost or considerably delayed during transfer. |
| **Timing**  Day  **Origin of Category** |
| Nuclear Safeguards (EU Exit) Regulations 2019 (Regulation 23)  INFCIRC/951 - UK/IAEA Voluntary Offer Safeguards Agreement (VOA) (Article 89)  Note: This reporting category aligns with but does not replace the need for a special report under Article 89(c) of the VOA and in compliance with Nuclear Safeguards (EU Exit) Regulations 2019 (Regulation 23). |
| **Discussion** |
| To ensure that ONR Safeguards, and the IAEA safeguards inspectorate are informed without delay of loss or unexpected delay in the shipment of qualifying nuclear material to or from the facility. Events matching this category are likely also to match the Radiological Safety category RS13 and the Transport category TS02.  Dutyholders should assess whether an incident in this category meets the threshold for SG01b.  **Illustrative examples**   * Checks on receipt of a shipment show damage to material containers or their sealing and/or otherwise do not confirm shipper’s data (e.g. item count, weight etc.); * Qualifying nuclear material which has been subject to pre-shipment safeguards verification are delayed in transit. |

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| SG04 - An unexpected change in plant/material containment to the extent that qualifying nuclear material could have been removed or transferred without being subject to agreed safeguards verification. |
| **Timing**  Day  **Origin of Category** |
| Nuclear Safeguards (EU Exit) Regulations 2019 (Regulation 17)  INFCIRC/951 - UK/IAEA Voluntary Offer Safeguards Agreement (VOA) (Article 66)  Note: This reporting category aligns with but does not replace the need for a special report under Article 66 of the VOA and in compliance with Nuclear Safeguards (EU Exit) Regulations 2019 (Regulation 17). |
| **Discussion** |
| To ensure that ONR Safeguards and the IAEA safeguards inspectorate are informed without delay of compromise to qualifying nuclear material containment which may affect its nuclear material accountancy, control and safeguards coverage and verification.  Dutyholders should assess whether an incident in this category meets the threshold for SG01b.  **Illustrative examples**   * Leakage of qualifying nuclear material; * Breakage of IAEA seals without prior agreement; * Evidence of tampering with IAEA seals or equipment. * Known failures relating to key IAEA safeguards equipment (e.g. obstruction of surveillance cameras, power cuts leading to loss of surveillance or data capture, failure of lighting associated with surveillance). |

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| SG05 - Other changes from those specified in Basic Technical Characteristics (BTC) declarations or in an Accountancy and Control Plan (ACP) without notification to ONR Safeguards within timescales set out in Nuclear Safeguards (EU Exit) Regulations 2019 and that are assessed as sufficiently significant to risk compromising compliance with safeguards obligations. |
| **Timing**  Week  **Origin of Category** |
| Nuclear Safeguards (EU Exit) Regulations 2019 (Regulations 3, 8)  INFCIRC/951 - UK/IAEA Voluntary Offer Safeguards Agreement (VOA) (Article 44) |
| **Discussion** |
| The ONR should be notified of changes, in accordance with timescales set out in the Nuclear Safeguards (EU Exit) Regulations 2019, to the facility design or processes that may affect safeguards verification arrangements or qualifying nuclear material accountancy and control arrangements. This reporting category is to ensure that ONR Safeguards, and the IAEA safeguards inspectorate are notified of situations where the required information has not been provided and where failure is assessed as sufficiently significant to risk compromising compliance with safeguards obligations.  **Illustrative examples**   * Unreported plant modifications which include new processes for handling qualifying nuclear material within a facility, or new routes for shipping material to or from the facility. * A departure from the agreed recording and reporting system for qualifying nuclear material e.g. installation of a new nuclear material accountancy system which is not reflected in the BTC and/or ACP. * Failure of a nuclear material accountancy system. |

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| SG06 - Statutory nuclear material accounting reports not being issued or at risk of not being issued to timescales required under the Nuclear Safeguards (EU Exit) Regulations 2019. |
| **Timing**  Day  **Origin of Category** |
| Nuclear Safeguards (EU Exit) Regulations 2019 (Regulations 13-16, 21, 22) |
| **Discussion** |
| To ensure that ONR Safeguards and the IAEA safeguards inspectorate (via ONR) are given explicit information about delays or prospective delays in the provision of statutory safeguards reports.  **Illustrative examples**   * Failure to provide inventory change reports (ICRs), physical inventory listings (PILs) and material balance reports (MBRs) to timescales required by Nuclear Safeguards (EU Exit) Regulations 2019. * Failure to generate or supply special reports to the ONR as required by Nuclear Safeguards (EU Exit) Regulations 2019. * Failure to provide advanced notification of imports/exports to timescales required by Nuclear Safeguards (EU Exit) Regulations 2019. * The earliest possible moment when an operator expects that ICRs, PILs and/or MBRs will not be provided to timescales required by Nuclear Safeguards (EU Exit) Regulations 2019. |

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| SG07 - Failure to provide or shortcomings in the required inspection documentation, access for material verification or other problems of safeguards inspection implementation that are assessed as sufficiently significant to risk compromising compliance with safeguards obligations. |
| **Timing**  Day  **Origin of Category** |
| The Energy Act 2013 (Section 83 and Schedule 8)  INFCIRC/951 - UK/IAEA Voluntary Offer Safeguards Agreement (VOA) (Articles 68-87) |
| **Discussion** |
| To ensure that ONR Safeguards is alerted, without delay, to issues arising during safeguards inspections or otherwise that are assessed as sufficiently significant to risk compromising compliance with safeguards obligations and may therefore be the subject of follow-up and possible escalation, including direct to ONR Safeguards and/or the UK Government, by the IAEA safeguards inspectorate.  **Illustrative examples**   * Issues affecting the conduct of a safeguards inspection that are assessed as compromising compliance with safeguards obligations and may therefore be the subject of follow-up and possible escalation (e.g. denial of access for IAEA safeguards inspectors to the site / facility, escorts unavailable to support planned inspection activities, undue delays during the safeguards inspection etc.). * Significant errors in the List of Inventory Items (LII) issued to the ONR and/or IAEA safeguards inspectors as a result of the annual Physical Inventory Take (PIT) and in support of annual Physical Inventory Verification (PIV) (e.g. items included on the LII that cannot be located during the PIV, items located during the PIV which are not included on the LII and/or verification that does not confirm item identity or contents as declared in the LII). * Failure to locate or otherwise make qualifying nuclear material available for verification, or delays in making qualifying nuclear material available that affect the scope of the inspection concerned. * Failures in the provision of other information (e.g. operating records or accounting records) to substantiate safeguards declarations. * IAEA inspection findings at odds with operator / facility safeguards declarations. |

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| SG08 - Changes affecting the annual Programme of Activities declared to ONR that are assessed as having significant implications for compliance with safeguards obligations. |
| **Timing**  Week  **Origin of Category** |
| Nuclear Safeguards (EU Exit) Regulations 2019 (Regulation 4, 21 and 22)  INFCIRC/951 - UK/IAEA Voluntary Offer Safeguards Agreement Article 62(b), 89(b) |
| **Discussion** |
| Facility operators must provide the ONR with an annual programme of activities and operations that are relevant to safeguards implementation (e.g. expected shipments and receipts of material, planned plant shutdown/outages). This category is to ensure that ONR Safeguards and the IAEA safeguards inspectorate receive timely information on changes to such annual programmes that have significant implications for safeguards implementation.  **Illustrative examples**   * Changes to dates for annual Physical Inventory Taking (PIT) exercises within 40 days of the PIT * Changes to scheduled shipment/receipt of qualifying nuclear material within the time periods required for advanced notification of shipments / receipts; * Other changes which may affect safeguards implementation/access (e.g. dates for site emergency exercises). |

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| SG09 - Other qualifying nuclear material and /or safeguards-related events not readily assigned above that are assessed as sufficiently significant to risk compromising compliance with safeguards obligations. |
| **Timing**  Week  **Origin of Category** |
| A route for notifying ONR of any other event that ONR Safeguards are required to be notified of under Nuclear Safeguards (EU Exit) Regulations 2019 or related to the UK/IAEA Voluntary Offer Safeguards Agreement and its Additional Protocol or the UK’s Nuclear Cooperation Agreements. |
| **Discussion** |
| This category ensures ONR is provided with timely information on qualifying nuclear material accountancy issues and potential inspection/verification shortcomings that risk compromising compliance with safeguards obligations which are not readily categorised according to categories SG01-SG08.  **Illustrative examples**   * Unauthorised movement of qualifying nuclear material. This includes qualifying nuclear material shipped without authorisation of the receiver and/or other significant deficiencies in accountancy documentation, qualifying nuclear material shipped without an accountancy plan, movement not complying with its accountancy plan or working instructions; * Other shortcomings in the documentation to substantiate qualifying nuclear material accountancy declarations * Failure or poor performance of systems for the measurement and/or analysis of qualifying nuclear material (e.g. information indicating a bias in system output). * An indication that the security of safeguards information may have been compromised, whether by site operator and/or the inspectorates; * Where a Facility Attachment is in place in support of IAEA safeguards application, any possible breach of Facility Attachment requirements not covered above. |

# Appendix B – Media Interest Incident Category

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| AN01 – Events likely to attract, or that have attracted, significant national/international media or public attention. |
| **Timing**  Immediate  **Origin of Category** |
| Ministerial Reporting Criteria (MRC), sub-category (f): “Events likely to attract, or that have attracted, significant national media or public attention” |
| **Discussion** |
| This category is a “catch-all” aimed at incidents which have the potential to achieve a high public profile but do not appear to meet any of the immediate reporting categories. Often these incidents may have been reported in the media. As such it is useful for ONR to be notified of these incidents in anticipation of requests for comment by other interested parties.  This category may be used with or without any of the other notifications categories, to give immediate effect to a notification. The presence or absence of other categories will provide an initial indication to ONR of the extent of any follow-up required.  This category is not intended to cover attendance at site by external response services for routine matters such as an ambulance transporting a worker to hospital for treatment of a minor injury or a precautionary check-up, however if emergency services attend with flashing blue lights and sirens, this may be reported under AN01. |