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| ONR Guidance Document  Incident Notification Guidance for Nuclear Site Licensees |



ONR Guidance Document

Incident Notification Guidance for Nuclear Site Licensees

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# Introduction

## Purpose

This document gives Nuclear Site licensees guidance to promote consistent and transparent incidents notification. This will allow licensees to implement ONR’s incident notification process (ref. [1]) within their License Condition (LC) 7 compliance arrangements.

This guidance is complimentary to ONR’s Technical Inspection Guidance (TIG) for License Condition (LC) 7 [2]. It presents ONR’s expectations of the threshold and criteria for notifying an incident.

## Scope and Applicability

This guidance applies only to:

* Nuclear Site Licensees; and,
* Incidents that are within the scope of LC 7.

The incidents that are within the scope of LC 7 are any incident with a Nuclear Safety or Radiological Safety category, as defined in ONR’s incident notification process [1].

Licensees should refer to the relevant guidance for incidents with a Transport, Security, Safeguards or Nuclear Site Health and Safety category that occur on a nuclear licenced site.

## Roles and Responsibilities

The licensees are responsible for compliance with the Nuclear Site Licence conditions.   
LC 7 requires licensees to:

“…make and implement adequate arrangements for the notification, recording, investigation and reporting of such incidents occurring on the site…”.

Licensees should ensure that their LC 7 arrangements implement the notification expectations in this guidance.

ONR is responsible for giving guidance to licensees on implementing this guidance within their arrangements.

## Definitions

Table 1: Table of Definitions

|  |  |
| --- | --- |
| Term/Acronym | Description |
| (EASR18) | Environmental Authorisation (Scotland) Regulations 2018 |
| ALARP | As Low As Reasonably Practicable |
| DAP | Duly Authorised Person |
| DOR | Dangerous Occurrence Regulations |
| FUR | Follow-up Report |
| IAEA | International Atomic Energy Agency |
| IRR17 | Ionising Radiation Regulations 2017 |
| LC | Licence Conditions |
| LCO | Limits and Conditions for Operation |
| MRC | Ministerial Reporting Criteria |
| REPPIR | Radiation Emergency Preparation, Preparedness and Information Regulations 2019 |
| SSC | Systems, Structures and Components |
| SSG | Specific Safety Guide |
| TIG | Technical Inspection Guidance |

# Guidance for Licensees to Implement ONR’s Incident Categories

ONR intends this guidance to apply consistently to all Nuclear Site licensees.   
The criteria are not technology or facility specific. The guidance uses general terminology that is closely aligned to the Licence Conditions. This will allow licensees to use their existing Licence Condition compliance.

ONR’s notification criteria for Nuclear Safety, Radiological Safety and Media Interest incidents are defined in the notification process document [1]. An incident should be assigned a Category depending on the criteria it matches. The notification categories and relevant criteria are provided in the appendices of this guidance, along with commentary to assist the licensees. This commentary covers:

* origin of the Category;
* discussion of the types of incidents that ONR intends this category to include; and,
* interpretation of terminology in the criteria and guidance for licensees to implement the criteria within their LC 7 arrangements.

To avoid being technology or facility specific, this guidance does not include illustrative examples. Licensees may choose to include examples in their implementation arrangements that are relevant to their technologies and facilities.

The Appendices in this document cover:

* **Appendix A** - Nuclear Safety Incident Categories
* [**Appendix B** - Radiological Safety Incident Categories](#_Toc95839522)
* [**Appendix C** - Media Interest Incident Category](#_Toc95839523)

# References

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| --- | --- |
| [1] | ONR, “ONR-RIO-PROC-002 - Process for Notifying Incidents to ONR”. |
| [2] | ONR, “NS-INSP-GD-007 - LC7 Incidents on the Site”. |

# Appendix A – Nuclear Safety Incident Categories

## NS01

**Description:**

Any explosion or outbreak of fire on a licensed site affecting or likely to affect the safe working or safe condition of the nuclear installation.

**Timing:**

Immediate

**Origin of Category:**

Nuclear Installations (Dangerous Occurrences) Regulations (DOR) 1965 (Statutory Instrument 1965/1824); Reg. 3 sub-paragraph (c).

Ministerial Reporting Criteria (MRC); sub-category (a).

**Discussion:**

Notification under this category requires an element of judgement on the part of the dutyholder. For example, a small fire on site that did not or could not reasonably be expected to endanger significant safety related plant should not be notified under this category. However, if one of the principal safety functions of controlling reactivity or, cooling fuel or containing radioactive material was significantly at risk of failing or was disabled then this would be notifiable under this category.

However, if the dutyholder judges it necessary to take significant precautionary action such as shutting down a reactor or process plant and the off-site fire services attended to assist in extinguishing a fire then the event should be notified to ONR.

The extent of damage to safety related plant from a fire or explosion may not be immediately obvious or fully assessed for some time after a fire is extinguished, but if there is any doubt it would be prudent to promptly report a significant fire under this category or other appropriate categories, such as NS10.

## NS02

**Description:**

Any uncontrolled criticality excursion.

**Timing:**

Immediate

**Origin of Category:**

This category is established in the Nuclear Installations (DOR) 1965; Reg. 3, item (d).

In addition, it is reportable under the Ministerial Reporting Criteria (MRC); sub-category (a).

**Discussion:**

This category is relevant to any uncontrolled criticality, whether or not personnel are directly affected.

## NS03

**Description:**

Any incident that meets the criteria of NS08 or NS12 and the overall impact means that an adequate safety case to continue operations cannot be made.

**Timing:**

Immediate

**Origin of Category:**

Specified in the Ministerial Reporting Criteria (MRC); sub-category (c).

**Discussion:**

ONR intends for notifications under this category to represent losses of defence in depth with the highest level of safety significance. Licensees should use the impact of the loss of defence in depth on continued safe operations as the threshold for safety significance.

Licensees should consider the applicability of this category for all NS08 and NS12 incidents.

For this category:

* An “adequate safety case” complies with the licensees’ LC23 (1) and LC14 (1) arrangements.
* “Continued operations” means operation of facility for its primary purpose.
* “Cannot be made” is without resolution of the loss of defence in depth that met the criteria of NS08 or NS12.

## NS04

**Description:**

Declaration of a site incident or condition, where personnel or resources are mobilised in response to an unexpected occurrence that creates a hazard to the safe operation of the facility, and/or to the health and safety of personnel on or off the site.

**Timing:**

Immediate

**Origin of Category:**

LC11: Emergency Preparedness.

**Discussion:**

This category is aimed at conditions and incidents on the site that are not classified as nuclear emergencies but nevertheless lead to one or more of the site’s incident control centres being set up to control response to nuclear or radiological related event by persons on or off the site.

Licensees should define the type of incidents that would meet this category in their notification arrangements.

## NS05

**Description:**

Any operation or condition of plant that is prohibited by operational limits and conditions or operating rules.

**Timing:**

Day

**Origin of Category:**

LC23 (3): Operating Rules.

IAEA Specific Safety Guide (SSG) 50: Operating Experience Feedback for Nuclear Installations

**Discussion:**

The requirement of LC23 is to ensure that all operations that may affect safety are supported by an adequate safety case and this safety case identifies the Limits and Conditions for Operation (LCO) which ensure that the plant or process remains safe i.e., it defines a “safe operating envelope”. The licensee should establish within their arrangements the criteria for non-compliance with their Operating Limits and Conditions.

The LCO include values for safety limits, limiting safety system settings, limiting conditions for operation, levels for surveillance, design features, and various administrative and organisational requirements, directly connected with safe operations. Occurrences where operating limits and conditions are not adequate or are not being complied with should invoke LC7 incident notification and investigation arrangements, leading to ONR being notified.

There may be instances where it becomes apparent at some later time or date that an operation or condition prohibited by LCO or operating rules occurred, but the operators were unaware of it. If such a case is identified, then the occurrence should be retrospectively notified to ONR under this category.

## NS06

**Description:**

Any uncontrolled or unplanned reactivity excursion.

**Timing:**

Day

**Origin of Category:**

LC23 (3): Operating Rules.

IAEA Specific Safety Guide (SSG) 50: Operating Experience Feedback for Nuclear Installations

**Discussion:**

This category applies only to operating reactors.

It is intended for incidents where a change in reactor reactivity occurs, which was not predicted, anticipated or adequately controlled at all times. The licensee should establish, within their arrangements, the criteria for reactivity excursions that are relevant to their technology or facility.

## NS07

**Description:**

Any automatic or manual reactor, chemical processing plant or other nuclear facility shutdown as required by the operational limits and conditions, or as a result of other significant safety related considerations.

**Timing:**

Day

**Origin of Category:**

IAEA Specific Safety Guide (SSG) 50: Operating Experience Feedback for Nuclear Installations

**Discussion:**

This category is intended for those incidents whereby the licensee’s arrangements or other significant safety related considerations require the plant to be manually shutdown or installed safety provisions automatically actuate causing a plant to shut down. ONR should be notified of conditions affecting safety that are significant enough to warrant the plant be shut down.

There are exceptions where notification is not necessary, as follows:

* Periodic shutdown (often called statutory outage) under LC 30 to perform maintenance schedule work;
* Shutting down a reactor for routine refuelling purposes;
* Shutting down a chemical process plant when a routine batch production run has been completed; and,
* Shutting down a radioactive waste store.

The category ends with the words “or as a result of other significant safety related considerations”. This phrase is intended to cover occurrences when it is not strictly necessary to shut down immediately but has been judged so because a condition adverse to safety has been identified, and if left unchecked could worsen, ultimately leading to an automatic or manual shutdown.

## NS08

**Description:**

Any operations that identify defects or misconfigurations with higher classification safety Systems, Structures and Components (SSC) that prevent performance of the SSC’s safety case defined nuclear safety functions.

**Timing:**

Week

**Origin of Category:**

LC 28 (8) – Examination, Inspection, Maintenance and Testing

IAEA Specific Safety Guide (SSG) 50: Operating Experience Feedback for Nuclear Installations

**Discussion:**

ONR intends for notifications under this category to be for plant problems that led to losses of defence in depth. To ensure a consistent threshold of notification, licensees should use their existing safety case and implementation arrangements to set the threshold.

This category relies on the licensees using their existing arrangements to set the criteria for notification. For example, current arrangements for SSC classification or assessing SSC availability. Based on these arrangements, the licensee should establish relevant definitions for:

* Higher classification safety Systems, Structures and Components,
* Preventing performance of the SSC’s safety case defined nuclear safety functions.

ONR expects the notification threshold to support consistent and routine incident notification. Licensees may use operating experience to set the threshold. The threshold should ensure adequate notification under this category without presenting the licensee an excessive burden.

ONR expects licensees to ensure that their arrangement will result in notification under this category of any fuel failures, fission product containment failures or SSC common cause failures.

For this category:

“Operations” use the licence condition handbook definition. This includes any maintenance, examination, testing and operation of the plant and the treatment, processing, keeping, storing, accumulating or carriage of any radioactive material or radioactive waste.

## NS09

**Description:**

Any event or abnormal condition that resulted in the manual or automatic operation of a protection system or other engineered safety features thereby challenging safety systems.

**Timing:**

Week

**Origin of Category:**

LC 27: Safety mechanisms, devices and circuits

IAEA Specific Safety Guide (SSG) 50: Operating Experience Feedback for Nuclear Installations

**Discussion:**

This category is intended to report incidents whenever a significant safety related system, mechanism, device or circuit (LC 27) actuates either manually or automatically. This is based on the premise that that these systems are provided to mitigate the consequences of significant events, and as such they should function as designed when called upon, and they should not be challenged frequently or unnecessarily. ONR is interested both in incidents where a system was demanded to mitigate the consequences of an incident, and those where a safety system actuated unnecessarily. However, there are some exceptions, such as actuation from any part of a pre-planned maintenance or testing sequence, or if the actuation occurred after the safety function had already been performed.

ONR has not specified which engineered safety systems are applicable here so a degree of judgement will be necessary. Typical nuclear safety systems to consider would typically include reactor protection systems, emergency power systems, emergency cooling systems, emergency ventilation systems and pressure relief mechanisms. The intent is to seek notification of instances of actuation of systems that mitigate the consequences of significant events. Usually this would not necessarily include single component actuations for redundant provisions because these by themselves do not provide the totality of the protection, however where it provides a critical safety function, it should be notified to ONR.

## NS10

**Description:**

A fire or other internal hazard that posed an actual threat to the safety of the nuclear installation or that significantly distracted site personnel in the performance of duties necessary for safe operation.

**Timing:**

Week

**Origin of Category:**

IAEA Specific Safety Guide (SSG) 50: Operating Experience Feedback for Nuclear Installations

**Discussion**:

The actual threat referred to in this category is from internal incidents, principally fires, but also from release of toxic/asphyxiating gases, flooding, radioactive releases etc. The intent is to ensure notification of incidents that threaten or may compromise the safety of the plant or disrupt personnel in the performance of duties necessary for safe operation.

The phrase “significantly distracts personnel” applies to those incidents which significantly affect the ability of site personnel to perform safety related activities.

Any fire at a nuclear installation represents a shortfall in expected standards. The threat posed by a fire to a nuclear installation is well documented and the consequences of such incidents can be severe. Fires have the potential to affect the operation of safety systems with the consequence of quickly eroding defence-in-depth provisions that most nuclear plants are designed with. Limiting the consequences of fires that threaten plant protecting nuclear safety or containing radioactive material is of interest to ONR therefore consideration should be given to notifying ONR of relatively minor fires. In addition, it should be noted that fires on nuclear sites are likely to attract media interest, and thus may also be considered for notification to ONR under the category AN01.

ONR expects this category to include incidents that impact facilities under construction or modification. This includes fires that posed an actual threat to safety of construction personnel or where the fire resulted in damage to safety significant installations that were under construction. To ensure consistent application, the licensee should establish an appropriate definition for actual threat, damage and safety significant installations.

## NS11

**Description:**

Significant inadequacy in or significant failure to comply with the arrangements made under a condition attached to the Nuclear Site Licence or permission granted under a Licence Instrument.

**Timing:**

Week

**Origin of Category:**

Site Licence Conditions.

**Discussion**:

A non-compliance is a failure to comply with any aspect of the licence conditions or the licensee’s compliance arrangements. This category is for licensees to notify ONR the subset of these non-compliances that have the greatest impact on nuclear safety, defence-in-depth and licence condition compliance.

To determine whether an incident meets the criterion for this category, licensees should consider the specific non-compliance against the following definitions:

* “Significant inadequacy” is the absence of arrangements that the licence conditions require. This includes failures to make appropriate arrangements or to implement compliance arrangements that have the same impact as an “absence”.
* “Significant failure to comply” means a non-compliance with licence condition compliance arrangements that has the same impact as an “absence”.

The licensee should ensure that their arrangements have a notification threshold that defines “**absence**” in the context of their facility and arrangements. In this context, an **absence** is a failure to meet the intent of the licence condition. The threshold should ensure adequate notification under this category without presenting the licensee an excessive burden.

Licensees should assess non-compliances based on the specific areas that the licence conditions or licensee’s compliance arrangements require. These areas could be SSC, operations, documentation or records of compliance. This means that the category should include non-compliances that are isolated to one area while other areas are compliant.

## NS12

**Description:**

Any safety analysis and/or quality assurance activity that identifies higher safety classification Systems, Structures and Components cannot perform their safety case defined nuclear safety functions.

**Timing:**

Week

**Origin of Category:**

LC 23: Operating Rules

IAEA Specific Safety Guide (SSG) 50: Operating Experience Feedback for Nuclear Installations

**Discussion**:

This category covers losses of defence in depth that safety analysis or quality assurance activities detect. It includes all safety analysis, design, construction, manufacturing, supply chain, commissioning or operational problems that resulted in, or could have resulted in, an operating condition that had not previously been analysed or that could have exceeded design basis conditions.

This category relies on the licensees using their existing arrangements to set the criteria for notification. For example, current arrangements for SSC classification or assessing SSC availability. Based on these arrangements, the licensee should establish relevant definitions for:

* Higher classification safety Systems, Structures and Components
* Performance of the SSC’s safety case defined nuclear safety functions

ONR expects licensees to establish the threshold for notification to support consistent and routine incident notification. This could align with existing safety case anomalies procedures and quality grading. However, licenses should ensure that the threshold will provide ONR with adequate notification and not present them with an excessive burden.

ONR expects licensees to use this category for notification of:

* Adverse chemical condition that may degrade defence in depth.
* Counterfeit, Fraudulent, and Suspect items or quality falsification that impact defence in depth.

For facilities under construction or being modified, licences should use this category to notify ONR of incidents that had the potential to impact SSC’s future nuclear safety functions including losses in defence-in-depth. The licensees’ notification threshold should be based on safety classification and incident’s impact on performing nuclear safety functions if the problem were not detected.

For this category:

* Safety analysis refers to any activity as part of the licensee’s LC 14 or 15 arrangements.
* Quality assurance activities are the licensee’s LC17 arrangements that support compliance with LC 19, LC 20, LC 21 and LC 22.

## NS13

**Description:**

Any natural phenomenon or other external condition that posed an actual threat to the safety of the nuclear installation or that significantly distracted site personnel in the performance of duties necessary for safe operation.

**Timing:**

Week

**Origin of Category:**

IAEA Specific Safety Guide (SSG) 50: Operating Experience Feedback for Nuclear Installations

**Discussion:**

Similarly worded to NS10, this category is intended to cover external natural events such as earthquakes, fires, high winds, lightning, snow, ice, floods and any other relevant external hazards.

Licensees should ensure that their arrangements have an appropriate definition for the threshold of an “actual threat to the safety of the nuclear installation” or “significantly hampers personnel”.

ONR expects licensees to use this category to notify incidents that resulted from severe weather incidents.

## NS14

**Description:**

Any fault or mal-operation of lifting equipment that had or may have had a significant effect on nuclear safety.

**Timing:**

Week

**Origin of Category:**

IAEA Specific Safety Guide (SSG) 50: Operating Experience Feedback for Nuclear Installations

**Discussion:**

Incidents associated with lifting machinery or equipment in nuclear plants are of interest because the potential for damage to safety related plant is significant when failures occur. This category is to cover failure of lifting equipment to perform as it should, from misuse or poor maintenance of the equipment by operators. This category does not just cover actual physical damage to safety related plant but also significant procedural deviations and near-misses where loss of control of a load might have easily damaged safety related plant, but by chance did not.

## NS15

**Description:**

If a Duly Authorised Person appointed under LC 12 is prevented by the licensee from continuing to act in that capacity.

**Timing:**

Week

**Origin of Category:**

LC 12(5) – Duly Authorised Persons unfit for the role.

**Discussion:**

This category is aimed at identifying when Duly Authorised Persons (DAPs) with important safety related duties e.g., reactor desk operators, are deemed to be unfit to meet the requirements of the post. This may reveal an issue with training or other arrangements and which ONR should be informed about.

Exceptions to notifying under this category include where individuals may be absent from work for long periods due to sickness, they leave their employment or where they are transferred for career development purposes to other work which does not require DAP status.

## NS16

**Description:**

Any event or occurrence that could significantly compromise the effectiveness of the arrangements for emergency preparedness and response on the site.

**Timing:**

Week

**Origin of Category:**

LC 11: Emergency Arrangements.

**Discussion:**

This category relates to incidents which could potentially adversely affect the response of the licensee to deal with an accident or emergency on and off site. Incidents which may adversely affect response activities should be notified. However, some judgement will be necessary on the part of the licensees; an isolated failure of a component such as a radio-set or phone or a flat tyre on a non-specific vehicle need not be notified. Failure of a complete communications system or of an important vehicle declared in the arrangements to be deployed should be notified to ONR.

## NS17

**Description:**

If it is intended to reject, in whole or in part, any advice given by a Nuclear Safety Committee to the licensee.

**Timing:**

Week

**Origin of Category:**

LC 13(10) - Nuclear Safety Committee.

**Discussion:**

This category is established directly by the licence condition, and as such, it is clear and legally binding. The licence condition states that ONR should be notified as soon as practicable, which for the purposes of ONR is considered to be within a week.

# Appendix B – Radiological Safety Incident Categories

## RS01

**Description:**

Any occurrence on a licensed site involving the emission of ionising radiations or the release of radioactive or toxic substances, causing or likely to cause death, or serious injury to persons on or off the site.

**Timing:**

Immediate

**Origin of Category:**

This category is established in the Nuclear Installations (Dangerous Occurrences) Regulations 1965 (Statutory Instrument 1965/1824); Reg. 3 sub-paragraph (a) and the Ministerial Reporting Criteria (MRC) Category (a).

**Discussion**:

This category applies to events where doses received by persons are above about 1 Sv i.e., more than fifty times the statutory limit for annual whole-body dose. High doses of radiation (1-10 Sv) will kill a large number of body cells and may lead to serious injury. Higher doses may lead to death within a relatively short time of exposure. These “so called” deterministic effects do not occur below a threshold of around a few Sv.

## RS02

**Description:**

Abnormal occurrences leading to a radioactive substance which has been:

* 1. released or is likely to have been released into the atmosphere as a gas, aerosol or dust; or
  2. spilled or otherwise released in such a manner as to give rise to significant contamination;

and which exceeds or is expected to exceed, the quantities set out in Column 5 of Part 1 of Schedule 7 to the IRR17, except where the release is in a manner specified in an Authorisation under the EPR2010 or the Environmental Authorisation (Scotland) Regulations 2018 (EASR18).

**Timing:**

Immediate

**Origin of Category:**

ONR Ministerial Reporting Criteria (MRC) - Category (d).

IRR17 Regulation 31(1).

**Discussion:**

This category needs little explanation as it is based on quantitative limits set out in IRR17 and is therefore a legal obligation to notify ONR promptly.

The exception to this is where the spillage is in an enclosure or other such localised facility, designed to prevent the release going beyond that facility e.g., a spill in a glove-box. However, this exception is not intended to cover releases affecting general working areas where personnel could receive significant exposure as a result of a leakage or spillage e.g., a leak into a bund around a tank that is open to the atmosphere, either inside a building or in the open air.

## RS03

**Description:**

Abnormal occurrences leading to a release or suspected release or spread of radioactivity, on or off site, which requires special action or special investigation by the Operator.

**Timing:**

Immediate

**Origin of Category:**

ONR Ministerial Reporting Criteria (MRC) Cat. (e).

LC 34 – Leakage and Escape of Radioactive Material and Radioactive Waste

**Discussion:**

This category is intended to cover only significant releases of radioactivity not meeting the other quantitatively based leakage and release criteria. This category requires judgement to be used to interpret what constitutes special action or investigation. Any unexpected spillage or release would usually require some form of remedial action by the operator to clean up any residual radioactivity. However, to assist in judging whether notification is warranted then events deemed to require special action or investigation could include:

* Special countermeasures, such as non-routine monitoring outside controlled areas, taken to prevent unacceptable exposures;
* Any release requiring action off the licensed site;
* Discovery of radiation or contamination levels requiring either of the following actions:
* Limitation of access for distances greater than several metres outside designated areas;
* Significant interference with normal access by the public to areas on the licensed site;
* A confirmed release of radioactivity, which requires evacuation of a significant area of the plant for at least 24 hours, apart from purely precautionary evacuation; or,
* Extensive work needed to decontaminate an area using non-standard procedures.

## RS04

**Description:**

Any abnormal occurrence giving rise to an uncontrolled or unauthorised leakage, release, spill or escape of radioactive material or waste which exceeds 50% of the quantities set out in Column 5 of Part 1 of Schedule 7 to the IRR17.

**Timing:**

Day

**Origin of Category:**

IRR17.

LC 34 (2) - Leakage and Escape of Radioactive Material and Radioactive Waste.

**Discussion:**

This category is aimed at those incidents which are not reportable to ministers or breach legal limits, but which nevertheless represent a loss of control over radioactive material which the regulator should be notified about. Incidents where leakage, release or spill and escape of radioactive material or radioactive waste exceeds legal limits or reach the levels that ministers are required to be informed about are rare. This category attempts to set a threshold level for release and escape that should be notified under LC 34 (2).

The reporting level of 50% in this category is considered to represent a figure that provides a pragmatic trigger to reflect failures in containment and control of radioactive material or waste that should be notified to ONR.

The exception to this is where the spillage is in an enclosure or other such localised facility, designed to prevent the release going beyond that facility e.g., a spill in a glove-box. However, this exception is not intended to cover releases affecting general working areas where personnel could receive significant exposure as a result of a leakage or spillage e.g., a leak into a bund around a tank open to the atmosphere, either inside a building or in the open air.

## RS05

**Description:**

A confirmed breach of, or discharge expected to breach quantitative limits of a Certificate of Authorisation for the disposal of radioactive waste issued under the EPR 2010 or EASR18.

**Timing:**

Day

**Origin of Category:**

Environment Agency (EA) / Natural Resources Wales (NRW) / Scottish Environment Protection Agency (SEPA).

**Discussion:**

This category needs little explanation as the quantitative limits are clearly set out in the sites’ Certificates of Authorisation and is therefore a legal obligation. Although primarily of interest to the environment agencies in England (EA), Wales (NRW) in Wales or Scotland (SEPA) and reportable to ministers nonetheless it is important that ONR also knows about such incidents as there may be relevant issues associated with the circumstances giving rise to the breach. The liaison arrangements between ONR and EA/NRW/SEPA allow for joint investigations into the circumstances surrounding events and matters of mutual interest often arise from such joint investigations.

## RS06

**Description:**

An incident or occurrence that leads to a person receiving an unexpected effective dose either from external dose exposure, or internal dose exposure due to an intake of radioactive material, or both exposure pathways that exceeds 1 mSv.

**Timing:**

Week

**Origin of Category:**

LC 34 – Leakage and Escape of Radioactive Material and Radioactive Waste.

**Discussion:**

This category is aimed at occurrences which are unplanned or unexpected, where persons ingest, inhale or receive an intake of radioactive material through a wound, or from direct exposure from external radiation. Such incidents represent a degradation in radiological protection measures. ONR has set a threshold of 1 mSv to prompt consistent incident notification.

## RS07

**Description:**

Discovery outside a controlled area boundary of radiation or contamination, including contamination on equipment, clothing or skin, significantly above that permitted by the local arrangements.

**Timing:**

Week

**Origin of Category:**

LC 34 – Leakage and Escape of Radioactive Material and Radioactive Waste.

**Discussion:**

This category is aimed at occurrences which are unplanned or unexpected, where significant contamination or radiation is discovered to exist outside a designated controlled area. Such incidents represent a loss of control and should be notified to ONR.

The significance of a radiological incident should be judged on the basis of levels specified in local arrangements. Incidents involving levels significantly above those specified should be notified to ONR.

## RS08

**Description:**

Confirmed exposure to radiation of any individual which exceeds or is suspected to exceed, the dose limits specified in the IRR17.

**Timing:**

Immediate

**Origin of Category:**

Ministerial Reporting Criteria (MRC) Cat. (b) and IRRs 2017 Regulation 26(1).

**Discussion**:

This category is an amalgamation of two categories but needs little explanation as it covers confirmed exposures above the statutory dose limits set out in Schedule 3 of the IRR17.

## RS09

**Description:**

Where any individual is confirmed to have received an annual effective dose greater than the level set as subject to investigation under IRR17 Regulation 9(8).

**Timing:**

Day

**Origin of Category:**

IRR17 Regulation 9(8).

**Discussion:**

This category needs little explanation as its origin is contained in the IRRs and is currently set at a dose level of 15 mSv, or whatever lower level is specified by the employer in local arrangements.

## RS10

**Description:**

Where assessment confirms that the average effective dose to specified classes of persons exceeds the level ONR has Specified under licence condition 18(1).

**Timing:**

Day

**Origin of Category:**

LC 18 (1) - Radiological Protection

**Discussion:**

This category is required by Licence Condition 18 only if a licence instrument i.e., a Specification has been issued by ONR, and in this case it becomes a legal obligation.   
A number of (but not all) licensed sites have LC18 specifications issued to them, and the dose level contained in the Specification is usually 5 mSv average effective dose for classified workers. If this level is reached then the requirement is to notify ONR forthwith, which for practical purposes is set at within a day of it being confirmed.

## RS11

**Description:**

An occurrence whereby any individual worker is confirmed to have received an effective dose that exceeds or is likely to exceed 1 mSv above that estimated for the task.

**Timing:**

Week

**Origin of Category:**

IRR17 and ALARP (As Low as Reasonably Practicable) principle

**Discussion:**

This category is intended to cover incidents where individual(s) receive a dose above that expected for a discrete task or activity.

It is worth noting that the level set here is 1mSv, this is because licensees generally have a successful approach to radiological protection and rarely does a single unplanned event lead to an individual exposure of above 1 – 2 mSv. Thus, setting the level in this category at 1 mSv is in expectation of receiving notifications where a task or activity has not been controlled to the industry’s norm and results in the doses received by individuals significantly exceeding that planned for the work.

This category is not meant to be applied to work where there are planned activities whereby entry into a particular area is expected to give rise to doses to workers of the order of several mSv, unless the dose uptake exceeds that which was expected by more than   
1 mSv. For example, where weld repairs to vessel internal components results in a group of welders receiving individual effective doses between 5-10 mSv, however these doses are in accordance with predictions made before the work began.

## RS12

**Description:**

An occurrence where an individual receives an emergency exposure as defined by REPPIR 2019, Regulation 18 (1).

**Timing:**

Week

**Origin of Category:**

Radiation Emergency Preparation, Preparedness and Information Regulations (REPPIR) 2019, Regulation 18(1).

**Discussion:**

This category is required under REPPIR19 where the doses received by intervention personnel in a REPPIR emergency are subsequently assessed. The results of the assessment whatever the effective doses received should be notified.

The incident notification should include all the relevant information required by REPPIR 2019 Regulation 18(1)(e). This includes the effective doses received by intervention personnel who receive emergency exposures during a REPPIR declared emergency, and where a separate dose assessment has been completed following the emergency.

Dutyholders should not use this category to notify ONR of incidents with a REPPIR 2019 Regulation 25 exemption.

## RS13

**Description:**

Where there is reasonable cause to believe that a quantity of a radioactive substance specified in column 6 of Part 1 of Schedule 7 to the IRR17 and which was under an employer’s control is lost or has been stolen.

**Timing:**

Day

**Origin of Category:**

IRR17 Regulation 31(3) & (4)

**Discussion:**

This category needs little explanation as it is contained in IRR17 and is therefore a legal requirement but is only for material that meets the thresholds specified in Col 6 of Sch. 7. Security Category SC10.5e, also covers loss or theft of material, however it has no radio-nuclides or quantities specified.

## RS14

**Description:**

Any event where radioactive material or waste was inadvertently brought on to or transported off the licensed site.

**Timing:**

Day

**Origin of Category:**

LC 34 – Leakage and Escape of Radioactive Material or Waste.

**Discussion:**

This category is to notify ONR of incidents where radioactive material or waste is brought to or taken out of a licensed site not in accordance with established arrangements, or where the amount of material moved was significantly different to that authorised. It does not include movement of excepted matter or radioactive material or waste which is exempt from legislation e.g., smoke detectors containing trace amounts of Americium.

# Appendix C – Media Interest Incident Category

## AN01

**Description:**

Events likely to attract, or that have attracted, significant national 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.