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| ONR Procedure  Governance and Oversight of Incidents Reported to ONR |



ONR Procedure

Governance and Oversight of Incidents Reported to ONR

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Revision commentary

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| --- | --- |
| Issue No. | Description of Update(s) |
| 1 | New document. |
| 2 | Major update - title updated and inclusion of RIDDOR incidents and INF-3. |

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## 

# Introduction

## Purpose

This procedure provides the basis of incidents oversight for incidents reported to ONR. The oversight should be applied proportionately during routine governance by ONR. This assists in establishing better understanding of risks on Great British (GB) nuclear sites and supports future planning of ONR’s regulatory activities.

The frequency, format and extent of governance should be established by the relevant groups in ONR and be sufficient to:

* confirm correct categorisation of incident notifications;
* identify any potential follow-up actions;
* facilitate discussion of incidents;
* identify emergent trends; and,
* identify requirements for future regulatory activities.

This document provides further detail on incident governance and oversight, which complements corporate governance arrangements (refs. [1] and [2]).

## Scope and Applicability

This procedure applies to incident notifications received via the Incident Notification Form (INF) process[[1]](#footnote-2), as described in ref. [3].

The term “incident” applies to all incident or event types that dutyholders notify to ONR:

* Nuclear Safety
* Radiological Safety
* Transport
* Security
* Safeguards
* Nuclear Site Health & Safety

## Definitions

Table 1: Table of Definitions

|  |  |
| --- | --- |
| Term/Acronym | Description |
| DDS | Divisional Delivery Support |
| DMGL | Delivery Management Group Lead |
| DL | Delivery Lead |
| INES | International Nuclear and radiological Event Scale |
| INF | Incident Notification Form |
| LC | Licence Condition |
| ONR | Office for Nuclear Regulation |
| OPEX | Operating Experience |
| RI | Regulatory Intelligence |
| RIO | Regulatory Intelligence and Oversight |
| RIDDOR | Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (2013) |
| RLT | Regulatory Leadership Team |
| WIReD | Well Informed Regulatory Decisions |

# Incidents

In accordance with ONR’s expectations (refs. [1] and [2]), an auditable trail is necessary to record the receipt of an incident notification from a dutyholder, through to implementation of any corrective actions in response to the incident. This is to support and underpin regulatory decisions, such as a requirement to conduct preliminary enquiries or other follow-up activities.

Incident governance is undertaken at different levels within ONR. The process is expected to ensure that events are proportionally followed-up, and that records of discussions and relevant actions are available. A governance categorisation scheme provides consistency across different divisions and sub-divisions.

The governance process should provide an input into periodic governance reviews of incidents at various levels in ONR.

Individual sub-divisions may choose to adapt this guidance to better align with existing or local arrangements for effectiveness and efficiency. The method of governance at Delivery Lead (DL) (or other nominated lead) level is flexible and should be integrated into the overarching routine sub-division governance processes.

Another important aspect of ONR incident oversight and governance is the review and follow-up by relevant specialisms, as appropriate.

Figure 1 presents the process flow for incident governance and oversight.

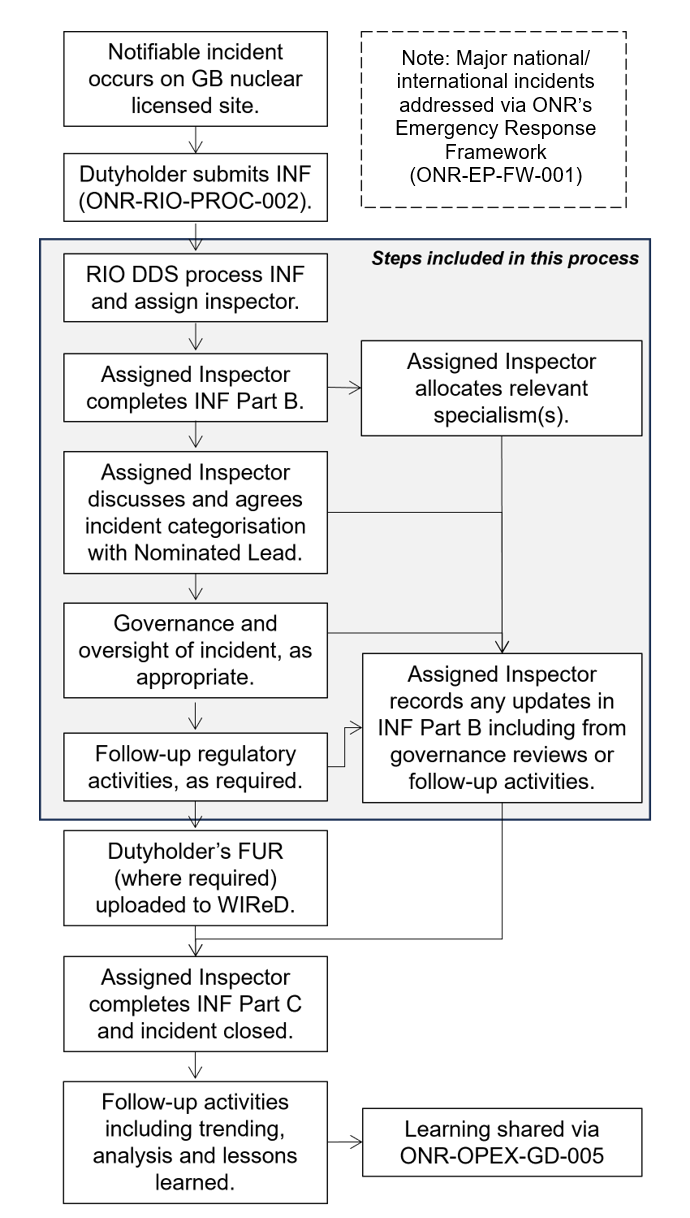


Figure 1: Process flow for incident governance and oversight (Note: the scope of this process is shown by the shaded box)

## 

## Incident Governance

On receipt of an INF the Regulatory Intelligence and Oversight (RIO) Divisional Delivery Support (DDS) will assign the incident to the relevant inspector (hereafter ‘assigned inspector’). This will usually be the nominated Site Inspector.

The assigned inspector is responsible for completing the INF Part B. This includes:

* Confirming whether the dutyholder has provided an adequate technical basis to assess the incident notification.
* Confirming whether, in the inspector’s opinion, the dutyholder responded appropriately to the incident.
* Assigning an ONR incident category (refer to sub-section 2.1.1).
* Assigning relevant specialisms, if appropriate (refer to sub-section 2.1.2).
* Considering whether the incident meets the Ministerial Reporting Criteria in ref. [4].

The assigned inspector is responsible for discussing the incident categorisation with their nominated lead; usually their DL (refer to § 2.2). This discussion should be recorded on WIReD, including any changes to the ONR governance category, in the ‘Governance Review’ field of INF Part B.

### Allocation of an Incident Category

The assigned inspector should allocate an initial incident governance category based on Table 2 and include this in the INF Part B.

Instructions for completing Part B are described in ref. [3].

### Allocation of Specialisms

The inspector should assign relevant specialism(s) in the INF Part B for awareness, trending, analysis and specialist support, if required. This is an important mechanism for sharing Operational Experience (OPEX) and learning between operational divisions and specialisms.

A list of ONR’s specialisms and their areas of interest is provided in [Appendix A](#_Appendix_A_–) to help the assigned inspector identify potential specialism(s) allocations.

If a specialism identifies potential areas of concern not covered by the assigned inspector then they should provide advice to the assigned inspector. This advice may necessitate a review of the incident categorisation (refer to § 2.1.1).

Table 2: Incident Governance Category Guide

|  |  |  |  |
| --- | --- | --- | --- |
| Cat. | Incident Significance | Action Summary | Governance Oversight Level |
| 1 | Significant incident that meets ONR investigation criteria in ref. [5].  Typically, events INES ≥3 and of major national interest. | Investigation decision justified in investigation decision record. | ONR level governance (RLT). |
|
| 2b | Meets ONR Investigation Criteria in ref. [5].  Typically, INES ≥1. | Investigation Decision justified in Investigation Decision Record (ref. [5]). | Divisional level governance. |
|
| 2a | Potential to meet ONR investigation criteria. Preliminary Enquires required (consult Tables 2 - 4 of ref. [5]).  Typically, INES ≥1. | Decision on whether incident remains at 2a or moves to 2b made after conducting Preliminary Enquiries.  Any change in category recorded on INF database with explanation. | Sub-Divisional level governance. |
| 3 | Minor shortfall that does not meet the ONR investigation criteria in ref. [5].  Selected by the assigned inspector for follow-up during routine interventions (e.g., assurance, LC7 compliance).  Typically, INES 0[[2]](#footnote-3). | Assigned inspector follow-up via routine site interventions. | Assigned inspector follow-up. |
| 4 | Minor shortfall that does not meet the ONR investigation criteria.  Of interest as a low-level event for trending purposes.  Typically, INES 02. | No further formal action by the assigned inspector. Considered for trending and analysis purposes by the subdivision, Regulatory Intelligence and specialism(s). | No further action by the assigned inspector. |

### 

## Assigned Inspector and Nominated Lead Incidents Governance

Regular governance meetings should be held between the assigned inspector and a nominated lead to discuss incident governance matters. These may be specific meetings or part of standing arrangements such as keep-in-touch meetings (KITs).

The nominated lead will usually be the relevant operational division DL. However, it may be appropriate for some elements of governance to be delegated to others, such as a Delivery Management Group Lead (DMGL), Project or Lead Nominated Inspector for a multi-facility site.

The governance is expected to review notified incidents and their subsequent follow-up to consider the following aspects:

* confirm correct categorisation of incident notifications;
* adequacy of dutyholder supporting information;
* progress of relevant dutyholder’s activities;
* identify any potential ONR follow-up actions, activities and impact;
* review and the level of any related regulatory issue(s);
* identify emergent trends;
* identify requirements for future regulatory activities;
* consideration of any escalation of the regulatory response;
* has the dutyholder satisfactorily resolved the incident and whether the corrective actions and auditable trail is available within WIReD;
* have relevant stakeholders been involved;
* have relevant specialism(s) been allocated and informed;
* OPEX/learning outcomes captured; and
* broader sharing of incident details where they could be relevant to other operational divisions.

Incidents governance should form a routine agenda item of sub-division (refer to sub-section 2.3), divisional and/or RLT (refer to sub-section 2.4) periodic meetings. The nominated lead should identify incidents for review at these meetings.   
Incident selection is at the discretion of the nominated lead but should usually be informed by the incident categorisation (Table 2). The nominated lead can escalate lower category incidents (for example, where emerging trends are identified) or   
de-escalate incidents, if appropriate.

## 

## Sub-Division Incidents Governance Reviews

Sub-divisions should operate a routine governance review of relevant incidents.

These meetings should provide sufficient time for discussion of these governance matters; potentially those identified in sub-section 2.2. The key items of discussions should be recorded in the ‘Governance Review Comments' field of INF Part B to maintain an auditable trail to enable:

* follow-on oversight;
* in-division trending;
* learning; and
* improved planning and targeting of regulatory activities.

Any significant findings should be shared with the RIO team for wider analysis and sharing.

The assigned inspector should respond to, and record the details of sub-division governance within Part B of the INF on WIReD, including any changes to the incident governance categorisation agreed by the sub-division governance board.

It is recognised that different sub-divisions may have local governance arrangements, as such, DLs should utilise this procedure to best fit the methodology into their own structures.

## Divisional Board and Regulatory Leadership Team Incidents Governance Reviews

Divisional boards and RLT meetings should periodically undertake governance of incidents categorised as 2b and 1respectively. Potential governance matters for discussion are identified in sub-section ‎2.2. Where necessary, the ‘Governance Review Comments' field of INF Part B should be updated with any required changes resulting from the governance review. These changes should then be implemented by the assigned inspector, and recorded in the ‘Governance Review’ field.

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# Records

Assigned inspectors should use the WIReD Incidents Process to record the incident categorisation and all information relevant to the incident including any follow-up activities and governance reviews. Any decisions or changes resulting from governance reviews should be recorded in the Governance Review field of INF Part B. The assigned inspector is responsible for completing Part C; this should reflect the agreed regulatory position with respect to the incident following submission of the dutyholders follow-up report (if required). Completion of Part C should be informed by ONR’s governance reviews and oversight activities.

Governance boards are expected to capture the key decisions and outcomes of their reviews in the Governance Review field of INF Part B, providing an auditable trail.

Record retention should follow ONR’s policy for the WIReD Incidents Process.

# Appendix A – ONR Specialisms and Areas of Interest

| Specialism | Areas of Interest |
| --- | --- |
| Mechanical Engineering | Anything relating to mechanical engineering. Items having mechanical engineering causation or consequences may include:   * NS03 - mechanical engineering incidents that meets the criteria of NS08 or NS12 and the overall impact means that an adequate safety case to continue operations cannot be made. * NS05 – breaches to the operational limits and conditions or operating rules relating to mechanical engineering SSCs. * NS08 – mechanical engineering related defects or misconfigurations affecting mechanical engineering-based SSC performance. * NS09 – mechanical engineering related 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 * NS12 – Quality assurance or analysis outcomes leading to or indicating SSC can no longer perform its safety function(s). * NS14 – lifting equipment faults.   Reactor control rod, AGR gas re-circulator, Emergency power generation, Containment, Nuclear ventilation system (filter, duct, fan), Scrubber, Stack (chimney / exhaust), Cooling, Heat recovery, Glovebox, Vacuum, Flask, Container, Drum, Mechanical handling, Nuclear lifting (equipment, accessory), Crane (mobile, gantry, EOTC, boom etc.), Remote handling, Pressure system (tank, pipe, flange, vessel, receiver), Valve, Pressure relief, Seal, Boiler, Steam plant, Mechanical interlock, Seismic restraint, Shield door, Bolting, Bearing, Lubrication, Spares & obsolescence, Fuelling, Support, Machine, Gearbox / transmission, Clutch, Brake, Damper, Relief system (e.g. pressure, venting), Stop, block, derailer, Chain, wire rope, Choke, orifice plate, Pipe, Insulation, and Interlock.   * Regulation compliance – LOLER, PUWER, DSEAR, PER/PSSR/PESR (pressure), Carriage of dangerous goods, supply of machinery (safety) regulations. * Computational analysis (FEA, CFD, DEM) * Examination, Inspection (including statutory examination), Maintenance (technical aspects, procedures, periodicities), and Testing * Qualification * Destructive / non-destructive testing (NDT) * Containment * Design assurance * Reliability |
| Structural Integrity | Events related to structural integrity of metal structures (pressure vessels, storage tanks, pipes, valves) and non-metallic components (HDPE pipework, composites).  Fabrication (control of metallurgical properties, welding), in-service degradation mechanisms (corrosion, stress corrosion cracking, fatigue, creep, etc), Non-Destructive Testing (NDT), design assessments, material condition (brittleness, defects in welds).  Graphite reactor core integrity. |
| Civil Engineering and External Hazards | Civil Engineering: NS03 & NS08, LC28 Examination Inspection Maintenance and Testing of Structures, Systems and Components including: Buildings, Structures, Roofs, Containment, Pre-stressed Concrete Pressure Vessel, Silos, Ponds, Docks, Shiplift, Stacks, Stores, Foundations, Gutters, Drains and drainage (including sluices and settling ponds), Sea walls/defences, Natural defences (dunes, slopes, embankments), Excavations, Tunnels, Buried items, Cut-off walls, Temporary structures (crane bases), Weather envelope, Anchors, Tendons, Fixings, Soil Nails, Ground Anchors, Rock Bolts and Prestressing. Materials including Concrete, Steel, Reinforcement, Soil, Rock, Aggregates and Backfill.  External Hazards: NS13. Where initiated by or related to an external hazard: NS01, NS04, NS05, NS07, NS08, NS09, NS10, NS11, NS12, NS14, NS16 & AN01. External hazards include: Flooding (coastal flooding, fluvial flooding, pluvial flooding, tidal/storm surges, compound flooding, snow melt), Seismic (earthquake, liquefaction and tsunami), Extreme Weather Events (rainfall, wind, tornado, lightning, extreme ambient temperatures, extreme water temperatures, snow and ice), Geological hazards (landslides, volcanic ash), Space Weather (ground level effects, geomagnetically induced current, solar energetic particles, flare, coronal mass ejection), Biological intake fouling, Aircraft impact, Missiles, External industrial hazards, Loss of Cooling Chain, Loss of Offsite Power, Loss of Grid, Dam failure and Watercourse containment failure. |
| Electrical, Control and Instrumentation | Electrical, Control and Instrumentation; Loss of fault detection and mitigation, Interlocks. Float Valves, Sensor/Actuator failures, Failure on Proof Test, Safety Mechanism Failure, Unrevealed fault dependency, failure to fail safe, Obsolescence/Reliability, Electro Magnetic Interference Loss of Electrical Supply and other essential supplies (gas, H20, steam, compressed air) Criticality Incident Detection Systems, Radioactivity in Air Monitors. Instrumentation software control systems |
| Chemistry and Chemical Engineering | Excursion of any chemistry control parameter (limit or condition) necessary in the interests of safety. While not exhaustive, this includes chemistry control for means of criticality, corrosion, operator radiation exposure, waste minimisation and production/control of dangerous substances and explosive atmospheres.  Degradation, failure or maloperation of any structure, system or component which is either:   * a result of poor chemistry control; or * necessary to maintain chemistry within the safety operating envelope. This should also extend to effective sampling and monitoring in line with the above.   Inadequate implementation of any instruction, training requirement or staffing relevant to chemistry to maintain operation within the safe operating envelope.  Failure to control of substances hazardous to health (including analytical chemicals) and bulk chemical commodities required to support safe nuclear operations or presenting a COMAH burden. While not exhaustive, this includes diesel, biocides, hydrazine, acids, alkalis, hydrogen and other gases. |
| Nuclear Liabilities Regulation | Nuclear Liabilities Regulation (NLR) is a broad topic for ONR but there are four key relevant areas; the safe management of radioactive waste, the safe management of nuclear matter (spent fuel, uranic materials and plutonium), decommissioning and land quality management. Relevant events in these areas may include those relating to:   * Licence conditions 32, 34 and 35 * Characterisation * Contaminated land * Degradation of waste storage conditions * Inspection and maintenance of radioactive waste storage facilities * Inventory control and records * Misconsignment * Passive safety * Segregation |
| Radiological Protection and Criticality | Non-compliance with IRR, loss of containment, release of RA, unexpected personal dose exposures, personal contamination (clothing and skin), potential intakes of radioactive materials (where whole body or bio-assay sampling has been requested).  NS02, NS05, and NS16, criticality operational rule non-compliance, emergency response capability loss, radiation interlocks, area designation, contamination migration, unplanned exposure, degradation of shielding or shielding systems and devices.  Any reporting made under the RS Radiological Safety Incident criteria, or any event where the levels are below those that would trigger the reporting under the RS incident criteria. |
| Fault Studies and Safety Case and ALARP working groups | Loss of protective measures /lines of defence leading to automatic actuation of safety systems (including for a reactor, manual reactor trip).  PSA/DBA anomalies in safety case i.e., Events that challenge fault screening or frequency assumptions and require safety case revisit such as HAZOP failings and unexpected fault sequence/initiating event.  Area where reasonably practicable measures have been identified, but not implemented. |
| Fuel and Core | Incidents related to reactor operation in which there is an impact on reactivity control, heat removal from the fuel or fuel clad integrity. Incidents in which any Operating Rules (e.g., Tech Specs) directly related to the reactor core or the fuel have been breached. Incidents which may impact on the functionality or degradation of fuel rods, fuel assemblies, control rods and/or other in-core components. Incidents occurring during fuel transport or handling and Incidents occurring during wet or dry spent fuel storage in which there is any impact on reactivity control, heat removal from the fuel, fuel clad or fuel assembly integrity |
| Operational Inspection | Inspection Process Anomalies.  Site Arrangements where event is serious enough to expect most licensees to be aware of the event e.g. Heysham 1 Auxiliary Steam Leak Event Injuring 5 Persons; Sellafield discovery of unstable chemicals.  Where an incident highlights a systematic failure of SSCs or equipment, which may ONR has something to learn about its inspection practices e.g. New themes for consideration – Licensee cold weather preparations. |
| Nuclear Internal Hazards and Site Safety | Internal Hazards - flooding, fire, collapse, dropped loads, vehicle impacts, explosions, missiles, Fire Service Callout, Local Process Fires, Oil smouldering, ignition events, fire loading excess  Site health and safety – All RIDDOR events where hazards/risks to workers/contractors/public were not related exclusively to nuclear safety (e.g., under COMAH, LOLER, COSHH, CAR, CDM, PUWER, WAH etc.) |
| Human and Organisational Capability | Leadership and Management for Safety – Leadership & Management, Governance, Safety Management Systems, Design Authority, Knowledge Management, Internal Challenge.  Human factors – Human error, distraction, malicious act, ergonomics, nuclear baseline anomaly, procedure quality, procedure non-compliance, poor HMI design, alarm flood, poor task design, poor workspace design, anthropometrics, shift pattern/fatigue, excessive overtime, high/low workload, poor work planning, excessive noise, high/low temperature, poor lighting, access issues, time pressure, poor organisation learning, safety culture, insufficient competent resource, lack of or poor training, supervision/oversight, poorly conceived organisational change, lack of resource , novel task, complex task, lapse in attention, poor communication, intelligent customer failure, maintenance/latent error, poor decision making, configuration control issues, violation  Supply Chain – Incidents including events relating to suppliers (including contractors), intelligent customer, substandard supplier performance, issues with supplied goods or services, specifications, supplier selection and supplier capability, supplier quality management arrangements, deviations from specified requirements, non-conformances, supply chain oversight and assurance, Counterfeit, Fraudulent & Suspect Items (CFSI), quality plans, and records including Lifetime Quality Records (LTQR’s).  Quality Incidents – Procedural Non-compliance, Incorrect Component specification on supply, Component failed due to incorrect application/specification, Event relating to inadequate implementation of quality specification/installation parameters, Quality Non-conformance with stated safety consequences, resourcing (capacity/capability), incorrect specification of equipment/components, application and management of the IMS, Ineffective application of a graded approach for nuclear safety.  Document and Records – Inadequate arrangements, or inadequate implementation of arrangements for the provision of safety related documents and records including Lifetime Quality records (LTQRs) |
| Safeguards | All SG notifications (01-09) and AN-01. Incidents comprising: RS01, RS02, RS03, RS04, RS05, RS07, RS13, RS14, SC10c, SC10e, TS01, TS02, TS04 and TS09, where related to qualifying nuclear materials for safeguards purposes (e.g., uranium, plutonium and thorium). RS & RA accountancy event. Loss of RA material |
| Cyber Security and Information Assurance | A cyber incident or any other matter which results in the theft, attempted theft, loss or unauthorised disclosure of SNI. Such incidents may be in either physical or electronic form, actual or suspected with the ability to compromise the confidentiality, integrity or availability of Sensitive Nuclear Information (SNI) or Operational Technology (OT). Examples include transmission of SNI over an insecure network, the presence of malware, loss of assets such as a laptops or mobile devices, unauthorised exfiltration of data or incidents which reduce the confidence in the claims and/or reliability of OT and/or have the ability to result in an uncontrolled radiological consequence. |
| Protective Security | All SC, SG02, SG03 & SG04 categorised events. Human error affecting safety or security of nuclear or radioactive material. Incidents requiring evacuation of controlled areas. Incidents involving counterfeit, fraudulent or suspect items, any act of falsification (e.g., of records, certifications). |

**Note:** Transport is currently not a recognised specialism in WIReD. Those interested in searching for transport related incidents can use the incident categorisation/coding in WIReD to identify relevant INFs.

# References

|  |  |
| --- | --- |
| [1] | ONR, “ONR-MS-MAN-001 - Management System Manual”. |
| [2] | ONR, “GEO-GOV-TOR-002 - Regulatory Leadership Team (RLT) Terms of Reference”. |
| [3] | ONR, “ONR-RIO-PROC-002 - Process for Incident Notifications to ONR”. |
| [4] | ONR, “ONR-RIO-PROC-003 - Processing Incident Notifications”. |
| [5] | ONR, “ONR-ENF-GD-005 - Conducting Investigations”. |

1. This applies to the notifications received either by email or ONR’s dutyholder portal for INF1 and INF3 notifications.

   INF1 captures Safety, Security, Safeguards and Transport incident notifications.

   INF3 captures Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) incident notifications. [↑](#footnote-ref-2)
2. Events without safety significance are rated on the INES scale as Level 0 (Below Scale).   
   Events that have no safety relevance with respect to radiation or nuclear safety are not rated on the INES scale. [↑](#footnote-ref-3)