Country workshop

Topical Peer Review II

Fire protection at nuclear installations

Additional Information on the German Incident Reporting Practise

- Reporting Criteria for Reportable Events according to the Nuclear Safety Officer and Reporting Ordinance of the Atomic Energy Act (German: "Atomrechtliche Sicherheitsbeauftragten- und Meldeverordnung – AtSMV")
- **Explanatory notes** on the reporting procedure and the reporting criteria for reportable events according to Annex 4 of the AtSMV; Status: 07/2021 (1)
- Reporting Criteria depending on the facility type, e.g.
 - NPPs (Annex 1)
 - RR (Annex 3)
 - Facilities under decommissioning (Annex 4)
- "Fire-safety" related Reporting Criteria
 - Criterion N 2.1.3: Failure of or damage to active or structural fire protection features
 - Criterion S/E/N 3.2.1: Plant/facility internal events
- The reporting categories are following depending on severity:
 - Category S: Incidents that must be reported to the supervisory authority immediately
 - Category E: Incidents that must be reported to the supervisory authority within 24 hours
 - **Category N**: Events that must be reported to the supervisory authority within 5 working days



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Reporting Criteria for Reportable Events in Installations for Fission of Nuclear Fuels (Annex 1 & 3)

- Sect. 2 Plant Operation
- Criteria N 2.1.3 (=> normal reporting)

Failure of or **damage** to an **equipment related** or **structural fire protection feature.** Failures of or **minor damage** to individual components of the technical or structural fire protection system that do not impermissibly impair the fire protection functions **do not have to be reported**.

- From the **Explanatory notes**:
- Minor damage can be, for example
 - the self-reporting failure of individual fire or smoke detectors without affecting fire detection,
 - Damage to structural fire protection equipment that has no influence on the fire resistance or the retention of smoke gases (e.g. dent in a fire door, non-opening of a fire damper after closing actuation),
 - Failure of the remote control of an individual fire damper without affecting the fusible link release.

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Reporting Criteria for Reportable Events in Installations for Fission of Nuclear Fuels (Annex 1 & 3)

- Sect. 3.2, Internal events
- Criterion **S** 3.2.1

Internal fire, internal explosion, flooding or other internal impact to such an extent that there is a risk that the number of safety features required to control the design basis accident will no longer be available.

Criterion E 3.2.1

Internal fire, internal explosion, flooding or other internal impact to such an extent that there is a risk that only the number of safety features required to control the design basis accident will be available.

Criterion N 3.2.1

Internal fire, internal explosion, flooding or other internal impact in a room or **plant area in which radioactive substances** with an activity above the values specified in Annex 4 Table 1 column 2 of the Radiation Protection Ordinance are present **or** in which a **safety-relevant features is located**.

Localised small fires in connection with modification or maintenance work for which preventive fire protection measures have been taken and whose application was effective in fighting the fire **do not have to be reported**.

- From the **Explanatory notes**:
- The aim is to record incipient fires that reveal deficiencies in preventive fire protection in particular and that have not yet led to the failure of important safety equipment.



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Conclusions

- German reporting criteria are balanced out with regard to the different types of facilities and the severity of an event
- Additional to the « Nuclear Safety Officer and **Reporting Ordinance** » of the Atomic Energy Act the **Explanatory notes specifically** define the criteria and thresholds for reporting an event
- In practise the necessity to report an event is discussed between the licensee, the authority and technical experts mandated by the authority
- The reporting practise showed to work well by the resulting number of GRS information notices issued based on reported events
- Remark: A **fire** by definition is an exothermic process whereas the **pre-stage of smouldering** is still endothermic. To distinguish fire and smouldering is an **academic question** not to be solved by regulations