

Nuclear and radiation accident



Nuclear and radiation accident

Is defined by the International Atomic Energy Agency:

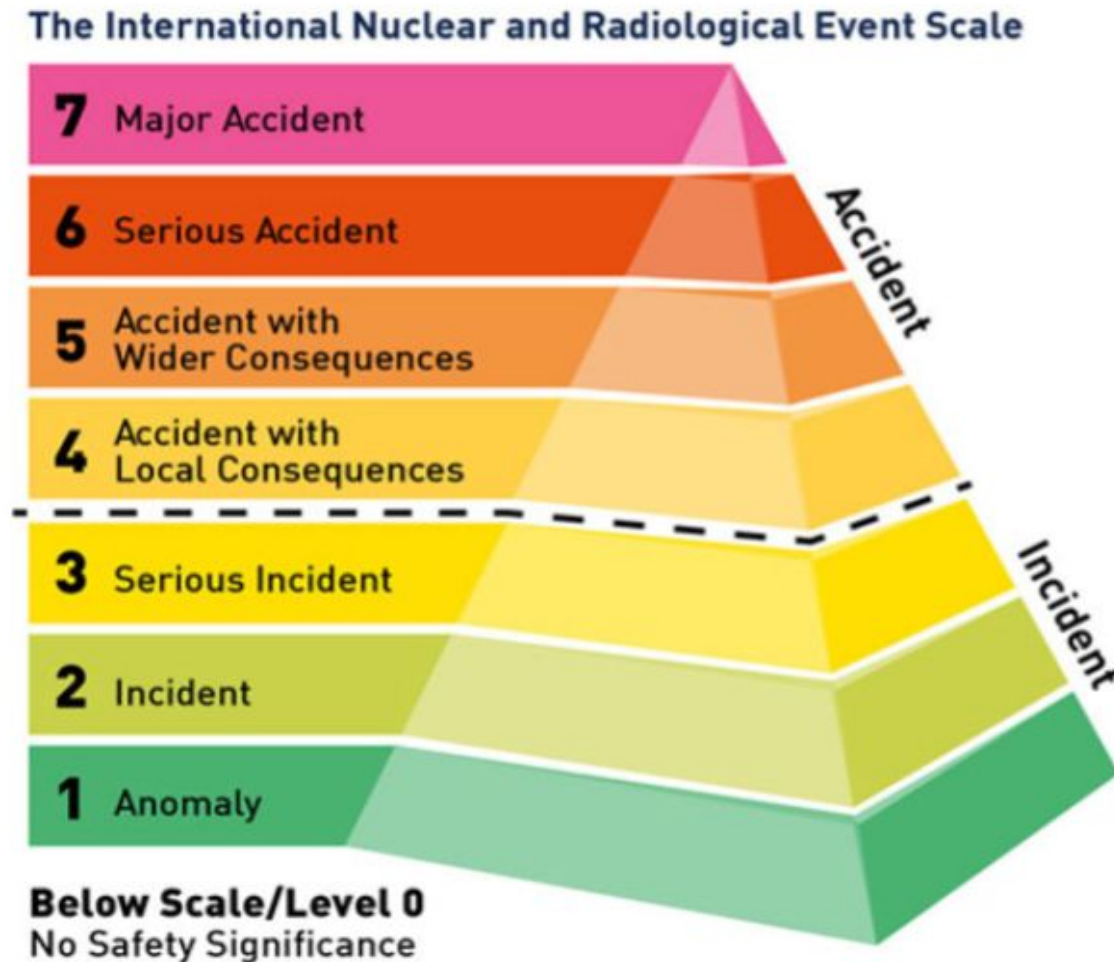
“an event that has led to significant consequences to people, the environment or the facility”

- ❖ lethal effects to individuals
- ❖ radioactive isotope to the environment
- ❖ reactor core melt



INES

The International Nuclear and Radiological Event Scale



Accident

Impact on people and environment:

7 Major accident

- Major release of radioactive material with widespread health and environmental effects requiring implementation of planned and extended countermeasures.

Impact on people and environment:

6 Serious accident

- Significant release of radioactive material likely to require implementation of planned countermeasures.



Accident

Impact on people and environment:

- Limited release of radioactive material likely to require implementation of some planned countermeasures.
- Several deaths from radiation.

5 Accident with wider consequences

Impact on people and environment:

- Minor release of radioactive material unlikely to result in implementation of planned countermeasures other than local food controls.
- At least one death from radiation.

4 Accident with local consequences



Incident

- 3 Serious incident**
- Impact on people and environment:
- Exposure in excess of ten times the statutory annual limit for workers.
 - Non-lethal deterministic health effect (e.g., burns) from radiation.
- 2 Incident**
- Impact on people and environment:
- Exposure of a member of the public in excess of 10 mSv.
 - Exposure of a worker in excess of the statutory annual limits.
- 1 Anomaly**
- Impact on defence-in-depth:
- Overexposure of a member of the public in excess of statutory annual limits.
 - Minor problems with safety components with significant defence-in-depth remaining.



Accident categories

- ❖ Criticality accidents
- ❖ Nuclear meltdown
- ❖ Decay heat accidents
- ❖ Transport accidents
- ❖ Equipment failure
- ❖ Human error
- ❖ Lost source



**THANK YOU
FOR YOUR
ATTENTION!**