

INTERNATIONAL NUCLEAR AND RADIOLOGICAL EVENT SCALE (INES)

Level/ Descriptor	Nature of the Events	Examples
7 MAJOR ACCIDENT	Major release: Widespread health and environmental effects requiring implementation of planned and extended countermeasures.	Chernobyl NPP, USSR (now in Ukraine), 1986 Fukushima NPP, Japan, 2011
6 SERIOUS ACCIDENT	Significant release: Likely to require full implementation of planned countermeasures.	Kyshtym Reprocessing Plant, Russia, 1957
5 ACCIDENT WITH WIDER CONSEQUENCES	Limited release: Likely to require partial implementation of some planned countermeasures. Severe damage to reactor core / several deaths from radiation. Release of large quantities of radioactive material within an installation with a high probability of significant public exposure. This could arise from a major criticality accident or fire.	Windscale Pile, UK, 1957 Three Mile Island, NPP, USA, 1979 Goiania, Brazil, 1987
4 ACCIDENT WITH LOCAL CONSEQUENCES	Minor release of radioactive material unlikely to result in implementation of planned countermeasures other than local food controls. Fuel melt or damage to fuel resulting in more than 0.1% release of core inventory. At least one death from radiation/release of significant quantities of radioactive material within an installation with a high probability of significant public exposure.	Tokaimuro, Japan, 1999 Saint-Laurent des Eaux NPP, France, 1980 Fleurus, Belgium, 2006 Mayapuri, India, 2010
3 SERIOUS INCIDENT	Near accident of an NPP with no safety provisions remaining. Highly radioactive sealed source lost or stolen/misdelivered without adequate radiation procedures in place to handle it. Exposure rates of more than 1 Sv/h in an operating area. Severe contamination in an area not expected by design, with a low probability of significant public exposure. Exposure in excess of ten times the statutory annual limit for workers/ Non-lethal deterministic health effect (e.g. burns) from radiation.	Vandellors NPP, Spain, 1989 Ikitelli, Turkey, 1999 Sellafield, UK, 2005 Yanango, Peru, 1999
2 INCIDENT	Significant failures in safety provisions but with no actual consequences. Exposure of member of public in excess of 10 mSv/exposure of a worker in excess of the statutory annual limits/ Radiation level in an operating area of more than 50 mSv/h. Significant contamination within the facility into an area not expected by design. Found highly radioactive sealed orphan source, device or transport package with safety provisions intact / inadequate packaging of highly radioactive material sealed source.	Forsmark, Sweden, 2006 Atucha, Argentina, 2005
1 ANOMALY	Minor problems in safety components with significant defence in depth remaining/ low activity lost or stolen radioactive source, device or transport package. Overexposure of member of public in excess of statutory limits.	Breach of operating limits at a nuclear facility/ theft of radioactive source
0 DEVIATIONS BELOW SCALE	No safety significance	