

## INTERNATIONAL NUCLEAR AND RADIOLOGICAL EVENT SCALE (INES)

Level/Descriptor	Name of the Events	Examples
<b>7 MAJOR ACCIDENT</b>	Major release: Widespread health and environmental effects requiring implementation of planned and extended countermeasures.	Chernobyl NPP, USSR (now in Ukraine), 1986 Fukushima NPPs, Japan, 2011
<b>6 SERIOUS ACCIDENT</b>	Significant release: Likely to require full implementation of planned countermeasures.	Kyshtym Reprocessing Plant Russia, 1957
<b>5 ACCIDENT WITH WIDER CONSEQUENCES</b>	<ul style="list-style-type: none"> <li>Limited release of Likely to require implementation of some planned countermeasures.</li> <li>Severe damage to reactor core/several deaths from radiation.</li> <li>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.</li> </ul>	Windscale Pile UK, 1957  Three Mile Island, NPP, USA, 1979  Goiania, Brazil, 1987
<b>4 ACCIDENT WITH LOCAL CONSEQUENCES</b>	<ul style="list-style-type: none"> <li>Minor release of radioactive material unlikely to result in implementation of planned countermeasures other than local food controls.</li> <li>Fuels melt or damage to fuel resulting in more than 0.1% release of core inventory.</li> <li>At least one death from radiation/Release of significant quantities of radioactive material within an installation with a high probability of significant public exposure.</li> </ul>	Tokaimuro, Japan, 1999  Saint-Laurent des Eaux NPP, France, 1980  Fleurus, Belgium, 2006  Mayapuri Incident, New Delhi, India, 2010
<b>3 SERIOUS INCIDENT</b>	<ul style="list-style-type: none"> <li>Near-accident of an NPP with no safety provisions remaining.</li> <li>Lost or stolen highly radioactive sealed source misdelivered without adequate radiation procedures in place to handle it.</li> <li>Exposure rates of more than 1 Sv/h in an operating area.</li> <li>Severe contamination in an area not expected by design, with a low probability of significant public exposure.</li> <li>Exposure in excess of ten times the statutory annual limit for workers/Non-lethal deterministic health effect (e.g., burns) from radiation.</li> </ul>	Vandellos NPP, Spain, 1989  Ikiteli, Turkey, 1999  Sellafield, UK, 2005  Yanango, Peru, 1999
<b>2 INCIDENT</b>	<ul style="list-style-type: none"> <li>Significant failures in safety provisions but with no actual consequences.</li> <li>Exposure of a member of the public in excess of 10 mSv/Exposure of a worker in excess of the statutory annual limits/ Radiation levels in an operating area of more than 50 mSv/h.</li> <li>Significant contamination within the facility into an area not expected by design.</li> <li>Found highly radioactive sealed orphan source, device or transport package with safety provisions intact/Inadequate packaging of a highly radioactive material sealed source.</li> </ul>	Forsmark, Sweden, 2006  Atucha, Argentina, 2005
<b>1 Anomaly Level 1</b>	<ul style="list-style-type: none"> <li>Minor problems with safety components with significant defence-in-depth remaining low activity lost or stolen radioactive source, Device or transport package.</li> <li>Overexposure of a member of the public in excess of statutory annual limits.</li> </ul>	Breach of operating limits at a nuclear facility/theft radioactive source
<b>BELOW SCALE/ Level 0</b>	<ul style="list-style-type: none"> <li>No safety significance</li> </ul>	