The Updated IAEA International Nuclear Event Scale Reporting System

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Overview

- History & milestones
- Main features of the INES Scale
- Basic Structure
- Event rating examples
- Conclusions
• Prompt communication to the public
• Consistency in terms of safety significance
• Operating successfully in more than 60 countries
• Can be applied to any event associated with radioactive material
• Events are classified on a scale from 1 to 7
Levels 1 to 3 - “Incidents”

Levels 4 to 7 - “Accidents”

Level 0 – “Deviations”
INES Scale: Milestones

1990-1992
- Clarification of issues raised

1996
- INES Manual Published

2001
- INES Technical mtg

2002
- INES Manual

2004
- IAEA meeting

2006
- INES Technical mtg

2007-8
- Revised Manual approved

2008
- Review-discussions

INES Manual for nuclear Installations

INES Manual

Pilot Use – Additional Guidance

Final Add’l Guidance

What INES does...

- Contributes to common understanding of incidents and accidents
- Events of public interest are disseminated transparently
- Brings uniform terminology
- Increases credibility and reassurance
What INES *does not do*…

- Does not *replace* the existing national criteria for the reporting of events

- Cannot be used to *compare* safety or regulatory programs between countries
3 different areas considered in evaluating the event:

1. People and the environment

2. Radiological barriers and controls at facilities

3. Defence-in-Depth
Continuously improving:

– Less than 200 users when it started in 2001
– More than 1500 users
  • Increasing number of visits to NEWS
– 70 events posted worldwide (2006-08)
Previous INES Events

Chernobyl
Previous INES Events

Goiânia
# INES Examples of Previous Events

<table>
<thead>
<tr>
<th>Event</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chernobyl (1986)</td>
<td>7</td>
</tr>
<tr>
<td>Kyshtym (1957)</td>
<td>6</td>
</tr>
<tr>
<td>Windscale (1957)</td>
<td>5</td>
</tr>
<tr>
<td>Goiâna (1987)</td>
<td>5</td>
</tr>
<tr>
<td>Three mile island (1979)</td>
<td>5</td>
</tr>
<tr>
<td>Tokaimura (1999)</td>
<td>4</td>
</tr>
<tr>
<td>Vandellos (1989)</td>
<td>3</td>
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<tr>
<td>Industrial radiographer worker overexposure</td>
<td>2</td>
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</table>
## U.S. Experience – INES 2004-08

<table>
<thead>
<tr>
<th>Year</th>
<th>Power Reactor Events</th>
<th>Research Reactor Events</th>
<th>Fuel Cycle Events</th>
<th>Materials Events</th>
<th>TOTAL</th>
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<tbody>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>6</td>
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<td>2005</td>
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<td>9</td>
<td>11</td>
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<tr>
<td>2006</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>2007</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
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<tr>
<td>2008</td>
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<td>0</td>
<td>0</td>
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### U.S. Experience – INES 2004-08

<table>
<thead>
<tr>
<th>Year</th>
<th>Radiography</th>
<th>Radiation Sources</th>
<th>Irradiators</th>
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<tbody>
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<td>2</td>
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## Distribution on INES Scale

### U.S. Experience – INES
2004 – 2008

<table>
<thead>
<tr>
<th>LEVEL</th>
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<tr>
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</tr>
</tbody>
</table>
Conclusions

International Reporting

Authoritative Information on Radiation Events

Uniform Terminology

Prompt Communication

Transparency

Website Listserver

Lessons Learned
Thank you!
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