An IAEA Perspective on the current radiation safety status of Member States that have expressed interest in embarking in a Nuclear Power Programme

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IAEA SAFETY FUNCTIONS

IAEA Safety Functions (Article III.A.6)

- to facilitate and service international conventions and other undertakings
- to establish safety standards for protection of health
- to provide for the application of safety standards
Underlying principles (aimed at politicians and regulatory bodies)

Specific obligations and responsibilities ("shall")

Recommendations to support requirements ("should")

www-pub.iaea.org/MTCD/publications/SeriesMain.asp
• IAEA Safety Standards are not legally binding on Member States but may be adopted by them, at their own discretion

**however...**

• IAEA Safety Standards are binding on IAEA in relation to its own operations and to operations assisted by the IAEA

• i.e.: IAEA can only procure radiation sources for Member States with an adequate radiation safety infrastructure
Evaluating and Quantifying the Status of Radiation Safety Infrastructure: Thematic Safety Areas (TSA)
THEMATIC SAFETY AREAS (TSA):

- TSA 1: Regulatory Framework
- TSA 2: Occupational Radiation Protection
- TSA 3: Patient Radiation Protection
- TSA 4: Waste Safety & Public Protection
- TSA 5: Emergency Preparedness and Response
- TSA 6: Education and Training
- TSA 7: Transport
• What is RASIMS?

• It is a web-based platform that enables Member States and the IAEA Secretariat to jointly collect, analyse and view information regarding the national infrastructure for radiation and waste safety.

• TSA Data is stored in RASIMS

http://rasims.iaea.org
### TSA Information in RASIMS

#### Relevant Safety Standard(s)

**IAEA Safety Standards**

*Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards*  
*INTERIM EDITION*  
*General Safety Requirements Part 3*  
*No. GSR Part 3 (Interim)*

#### Compared against

<table>
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<tr>
<th>PI</th>
<th>Evaluation by TO</th>
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<tbody>
<tr>
<td>3</td>
<td>Appraisal criteria fully met</td>
</tr>
<tr>
<td>2</td>
<td>Assessment criteria partially met</td>
</tr>
<tr>
<td>1</td>
<td>Assessment criteria is not met but actions undertaken</td>
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RASIMS INCLUDES REGIONAL AND NATIONAL INFORMATION AND PERFORMANCE DATA
Current status of radiation safety infrastructure in Countries that have expressed interest in nuclear power:

- TSA 1: Regulatory Framework
- TSA 2: Occupational Radiation Protection
- TSA 4: Waste Safety & Public Protection
- TSA 5: Emergency Preparedness and Response
GROUPS OF NEW COMER COUNTRIES

- Group **A**: First nuclear power plant started construction.
- Group **B**: First nuclear power plant ordered.
- Group **C**: Decided and started preparing infrastructure.
- Group **D**: Active preparation with no final decision.
- Group **E**: Considering nuclear power programme.
GROUP A : 1st Nuclear Power Plant Started Construction (1 Country) &
GROUP B : 1st Nuclear Power Plant Ordered (2 Countries)

• 1 Country made Good progress in TSA 1 (Regulatory Infrastructure) and TSA 2 (Occupational Radiation Protection), while 2 Countries have made medium progress

• 2 Countries made adequate progress for TSA 4 (Waste Safety & Public Protection) and TSA 5 (Emergency Preparedness & Response), while 1 Country needs to strengthen TSA 4 and TSA 5
GROUP C : DECIDED AND STARTED PREPARING INFRASTRUCTURE 6 Countries

- 2 Countries have done Good progress and 4 Countries Medium Progress in Regulatory Infrastructure (TSA 1)
- 1 Country has done Good progress and 5 Countries Medium Progress in Occupational Radiation Protection (TSA 2)

- Medium Progress has been done in 5 Countries, however, most of them are closed to the minimum requirements for TSA 4. 1 Country still needs to work hard to have and adequate infrastructure for Waste Management & Public Protection (TSA 4)

- Adequate progress has been achieved for Emergency Preparedness and Response (TSA 5) by the 6 Countries. However, considerable improvement is needed to be commensurate with a nuclear power programme.

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• 2 Countries have made Good progress and 4 Countries Medium Progress in Regulatory Infrastructure (TSA 1)

• Medium progress achieved by the 6 Countries in Occupational Radiation Protection (TSA 2)

• Medium Progress has been done in the other 5 Countries in TSA 4, and hard work is still needed for 1 Country to have and adequate infrastructure for Waste Management & Public Protection (TSA 4)

• Adequate progress have been achieved for Emergency Preparedness and Response (TSA 5) by the 6 Countries. However, considerable improvement is needed to be commensurate with a nuclear power programme.
Some progress have been made by many Countries considering nuclear power programme in all the TSA s for radiation safety infrastructure.

However, hard work is still needed in most of the Countries to have an adequate Radiation Safety Infrastructure.

Waste Management & Public Protection (TSA 4) and Emergency Preparedness & Response (TSA 5) are the areas that need more improvement.
CONCLUSIONS (I)

- **9 Countries** seriously considering starting a nuclear programme (Groups A, B and C)

  *however...*

- Considerable progress has been achieved with a lot of assistance from the Agency.
- Work is still needed to have and adequate Radiation Safety Infrastructure and the Agency continues to help.
- especially in **TSA 4** (Waste Safety & Public Protection) and **TS5** (Emergency Preparedness and Response)
- Improvement in all TSAs (in particular TSA4 and TSA 5) is needed in most of the **19 Countries** (Groups D and E)
CONCLUSIONS (II)

• IAEA has provided a lot of assistance:
  • Model Project since the 90s
  • 130 Member States (MS) have benefited
  • TC National and Regional Projects to cover national and regional MS needs
  • Many MS have received Advisory Services,
  • As a result, significant improvements in the safety infrastructure were achieved in these MSs
• IAEA continuously provides assistance for the application of IAEA Safety Standards by different means (peer review services, different tools, training programmes, specific technical assistance, etc.) . This the subject of the next presentation
THANK YOU FOR YOUR ATTENTION