PRASC Update to The GNSSN 13th Steering Committee Meeting (priorities and activities)

Gary Booth
Office of Safety and Security Coordination
Department of Nuclear Safety and Security
Recap

• Presentation last time…
  1. Summary of Conclusions from PRASC Working.
  2. Structure of Services.
  3. Update on Consultancy Meetings

• Conclusions have not changed
• Structure of services (matrix) has evolved
• Consultancy meetings were held
  1. Performance Indicators.
  2. Sequencing.
Peer Review and Advisory Services Committee
PRASC
Functions of PRASC (1/2)

• Functions of PRASC:
  – To review existing peer review and advisory services;
  – To identify similarities and differences of existing methodologies and processes;
  – To consider the different manner in which services could be offered to ensure maximum flexibility and efficiency for States and, to the extent possible, a consistent approach to the conduct of the services;
Functions of PRASC (2/2)

– To explore possibility of having a harmonized set of performance indicators for all missions in order to assess their efficiency and effectiveness;

– To review the lessons learned from peer review and advisory services and to provide recommendations for improvements;

– To advise on and review the necessity of any proposed new types of peer review or advisory service or consolidation of existing ones.
PRASC membership

• Committee
  – Mr. Juan Carlos Lentijo (Chair) – DDG-NS
  – All Directors of NS Divisions
    • meets every three months starting from May 2016. Up to now, nine meetings of PRASC have been carried out.

• Task Force
  – Section Head level representatives from all NS Divisions
    • normally meets every two weeks
PRASC Activities
## Peer Review and Advisory Services

<table>
<thead>
<tr>
<th>Generic Peer Review</th>
<th>Specific/Topic Peer Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated Regulatory Review Service (IRRS) – 54 since 2014</td>
<td>Independent Safety Culture Assessment (ISCA) – 24 since 2014</td>
</tr>
<tr>
<td>Integrated Safety Assessment of Research Reactor (INSARR)</td>
<td>Safety Aspects of Long Term Operation (SALTO) – 274 since 2014</td>
</tr>
<tr>
<td>Operational Safety Review Service (OSART) – 52 since 2014</td>
<td>Occupational Radiation Protection Appraisal Service (ORPAS) – 14 since 2014</td>
</tr>
<tr>
<td>Safety Culture Continuous Improvement Programme (SCCIP) – 5 since 2014</td>
<td>Independent Safety Culture Assessment (ISCA) – 26 since 2014</td>
</tr>
<tr>
<td>Safety Evaluation during Operation of Fuel Cycle facilities (SEDO)</td>
<td>Peer Review of the Effectiveness of the Operational Safety Performance (PROSPER) – 4 since 2014</td>
</tr>
<tr>
<td>Site and External Events Design (SEED)</td>
<td>Safety Aspects of Long Term Operation (SALTO) – 274 since 2014</td>
</tr>
<tr>
<td>Technical Safety Review (TSR) – 11 since 2014</td>
<td>Design Safety (DS)</td>
</tr>
<tr>
<td>Generic Reactor Safety (GRS)</td>
<td>Safety Requirements (SR)</td>
</tr>
<tr>
<td>Accident Management (AM)</td>
<td>Probabilistic Safety Assessment (PSA)</td>
</tr>
<tr>
<td>Periodic Safety Review (PSR)</td>
<td></td>
</tr>
</tbody>
</table>
Peer review and advisory services growing in popularity, and the requests for 2019 include:

- 11 IRRS
- 7 OSART and 5 SALTO
- Plus ARTEMIS, EPREV, ...

EC Directives calling for reviews
Sequencing – Integrated Nuclear Infrastructure Review INIR
The IAEA Milestones Approach for Nuclear Power Infrastructure Development

The Milestones Approach is holistic and considers 19 specific infrastructure issues.

NG-G-3.1 issued in 2007
Updated in 2015
### Milestones in the Development of a National Infrastructure for Nuclear Power (NG-G-3.1 Rev 1)

#### Nuclear Power Infrastructure Development

<table>
<thead>
<tr>
<th>Nuclear power option included in national energy strategy</th>
<th><strong>MILESTONE 1</strong></th>
<th><strong>MILESTONE 2</strong></th>
<th><strong>MILESTONE 3</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>MILESTONE 1</strong></td>
<td><strong>MILESTONE 2</strong></td>
<td><strong>MILESTONE 3</strong></td>
</tr>
<tr>
<td></td>
<td>Ready to make a knowledgeable commitment to a nuclear power programme</td>
<td>Ready to invite bids/negotiate a contract for the first nuclear power plant</td>
<td>Ready to commission and operate the first nuclear power plant</td>
</tr>
</tbody>
</table>

#### Phase 1

Considerations before a decision to launch a nuclear power programme is taken

#### Phase 2

Preparatory work for the contracting and construction of a nuclear power plant after a policy decision has been taken

#### Phase 3

Activities to implement a first nuclear power plant

*AT LEAST 10-15 YEARS*

#### First Nuclear Power Plant Project

- Pre-project activities
- Project development
- Final investment decision
- Contracting
- Construction
- Commissioning
- Operation
- Decommissioning
Sequencing of Peer Review and Advisory Services for new NPP programme

- Consultancy meeting held
- Current broad agreement between NE and NS exists
- Consultants proposed criteria for the timing and the scope of peer review and advisory services
- NS added to this proposal

- Now need to compare with peer review and advisory service sequencing for licensing
- Discuss with NE to agree one-house approach
Performance Indicators
Sequencing of Peer Review and Advisory Services for new NPP programme

• Consultancy meeting held
• Existing Performance Indicators for IRRS and EPREV considered for commonalities (many!)
• High level PIs developed from these

• NS now wish to distil these down into just a couple of important high level PIs to apply across all peer review and advisory services
Into 2019....
Continuing resolution

- Requests that the Secretariat provides for and promotes the active interaction of the Peer Review and Advisory Services Committee with Member States, and in consultation and coordination with Member States, assesses the overall structure, effectiveness and efficiency of services within the purview of the Committee; and continues to report to the Board of Governors on the outcomes of this common effort.
Technical Meeting

• Allocated budget for TM Q3 2019

• Room booked for end of August

• Date not yet firm, but should be end August or beginning of September
Peer review and advisory service missions – guidance
NS Peer Review and Advisory Services

Mission

ISSUE DEVELOPMENT

SAFETY FUNDAMENTALS

SAFETY REQUIREMENTS

Peer Review Guidelines

SAFETY GUIDES

KNOWLEDGE-BASE

FINDINGS

ISSUES

GOOD PRACTICES

FINDINGS

ISSUES

GOOD PRACTICES
NS Peer Review and Advisory Services

• New or revised guidance documents:
  – IRRS
  – EPREV
  – INSServ
  – TSR
  – SEED
  – AMRAS
Trends from peer review and advisory service missions – an example
NS Peer Review and Advisory Services

• IMPORTANT:
  – Safety Standards are not legally binding
  – Peer review and advisory services do not per se check implementation

• A team of experts compares actual practices with IAEA standards
• It raises recommendations and suggestions, or provides advice, to help host States strengthen and enhance their regimes
  – These reference Safety Standards
OSART missions 2012-2015

Requirements of SSR-2/2 referenced:

- **Most commonly:**
  - R 28: Material conditions and housekeeping
  - R 24: Feedback of operating experience
  - R 31: Maintenance, testing, surveillance and inspection programmes

- **Least frequently:**
  - R 6: Operational limits and conditions
  - R 17: Consideration of objectives of nuclear security in safety programmes
  - R 25: Commissioning programme
  - R 33: Preparation for decommissioning
SALTO missions 2005-2017

Requirements of SSR-2/2 referenced (SALTO and LTO module of OSART):

• Most commonly:
  – R 16: Programme for long term operation
  – R 14: Ageing management
  – R 13: Equipment qualification
NS Peer Review and Advisory Services

IRRS to Member States with operating nuclear power plant – GSR Part 1
Requirements of GSR Part 1 referenced:

- Most commonly:
  - R 24: Demonstration of safety for the authorization of facilities and activities;
  - R 32: Regulations and guides;
  - R 18: Staffing and competence of the regulatory body;
  - R 27: Inspection of facilities and activities;
  - R 29: Graded approach to inspections of facilities and activities;
  - R 4: Independence of the regulatory body; and,
  - R 2: Establishment of a framework for safety.

- Least frequently:
  - R 9: System for protective actions to reduce existing or unregulated radiation risks;
  - R 6: Compliance with regulations and responsibility for safety;
  - R 13: Provision of technical services;
  - R 21: Liaison between the regulatory body and authorized parties; and,
  - R 12: Interfaces of safety with nuclear security and with the State system of accounting for, and control of, nuclear material.
Follow-up IRRS NPP missions 2006-2016

Requirements of GSR Part 1 referenced:

- **Most commonly:**
  - R 18: Staffing and competence of the regulatory body, is high in both initial and follow-up missions.

- **Least frequently:**
  - R 6: Compliance with regulations and responsibility for safety;
  - R 8: Emergency preparedness and response;
  - R 12: Interfaces of safety with nuclear security and with the State system for accounting for, and control of, nuclear material;
  - R 14: International obligations and arrangements for international cooperation and assistance; and,
  - R 21: Liaison between the regulatory body and authorized parties.
Top six topics of GS-R-2 referenced:

- Training, drills and exercises;
- Basic responsibilities;
- Plans and procedures;
- Taking urgent protective actions; and,
- Identifying, notifying and activating.
Thank you!