International Atomic Energy Agency

IAEA Operational Safety Review PROGRAMME

Vesselina Rangelova,
IAEA OSART Programme Manager
Content

• Concept of the IAEA safety services

• Operational Safety Review Team (OSART) missions history

• OSART methodology

• IAEA/WANO cooperation
IAEA Safety Services

- IAEA Statute (Article III.A.6):
  “To establish or adopt… [in consultation with Member States]… standards of safety for the protection of health and minimization of danger to life and property”
  “…and to provide for the application of these standards”

- The IAEA Safety Review Services are the only way to review the compliance with the IAEA SS that have been developed with the full consensus of IAEA MSs, including all countries operating NPPs.
OSART PROGRAMME - Introduction

OSART Objectives

• To improve operational safety

• Objectively assess status of key operational safety areas

• Exchange information and experiences
### Top REQUESTERS of OSART missions

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of operating sites</th>
<th>Numbers of OSART missions hosted</th>
</tr>
</thead>
<tbody>
<tr>
<td>France (19)</td>
<td></td>
<td>29</td>
</tr>
<tr>
<td>Ukraine (4)</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>China (9)</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Czech Republic (2)</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Russia (10)</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>USA (61)</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Brazil (1)</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Bulgaria (1)</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Sweden (3)</td>
<td></td>
<td>7</td>
</tr>
</tbody>
</table>
Regional distribution of past missions

• 193 OSART missions:
  • Western Europe  64
  • Central Europe    31
  • Eastern Europe   35
  • Asia    33
  • North America  18
  • South America    8
  • Africa      4
Materials available on OSART website

OSART brochure

OSART Good Practices on the web

OSART Guidelines


http://www-ns.iaea.org/reviews/good-practices.asp?s=2&l=8

OSMIR Database

- **OSART Mission Results Database**
- Contains results from 127 OSART missions and 100 follow-up visits from 1991 (Continually being updated)
- 2952 Recommendations,
- 2164 Suggestions
- 1245 Good Practices
- Available on the IAEA website
  (only for registered users)
OSART mission highlights


OSART - Operational Safety Review Team
In 1982, the IAEA created the Operational Safety Review Team (OSART) programme. Under this programme, international teams of experts conduct in-depth reviews of operational safety performance at a nuclear power plant. They review the factors affecting the management of safety and the performance of personnel. As a result, the OSART programme has provided advice and assistance to Member States to enhance the operational safety of nuclear power plants. In addition, the OSART programme provides an opportunity to disseminate information on “Good Practices” which are recognized during OSART missions.

OSART missions in general review performance in the following areas:

- Management, organization and administration
- Training and qualification
- Operations
- Maintenance
- Technical support
- Operational experience feedback
- Radiation protection
- Chemistry
- Emergency planning and preparedness
- Severe Accident Management, etc.

Related information:
- OSART Brochure: English French Spanish Russian
- OSART Guidelines
- OSART Good Practices
- OSART Mission results (OSMIR)
- OSART highlights 2003 - 2006
- OSART highlights 2007 - 2009
- OSART highlights 2010 - 2012
- OSART Mission list

Most recent OSART missions and requested missions in each country
The IAEA Action Plan on Nuclear Safety

• IAEA MSs strong commitments to operational safety:

“Each Member State with nuclear power plants to voluntarily host at least one IAEA Operational Safety Review Team (OSART) mission during the coming three years, with the initial focus on older nuclear power plants. Thereafter, OSART missions [have] to be voluntarily hosted on a regular basis”.

• Adopted by the IAEA's Board of Governors and subsequently unanimously endorsed by the IAEA General Conference in 2011.

• MSs’ Implementation of the Action plan was subject to discussions on 6th Review meeting of Convention on Nuclear Safety, 2015.
OSART attributes

• Objectivity of judgement guaranteed by using IAEA Safety Standards as reference.

• Well qualified reviewers with diverse experience. Independent assessment – No experts from the home country

• Standard scope of the review which can then be customized to suit plant specific requirements.

• Transparency of the review process through daily communications between team and plant.

• Derestricted nature of the report.
OSART PROGRAMME

What OSART does not do!

• Does not assess overall design adequacy
• Does not assess against national regulatory requirements
• Does not assess the overall safety of a plant
• Does not rank the operational safety performance of the host plant in comparison with other plants
IAEA is conducting on average 6 OSART missions/year.

- Long term arrangements for OSART missions with: France (1 per year); Russia (1 in 2 years); USA (1 in 3 years); Finland (all plants in the next 3 years); Canada.

- Increased number of Corporate and Pre-operational OSART missions.

- Traditionally high density of OSART missions in Europe.
International Atomic Energy Agency

OSART PROGRAMME

STRUCTURE, SCOPE, METHODOLOGY
Standard or custom-tailored scope

OSART areas:
• LAM  Leadership and Management for Safety
• TQ   Training and Qualification
• OPS  Operations
• MA   Maintenance
• TS   Technical Support
• OEF  Operating Experience Feedback
• RP   Radiation Protection
• CH   Chemistry
• EPR  Emergency preparedness and response

OSART areas:
• AM   Accident Management
• HTO  Interaction of the Human, Technology, Organization
• LTO  Long Term Operation
• COM  Commissioning
• PPSA PSA applications
• TRA  Transition to Decommissioning
**OSART - Methodology**

**Identifying, developing and reporting Issues:**

**Performance based**

- field review, observation
- collect facts

**Programme based**

- interview, programme review
- collect facts

**Grouping of similar facts**

- feedback from:
  - counterparts
  - team members

- issue formulation
**REPORTING RESULTS - Written / Oral Communication**

**Technical Notes**

**Draft Technical Notes**

**Working Notes**

**Daily Notes**

**Team Leader**

**Plant Manager**

**Experts**

**Counterparts**

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**Notes made in the field by the reviewer on a daily basis**

**Conversion of Daily notes into the WNO document – done in evening by reviewer**

**Produced by each area reviewer in last week of OSART from the WNO of the reviewer**

**Left with plant at end of mission for comment – forms the basis of the final OSART report**

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**Short daily meeting**

**Daily Team Meeting**

**Daily discussion**
• OSART PROGRAMME

ISSUES

Quality

IAEA SAFETY STANDARDS

Activities

• R: Recommendation
• S: Suggestion
• GP: Good Practice

GP

GP

GP

GP
FOLLOW-UP VISIT

OSART MISSION
OSART PROGRAMME - Follow-up Visit

Timing

About 18 months after the OSART mission

Purpose

• To determine status of actions taken in response to mission findings

• Assist the host power plant in achieving maximum benefit from OSART response actions
Thank you for the attention