



OSART

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OSART PROGRAMME - Introduction

Purpose

To assist Member States in enhancing the operational safety of individual nuclear power plants

To promote the continuous development of operational safety within all Member States by the dissemination of information on good practices

What is an OSART Mission?

- An assessment of a plant's performances based on Safety Standards
- An assessment of operational practices in comparison with those used successfully in other countries
- A technical exchange of experiences and practices at the working level.

What an OSART is not...

- OSART mission is not a regulatory inspection
- Not a substitute of NPP overall safety status evaluation
- Does not rank performance against other NPPs
- Does not assess design adequacy

Option of custom-tailored scope

Standard areas:

- *MOA* Management, Organisation and Administration
- *OPS* Operations
- *MA* Maintenance
- *TS* Technical Support
- *RP* Radiation Protection
- *OEF* *Operating Experience Feedback*
- *TQ* *Training and Qualification*
- *CH* *Chemistry*
- *EPP* *Emergency planning and preparedness*
- *SAM* *Severe Accident Management*

Optional areas:

- *SC* Safety Culture
- *LTO* Long Term Operation
- *COM* Commissioning
- *PSAA* PSA applications
- *TRA* Transition to Decommissioning

OSART scope: standard areas + optional areas selected by the customer

Limited scope : areas as agreed between plant and IAEA

OSART Overall Concept

TIME	ACTIVITY	RESOURCES
12 months before mission	PREPARATORY MEETING, SEMINAR	2 IAEA staff 2 to 4 days
	MISSION	2-3 IAEA staff 10-9 external experts 2.5 weeks
about 18 months after mission	FOLLOW-UP VISIT	2 IAEA staff 1-2 external experts 1 week

OSART PROGRAMME - History

ACTIVITIES 1983 – Now

□ 167 missions: 102 sites; 33 countries

- 122 OSART missions to operational plants
- 22 OSART missions to plants under construction/commissioning
- 7 safety review missions
- 10 technical exchange missions
- 6 expert missions

□ 108 follow-up visits

□ Technical assistance, including OSART seminars

OSART missions 1983-Now

167 OSART missions:

Western Europe	55
Central Europe	26
Eastern Europe	32
Asia	29
North America	14
South America	7
Africa	4



OSARTs in 2011-2012

- Angra2, Brazil 2011 Mar.-Apr.
- Metzamor, Armenia 2011 May-June
- Dukovany, Czech R. 2011 June
- Seabrook, USA 2011 June
- Koeberg, South Africa 2011 Aug.-Sep.
- Smolensk, Russia 2011 Sep
- Cattenom, France 2011 Nov.-Dec.
- Hongyanhe, China 2012 Feb.
- Angra1, Brazil 2012
- Laguna Verde, Mexico 2012
- Mühleberg, Switzerland 2012
- Rajasthan, India 2012
- Temelin, Czech R. 2012
- Gravelines, France 2012
- Kozloduy5&6, Bulgaria 2012

IAEA website regarding OSART

OSART website : <http://www-ns.iaea.org/reviews/op-safety-reviews.asp?s=7&l=49>

Safety Databases

- ▶ Radiation Transport & Waste
- ▶ Security
- Safety Infrastructure
- ▶ Services for Member States
- ▶ Safety & Security Publications
- ▶ Conventions & Codes
- ▶ Training
- ▶ Meetings
- ▶ Special projects

Good 4 3 2 1 0 Poor

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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 recognised 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
- Construction, commissioning, etc.

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Related information:

- OSART Brochure: [English, French, Russian, Spanish](#)
- [OSART Guidelines](#)
- [OSART Good Practices](#)
- [OSART Mission results \(OSMIR\)](#)
- [OSART Highlights 2003 - 2006](#)
- [OSART Highlights 2007 - 2009](#)
- [OSART Mission list](#)
- [Most recent OSART missions and requested missions in each country](#)

Related documents

- ▶ [Nuclear Safety Review](#)
- ▶ [OSART Brochures: English, French, Russian, Spanish](#)
- ▶ [PROSPER Guidelines](#)
- ▶ [IRS Guidelines, Leaflet](#)
- ▶ [SALTO Guidelines, Ageing, LTO](#)
- ▶ [SCART Guidelines, Brochure](#)

Page links

- [OSART](#)
- [PROSPER](#)
- [IRS](#)
- [SALTO](#)
- [SCART](#)

"Most recent OSART missions and requested missions in each country" tab was added to show the most recent OSART mission of each country (see next slide) .

IAEA website regarding OSART

Most recent OSART mission in each country (sorted earliest to latest)

Status of Jan.2012

COUNTRY	NUMBER OF PAST MISSIONS	MOST RECENT MISSION	REMARKS
India	0	<i>No Mission Ever</i>	Rajasthan mission officially requested (planned in 2012)
Iran	0	<i>No Mission Ever</i>	Bushehr mission officially requested (planned in 2013)
UK	3	Hunterston (1994)	
Mexico	4	Laguna Verde (1997)	Laguna Verde mission officially requested (planned in 2012)
Argentina	1	Embalse (1997)	
Bulgaria	6	Kozloduy (1999)	Kozloduy 5&6 mission officially requested (planned in 2012)
Switzerland	4	Mühleberg (2000)	Mühleberg mission officially requested (date is to be determined)
Hungary	2	Paks (2001)	
Slovenia	3	Krsko (2003)	
Pakistan	5	Chashma (2004)	
Canada	3	Pickering (2004)	
Romania	3	Cernavoda (2005)	
Netherlands	3	Borssele (2005)	
Lithuania	2	Ignalina (2006)	
Finland	3	Loviisa (2007)	Olkiluoto mission officially requested (date is to be determined)
Korea, Rep. of	6	Yonggwang (2007)	
Germany	6	Neckarwestheim (2007)	
Japan	5	Mihama (2009)	
Spain	5	Vandellos (2009)	
Sweden	7	Ringhals 3/4 (2010)	
China	10	Lingao (2009)	Hongyanhe Phase I mission officially requested (planned in 2012).
Ukraine	14	South Ukraine (2009)	
Belgium	2	Doel (2010)	
Slovakia	6	Bohunice 3/4 (2010)	
Brazil	6	Angra 2 (2011)	Angra 1 mission officially requested (planned in 2012). Angra 3 mission officially requested (planned in 2015).
Armenia	1	Metzamor (2011)	
Czech Republic	9	Dukovany (2011)	Temelin mission officially requested (planned in 2012)
USA	7	Seabrook (2011)	
South Africa	4	Koeberg (2011)	
Russia	7	Smolensk (2011)	Kola mission officially requested (planned in 2014) Novovoronezh mission officially requested (planned in 2015)
France	23	Cattenom (2011)	Gravelines mission officially requested (planned in 2012) Chooz mission officially requested (planned in 2013) Flamanville 3 mission is officially requested (date is to be determined)

*Countries where currently no plants are under operation are excluded.

OSMIR Database

OSMIR Database

Dec 2011

IAEA NSNI/OSS

- OSART Mission Results Database
- Contains results from 101 OSART missions and 80 follow-up visits from 1991 (Continually being updated)
- 2790 Recommendations,
- 1987 Suggestions
- 1002 Good Practices
- Distributed in CD-ROM

The screenshot shows the Microsoft Access interface for the OSMIR Database. The window title is "Microsoft Access - [PReport : Form]". The menu bar includes File, Edit, View, Insert, Format, Records, Tools, Window, and Help. The main area contains several search filters:

- Select by mission year:** FROM 1991 TO 2002 OR
- Select by mission no.:** 50 TO 114 OR
- Select by reactor type:** [Dropdown] OR
- Select by country:** [Dropdown] OR
- Select by plant:** [Dropdown] OR
- Select by Review Area:** [Dropdown] OR
- Select by Topic:** [Dropdown] OR

Below these filters, there is a section for "Confine search to" with radio buttons for Recommendations, Suggestions, Good Practices, and Rec's and Sug's. The "ALL" radio button is selected. A "Text search: enter text string" field is also present.

At the bottom, a record preview is shown for "Record: 14".

MISSIONS AND FOLLOW-UP VISITS

xxxx NPP, XXX	PWR 1330 MW	dd-dd mm, yyyy
CHEMISTRY		dd-dd mm, yyyy
Organization and Functions		

Issue:

The lack of policies, procedures and programmes in chemistry is inconsistent with good industry practice and is resulting in some inferior practices. The following are examples where there were no established policies or procedures:

- Programme for lifetime control for chemicals standards.
- Programme to control the use of chemicals reagents, e.g. inflammable solvents and toxic chemicals.
- Programme for quality control of chemical analysis, which includes trend analysis results and statistics treatment.
- Administrative procedure to control storage of chemicals reagents in the different laboratories.

Some examples of weaknesses associated with the lack of policies, procedures and programmes that were observed in the field are as follows:

- There were unnecessary quantities of flammable solvents, like toluene and benzene stored in the cold laboratory Unit 1 & 2.
- There was no administrative procedure to control toxic chemicals, which were stored in the cold laboratory Units 1 & 2.
- No administrative control is applied in the cold laboratories of Units 1 & 2 and Units 3 & 4 for chemicals segregation.

Lack of chemistry policies, programmes and procedures could lead to incorrect analysis and results that could lead to violation of chemicals limits or challenge plant personal safety.

Recommendation:

The plant should establish quality control policies, procedures and programmes consistent with good industry practice. These include: lifetime control for chemicals standards, control the use and storage of chemicals reagents and quality control of chemical analysis.

Plant response:

The bringing together of all laboratories within one department called the Measurements, Performance and Environment

Understanding of current status in terms of dissemination of information

- A number of information are available on the current IAEA OSS website, and information which cannot be substitute by information on the web are conveyed to plants in an interactive manner during a preparatory meeting and associated seminars on OSART.
- Sometimes plants preparing for an OSART contact plants which had recently hosted an OSART or send observers to other OSARTs to get relevant information voluntarily.
- Currently OSART training tool for reviewers and OSMIR database are distributed to related parties in CDs.

Potential use of GNSSN site for OSART

- Organise the exchange of information for plants preparing for an OSART about results of their self-assessment and action plans developed to prepare for an OSART mission.
- Make available the OSART training tool and the OSMIR database on the restricted area of GNSSN site.

The background of the slide is a solid dark brown color with a pattern of lighter brown, semi-transparent autumn leaves scattered across it. The leaves have detailed vein structures and are oriented in various directions, creating a textured, seasonal feel.

Thank you for your attention.