

Supporting Member States:

# IAEA Peer Review Services

*Delivered by the Department of Nuclear Energy*



**IAEA**



## IAEA Peer Review Services

Integrated Review Service for Radioactive Waste and Spent Fuel Management, Decommissioning and Remediation

**ARTEMIS**

Construction Readiness Review

**CORR**

Disused Sealed Radioactive Sources Technical Centres

**DSRS-TeC**

Independent Engineering Review of I&C Systems

**IERICS**

Integrated Nuclear Infrastructure Review

**INIR**

Integrated Nuclear Infrastructure Review for Research Reactors

**INIR-RR**

Integrated Uranium Production Cycle Review

**IUPCR**

Knowledge Management Assist Visit

**KMAV**

Operation and Maintenance Assessment for Research Reactors

**OMARR**

# INTRODUCTION

by **Mikhail Chudakov**

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The Department of Nuclear Energy provides, upon Member States' request, several peer review services. In recent years, the demand for such services has steadily increased. This is because it is recognized that such services provide Member States with valuable advice from the international expert community, helping address common issues, and reviewing actual practices with IAEA-identified good practices and guidance, and standards.

Moreover, IAEA peer review services can help improve stakeholders' understanding of and confidence in how Member States are managing nuclear programmes and activities.

The value of these services stems from the collective expertise and independence of a group of experts, as well as from the quality of their implementation methodology which ensures that review content remains focused on an agreed scope and is structured according to agreed objectives within an IAEA reference framework.

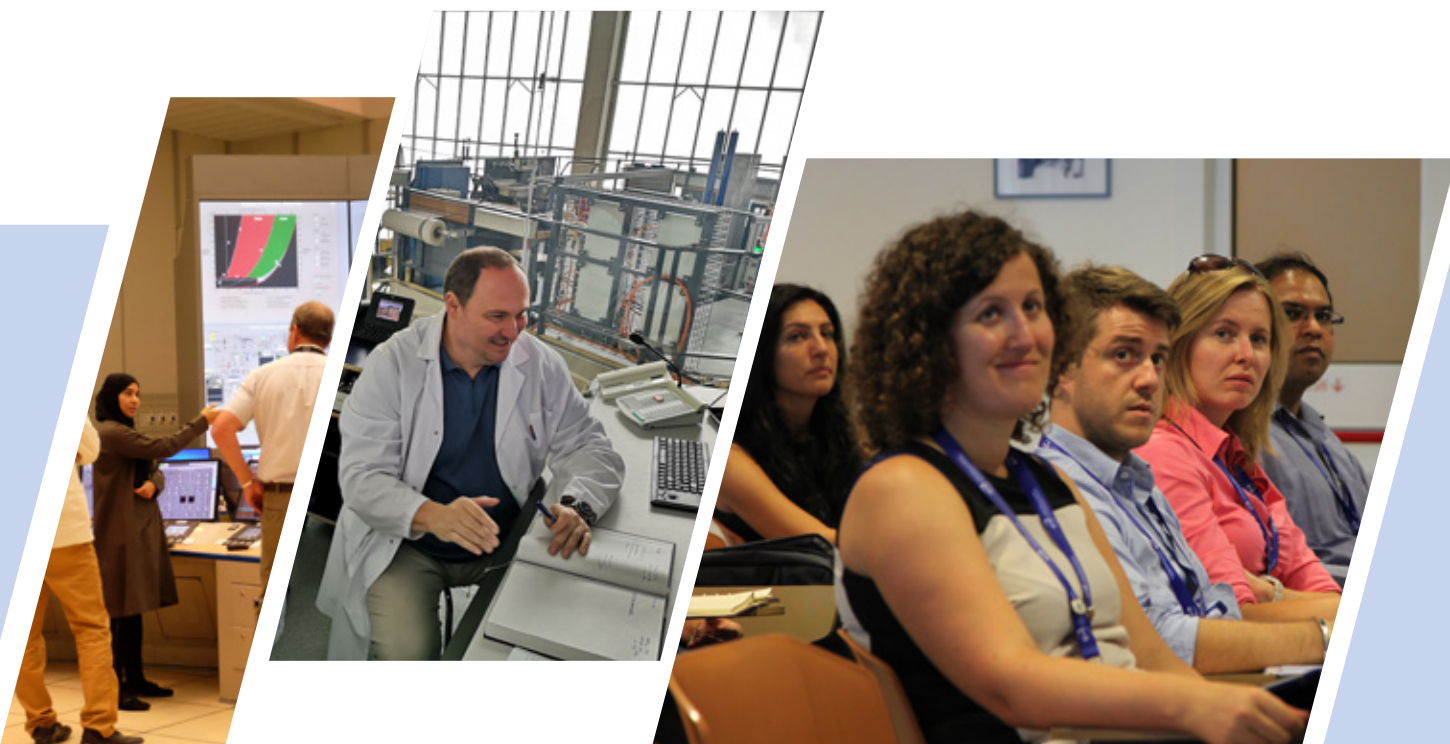
As part of the efforts to continuously improve the effectiveness and efficiency of such services, the Department of Nuclear Energy has established an Advisory and Peer Review Services Committee, or APReSC.

## What is a Peer Review Service?

A peer review service is a structured process to provide assistance with assessment or evaluation of the status and/or performance of a programme, processes, practices and/or capabilities with respect to a topic or particular area based on specific IAEA reference publications (e.g. Nuclear Energy Series publications, IAEA Safety Standards, etc.), identified good practices and individual expertise, performed by experts who are independent of the work being reviewed. The IAEA also plays an important role in supporting and contributing to the peer review process, including ensuring the quality and consistency of the results.

Findings of peer review services are formalized consistent with an agreed reference framework in the format of:

- **Recommendations:** advice for undertaking specific and doable actions necessary to ensure the fulfilment of requirements, conditions or proven methods identified by a specific IAEA reference framework.
- **Suggestions:** advice for undertaking specific and doable actions aimed at improving performance or practices, based on recognized good practices and individual expertise.
- **Good practices:** a practice, arrangement, programme, activity or design element superior to those generally observed elsewhere in the subject matter area. They are above expectation in the fulfilment of the requirements or conditions and worthy of consideration in the drive for excellence.



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## **Integrated Review Service for Radioactive Waste and Spent Fuel Management, Decommissioning and Remediation (ARTEMIS)**

ARTEMIS is an integrated peer review service for radioactive waste and spent fuel management, decommissioning and remediation programmes. This service is intended for facility operators and organizations responsible for radioactive waste management, for spent fuel management, to implement decommissioning projects and/or to remediate specific sites, as well as for regulators, national policy and other decision-makers having responsibility for any or all of the above. The ARTEMIS service is conducted jointly with the IAEA Department of Nuclear Safety and Security.

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## **Construction Readiness Review (CORR)**

CORR missions assess a nuclear power plant project's readiness to proceed to its initial or next construction phase. A CORR mission can be deployed before the start of a major construction, at a major project milestone, or at any other time requested by a Member State. CORR missions are applicable to both new nuclear power plant projects or major refurbishments of operating plants.

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## **Disused Sealed Radioactive Sources Technical Centres (DSRS-TeC)**

The DSRS-TeC peer review is designed to offer an independent international assessment and evaluation of disused sealed radioactive sources (DSRS) management strategies and programmes, with a focus on aspects and topics related to pre-disposal management of Category 3 to 5 DSRS. The peer review's objectives are to assist Member State organizations and institutions that handle DSRS, and to enhance their operational standards and performance of their DSRS management activities.



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## Independent Engineering Review of I&C Systems (IERICS)

IERICS is a peer review of instrumentation and control (I&C) design documents, prototype I&C systems and those already deployed in operating nuclear power plants. It is applicable at any stage of the life cycle of nuclear power plants' I&C systems and can be requested by organisations in Member States. IERICS reviews assess in detail the design approach, principles and procedures of the development process of the system under review. They identify existing or potential issues or concerns related to the design, operation and licensing procedures, and provide recommendations to address these issues.

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## Integrated Nuclear Infrastructure Review (INIR)

INIR is a holistic peer review to assist Member States in assessing the status of their national infrastructure for the introduction or expansion of nuclear power. The review covers the nuclear infrastructure required for developing a safe, secure and sustainable nuclear power programme based on the Milestones Approach and the associated 19 infrastructure issues. An INIR mission enables a Member State to have in-depth review and discussions with international experts about experiences and best practices in nuclear power infrastructure development. An INIR mission provides recommendations and suggestions to the Member State to support further development of the required infrastructure for nuclear power introduction or expansion in a responsible and structured manner. INIR missions are conducted in cooperation with all relevant IAEA Departments and Offices.

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## Integrated Nuclear Infrastructure Review for Research Reactors (INIR-RR)

INIR-RR is a holistic peer review to assist Member States in assessing the status of their national infrastructure for the introduction of a research reactor programme. The review covers the infrastructure issues required for developing a safe, secure and sustainable programme. Before hosting an INIR-RR mission, the country completes a self-evaluation of the 19 infrastructure issues included in the IAEA's Milestones Approach for a Research Reactor Programme. A work plan to support Member States in progressing their infrastructure is usually developed after the review mission. INIR-RR missions are conducted in cooperation with all relevant IAEA Departments and Offices.



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## **Integrated Uranium Production Cycle Review (IUPCR)**

IUPCR (formerly Uranium Production Site Appraisal Team or UPSAT) missions are designed to assist Member States by providing an objective assessment of the status of their national infrastructure for uranium production cycle activities (i.e. exploration, mining, processing, decommissioning and remediation) and to improve the operational and safety performance through all phases of the uranium production cycle. The principal objective of an IUPCR mission is to assess the status of the national infrastructure of the uranium production cycle in the Member State and to formulate recommendations for advancing development in uranium production cycle activities, based on industry good practice and additionally to identify areas of good practice.

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## **Knowledge Management Assist Visit (KMAV)**

KMAV is an integrated service designed to assist Member States in maintaining and preserving knowledge in nuclear organizations. KMAV missions review the knowledge management practices of a nuclear organization and provide expert advice on further improvement.

This service assists Member States in capturing, maintaining, preserving and transferring the explicit and tacit knowledge within nuclear organizations through the application of pragmatic knowledge management methodologies that encompass people, processes, and technology, with the aim of contributing to their organizational objectives.

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## **Operation and Maintenance Assessment for Research Reactors (OMARR)**

OMARR is designed to assist Member States in improving the operational and maintenance practices of research reactors, thereby optimizing their availability, reliability, and efficient use of resources, including for long-term operation. OMARR reviews are available to operating organizations in all Member States with research reactors under commissioning, in operation or under preparation for decommissioning.



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## Requesting a service

Interested Member States can request services through official channels addressing their request to the Deputy Director General, Head of the Department of Nuclear Energy. Alternatively, a request can be submitted through the mechanisms of the IAEA Technical Cooperation Programme. Following the request, Member States will be invited to complete a self-assessment and/or provide advance information ahead of the peer review mission.

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## Funding

Services can be funded through extrabudgetary contributions from Member States to the IAEA's Department of Nuclear Energy or in the framework of the IAEA Technical Cooperation Programme, including Member States' cost sharing. A combination of those sources of funding may also be possible.

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## Important note

IAEA peer reviews do not constitute an endorsement of a Member States' activities and/or programmes. These services aim to support Member States in their efforts to continuously improve planning and implementation of their national programmes and activities.

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## More information

Please visit

[www.iaea.org/services/review-missions](http://www.iaea.org/services/review-missions)

for a calendar of planned and completed reviews and services, with mission reports or summaries.

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