

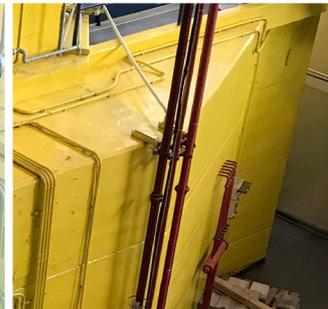
# IRRUR

## Integrated Research Reactor Utilization Review

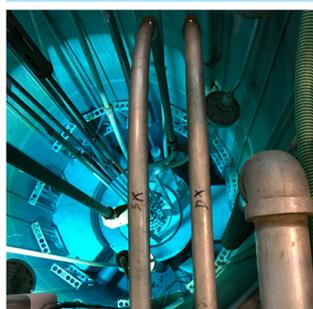
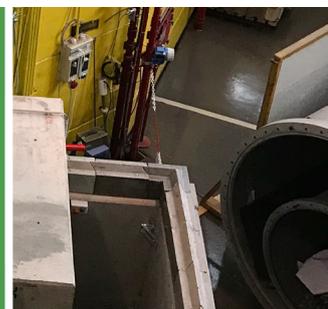
Assess current utilization  
profile of a research reactor



Identify opportunities  
to expand utilization in  
education and training, R&D  
and provision of products  
and services



Strengthen the  
research reactor  
user community and  
enlarge the utilization  
base



**IAEA**

International Atomic Energy Agency

*Atoms for Peace and Development*

## OBJECTIVES OF IRRUR

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Integrated Research Reactor Utilization Review (IRRUR) missions are designed to assist IAEA Member States improve the utilization of their research reactor facilities.

The IRRUR is a holistic IAEA peer review mission conducted by a team of international experts who have direct managerial, operational and scientific experience related to research reactor utilization and related applications. The review is based on IAEA guidance on strategic planning for, and utilization of, research reactors, and can focus on all the major applications of a research reactor or be limited to specific facility mission areas.

The main objective of an IRRUR mission is to assist IAEA Member States to perform a thorough assessment of the utilization of a research reactor, including its existing and potential capabilities, identification of further utilization areas, research and development possibilities, as well as products and services that the research reactor could provide.

Such a peer review mission can assist Member States in their decision-making processes, including in the development of a strategy towards sustainable operation or shutdown of the research reactor.

## SCOPE

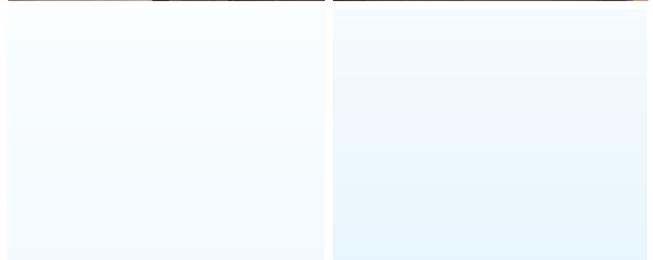
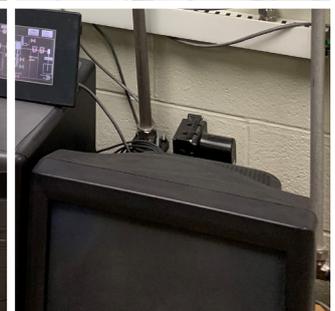
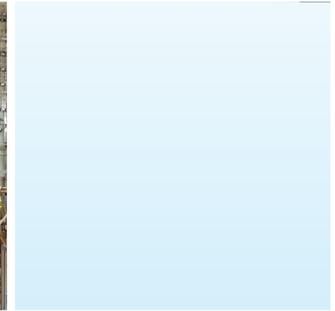
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The IRRUR mission can assess all major applications of the research reactor or be limited to specific facility mission areas. The research reactor operating organization should define the scope when requesting the review. The review scope can be adjusted following discussions with the IAEA. The mission reviews:

- the research reactor strategic plan and corresponding action plans;
- key utilization performance indicators and available capabilities of the facility;
- the potential capabilities identified in the strategic plan and the constraints that may limit the further expansion of R&D programmes and provision of services and products.

Following this review, the IAEA team provides recommendations and suggestions for utilization enhancement of the research reactor concentrating on:

- gaps and areas for improvement in education and training, R&D and provision of products and services;
- opportunities to strengthen the research reactor user community and enlarge the utilization stakeholder base.



# APPROACH

## Request

### Preparation for the mission

A facility develops a strategic plan, conducts self-assessment and requests an IRRUR mission through official channels.

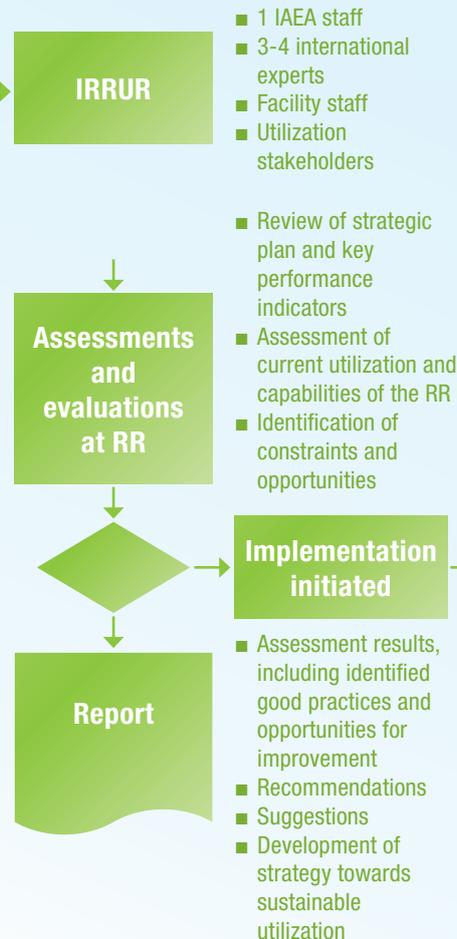


## IRRUR

### Main mission

Duration: 5-7 days

The main IRRUR mission is generally conducted by a team of one IAEA staff member and up to four international experts with relevant experience. The mission requires availability of facility staff and utilization stakeholders. The size of the team and the duration of the main mission depend on the complexity of the facility and topics to be reviewed. Observers from organizations receiving a future IRRUR mission may be invited to participate with the consent of the hosting organization.

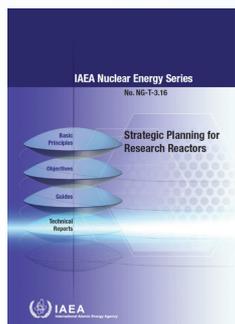
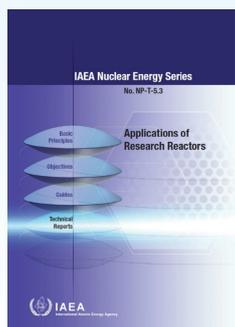
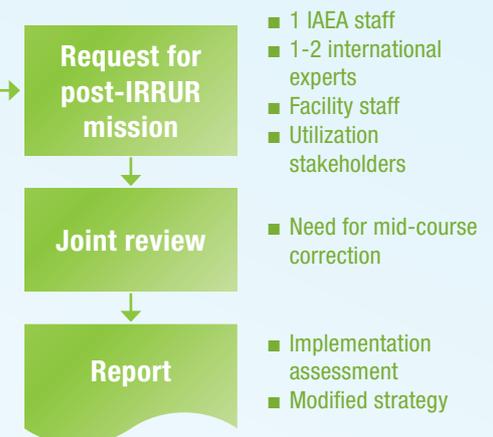


## Post-IRRUR

### A follow-up mission

Duration: 3-5 days

The follow-up IRRUR mission is undertaken if requested by the facility. It is generally conducted by a team of one IAEA staff member and one or two experts with relevant experience. The mission requires availability of facility staff and utilization stakeholders. The mission focuses on the review and implementation of the main IRRUR mission recommendations and suggestions.



The IRRUR Mission addresses the topical areas described in IAEA Nuclear Energy Series Nos. NP-T-5.3 and NG-T-3.16

**Applications of Research Reactors**  
**Strategic Planning for Research Reactors**

## BENEFICIARIES

The service is available, upon request, to operating organizations in all Member States with research reactors in operation or on temporary/extended shutdown. The IRRUR mission is designed to assist IAEA Member States in improving the utilization of research reactor facilities. It can also assist Member States in their decision-making process, including the development of strategies towards sustainable operations or shutdown of the research reactor.

IRRUR missions were initiated in 2019. The pilot IRRUR mission was conducted at the 250 kW research reactor at the Applied Nuclear Energy Laboratory (LENA) at the University of Pavia, in Italy.

## OUTPUTS

The IAEA provides an IRRUR mission report to the research reactor operating organization. The operating organization can share the report with other stakeholders.

IRRUR report includes:

- **Recommendations:** advice on how to improve utilization of the research reactor in the areas defined in the scope of the mission, taking identified opportunities and constraints into account.
- **Suggestions:** additional proposals that may contribute to improved utilization of the research reactor.
- **Good practices:** utilization performance, activity or stakeholder engagement, which the team considers to be markedly superior to that observed elsewhere, and fit for emulation by other facilities.



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