HOW TO REQUEST AN IUPCR MISSION?

Interested Member States may request an IUPCR mission through official channels, addressing their request to the Deputy Director General, Head of the Department of Nuclear Energy. Following the request, Member States will be invited to complete a self evaluation questionnaire and work with the IAEA to develop a Self Evaluation Report ahead of the main IUPCR mission.

For more information contact <u>UPC.Contact-Point@iaea.org</u>.

FUNDING

IUPCR missions are normally funded by the requested/host Government; however, the IAEA Technical Cooperation Programme may share the costs provided that there is an on-going national TC project covering uranium production cycle activities.

Photo credits: Paladin Energy, Orano Canada Inc., Wismut GmbH.



OBJECTIVES

The IAEA 'Milestones Approach'1 in the development of national infrastructure for the uranium production cycle is a phased comprehensive methodology to assist countries that are considering or planning a national uranium production programme. This approach will enable Member States to understand the aspects and the systematic approach required for them to effectively and efficiently evaluate and potentially develop their territories for uranium production. If uranium deposits are found, the knowledge to further evaluate and potentially develop them for mining and processing in a socially, financially and environmentally sound manner is required before committing to these activities. Countries that already have a national uranium production programme can also follow it to determine if their national infrastructure aligns with industry good practices or to assess their preparedness for expansion.

All aspects of the uranium production cycle need to be considered by Member States in a logical and systematic way when planning to mine and process uranium bearing ores. Completion of activities associated with these aspects can be characterized as milestones along the road to sustainable development of a national uranium production programme. At the outset, the establishment of a national uranium production programme requires a systematic approach that can be divided into two general areas:

- Uranium exploration and resource evaluation applicable to all Member States;
- Uranium mining feasibility studies, engineering, construction, commissioning, mining, processing and closure – applicable to Member States that find one or more potentially significant uranium deposit(s), or where uranium is a potential by- or co-product of the mining of other commodities, such as copper, gold, tin, rare earth elements, heavy mineral sands or phosphate.

INTEGRATED URANIUM PRODUCTION CYCLE REVIEW (IUPCR)







¹ INTERNATIONAL ATOMIC ENERGY AGENCY, Milestones in the Development of National Infrastructure for the Uranium Production Cycle, IAEA Nuclear Energy Series No. NF-G-1.1, IAEA, Vienna (2021 in preprint repository)

SCOPE

Four milestones are identified for the uranium production cycle: (i) uranium exploration, (ii) mine and process facility engineering, construction and commissioning, (iii) mine and processing facility operation, and (iv) site decommissioning and remediation.

Sixteen aspects are identified at each phase, and they ought to be considered prior to advancing to the next milestone.



Uranium Mine and Processing Facility Construction

Exploration

MILESTONES:	MILESTONE 1 Ready to make a commitment to explore for uranium	 MILESTONE 2 Ready to commit to develop a uranium mine and processing facility 	MILESTONE 3 Ready to commission and operate a uranium mine and processing facility	MILESTONE 4 Ready to decommission and remediate a uranium mine and processing Facility
PHASE 1 Interested in uranium? Considerations before a decision to explore for uranium	PHASE 2 A Member State undertakes exploration and/or mining for the first time, or the first time in many years, but with no significant commitment to proceeding to mining and processing	PHASE 3 A Member State initiates or reinvigorates uranium mining with known exploitable reserves	PHASE 4 A Member State commissions and operates a uranium mine and processing facility or increases current capacity	PHASE 5 A Member State with historic, closed uranium mines and processing facilities at the end of mine life or at a stage where mine sites are made safe but kept in a state for possible reopening in the future
	Exploration	Feasibility planning and construction of a uranium mine and processing facility	Operation of a uranium mine and processing facility	Decommissioning and remediation of a uranium mine and processing facility or a facility that is placed in care and maintenance

Uranium Mine and Processing Facility Operation

APPROACH

The Integrated Uranium Production Cycle Review (IUPCR) process is divided into four main phases:

Uranium Mine and

Processing Facility

Decommissioning

and remediation

- Request for IUPCR Service and support for self-evaluation, during which the IAEA helps a Member State conduct a self-evaluation study and develop a comprehensive Self Evaluation Report (SER);
- 2. Pre-IUPCR mission, which includes a formal meeting between IAEA staff members and counterparts from the Member State to discuss and agree on the Terms of Reference of the main IUPCR mission;
- 3. Main IUPCR mission, which consists of reviewing the SER and supporting documents, interviews and mission report preparation; and
- 4. Follow-up IUPCR mission, which focuses on implementation of recommendations and suggestions from the main IUPCR mission.

The results of IUPCR missions guide future assistance in support of national uranium production programmes through the IAEA Technical Cooperation Programme or extrabudgetary resources. At Member State's request, this assistance is planned and implemented through an integrated work plan.

Approximately 15 - 30 years