



EXPRESSION OF INTEREST (EOI)

NUCLEAR PILOT PROJECT | SMALL MODULAR REACTORS (SMR) AT ONGC FACILITIES

1. INTRODUCTION

The Union Budget 2025-26 underscores a transformative shift in India's energy landscape, emphasizing nuclear energy as a cornerstone for sustainable development. The Government of India has unveiled the **Nuclear Energy Mission for Viksit Bharat**, targeting the establishment of **100 GW of nuclear power capacity by 2047**. A pivotal component of this mission is the allocation of **₹20,000 crore** towards the research and development of **Small Modular Reactors (SMRs)**, with an objective to operationalize at least five indigenously designed SMRs by 2033.

In alignment with the above development, the **Oil and Natural Gas Corporation Limited (ONGC)**, India's premier energy enterprise, seeks to harness nuclear energy's potential for captive use to reduce usage of gas/fuel for its energy needs, reduce carbon emissions, enhance operational efficiency, and take a step towards energy security. ONGC invites **Expression of Interest (EOI)** from esteemed technology providers and industry partners to collaborate on a **pilot project deploying SMRs across ONGC offshore/onshore facilities (Pilot for at least 1 onshore and/or offshore)**.

2. KEY INFORMATION AND DATES

EOI Reference Number	ONGC/SMR/EOI/2025/01
Date of Issue	03-Apr-2025
Pre-Submission Meeting	30-Apr-2025
Last Date for Submission of EOI	26-May-2025
Contact Email	Singh_ak25@ongc.co.in, Sanghi_sanjiv@ongc.co.in
Contact Phone Number	011-26752069, 011-26754012
Address	DUB, Plot No. 5A- 5B Nelson Mandela Road, Vasant Kunj, New Delhi, 110070

3. OBJECTIVE

The primary objective of this EOI is to identify and engage with qualified partners possessing the requisite expertise and experience in SMR technology. ONGC intends to foray into SMR Nuclear power for its captive usage. The envisioned pilot project aims to evaluate the feasibility, safety, and economic viability of integrating SMRs into ONGC's energy infrastructure. Success in the pilot phase may pave the way for broader implementation across ONGC's operational spectrum.

4. SCOPE OF WORK

Under the proposed pilot project, the selected technology provider(s) will be required to **design, build, own, and operate (BOO) a Small Modular Reactor (SMR) facility** at ONGC's designated site(s) on a **turnkey basis**. The facility should be capable of generating clean, reliable, and safe nuclear power for industrial use, with potential scalability for wider deployment across ONGC's operational footprint. The deployment must align with India's nuclear energy regulatory framework and adhere to the highest safety and environmental standards.

The technology provider shall undertake, but not be limited to, the following activities:

1. **Design, Engineering, Procurement, Supply, and Commissioning of the SMR Plant** – Including all necessary components for a functional modular nuclear reactor system tailored for ONGC's operational needs.
2. **Site Selection, Preparation & Infrastructure Development** – Conducting necessary civil, mechanical, and electrical works, ensuring compliance with applicable codes and standards.
3. **Fuel Handling & Storage System** – Implementation of a robust nuclear fuel supply and management system, including procurement, storage, and safe disposal methodologies as per regulatory guidelines.
4. **Integration with ONGC's Existing Infrastructure** – Establishing connectivity with ONGC's energy supply framework, including necessary modifications for electrical and thermal energy utilization.
5. **Compliance with National & International Regulations** – Ensuring all regulatory clearances, safety certifications, and nuclear licensing requirements are met before commissioning.
6. **Operation & Maintenance of the SMR Facility** – Providing comprehensive O&M services, including monitoring, safety assessments, and periodic inspections for an agreed period (up to 10 years with a provision for further extension on mutually agreed terms, subject to commercial terms).
7. **Security & Safety Management** – Implementation of a nuclear security framework to safeguard the SMR facility against any threats or operational risks.
8. **Scalability & Modular Deployment Strategy** – Evaluating the feasibility of relocating modular units to alternative ONGC sites based on operational demand and energy requirements.
9. **Decommissioning & Waste Management Plan** – Outlining a systematic approach to plant decommissioning, including end-of-life planning and radioactive waste management strategies.
10. **Collaboration on R&D and Innovation** – Partnering with ONGC and relevant Indian research institutions to explore advancements in SMR technology, fuel innovation, and efficiency improvements.

11. **Investment & Commercial Proposal** – Providing an overview of the financial model, cost structure, and investment mechanisms, including capital and operational expenditure projections.
12. **Adherence to Environmental, Social, and Governance (ESG) Standards** – Ensuring compliance with sustainability principles and corporate social responsibility (CSR) commitments.
13. **Regulatory & Licensing Advisory Services** – Offering guidance on regulatory engagement, licensing processes, and interfacing with the Atomic Energy Regulatory Board (AERB) and other relevant authorities.
14. Prospective vendors are encouraged to propose **business models** such as Build-Own-Operate (BOO) or long-term power purchase agreements (PPAs) to enhance commercial feasibility and long-term sustainability of the SMR initiative.

5. CAPACITY REQUIREMENT FOR ONGC FACILITIES

The expected SMR capacity requirement would be between 10 and 20 MW for offshore and up to 35 MW for onshore facilities at ONGC.

6. INFORMATION REQUIRED FROM INTERESTED PARTIES

Prospective partners are requested to furnish detailed responses covering the following aspects:

- **Technology Specifications:** Type of the SMR technology offered, including detailed description (e.g., Gas Cooled, Molten Salt, Light Water, Heavy Water etc.), safety features, and probable scalability.
- **Deployment Experience:** Documentation of previous SMR installations, including locations, operational metrics, and success rates.
- **Partnership Framework:** Proposed collaboration model with ONGC, including investment structures and strategies to leverage government funding initiatives.
- **Financial Metrics:** Detailed breakdown of approximate capital and operational expenditures for proposed SMR sizes, and lifecycle costs.
- **Infrastructure Requirements:** Specifications of land and infrastructure needs for both onshore and offshore installations.
- **Regulatory Navigation:** Insights into navigating the regulatory landscape for nuclear installations in India, including necessary approvals and compliance measures.
- **Organizational Credentials:** Overview of the company's experience in the nuclear sector, prior engagements with government entities, and relevant certifications.

7. SUBMISSION GUIDELINES

Interested parties are invited to submit their EOI documents, encompassing:

- **Executive Summary:** A concise overview of the proposal.
- **Detailed Proposal:** Comprehensive responses to the information requirements outlined in Section 6.
- **Supporting Documents:** Relevant case studies, certifications, and any other pertinent documentation.

Submission Deadline: 26-May-2025

Submission Format: Electronic copies in PDF/PPT format (& additional documents), submitted via email to sanghi_sanjiv@ongc.co.in

8. EVALUATION CRITERIA

Interested parties shall be asked to present a proposal/submission before a committee. Submissions will be assessed based on:

- **Technical Competence:** Proven capability and innovation in SMR technology.
- **Regulatory Acumen:** Understanding of and experience with nuclear regulatory frameworks.
- **Operational Readiness:** Demonstrated ability to execute and maintain similar projects.
- **Strategic Alignment:** Compatibility with ONGC's vision and the National Nuclear Energy Mission.