NATIONAL ALUMINIUM COMPANY LIMITED (NALCO)
invites
EXPRESSION OF INTEREST (EOI)
from

Aluminium Smelting Technology Providers / Licensors
for
NALCO's Brownfield Aluminium Smelter Expansion

EOI Document No: NALCO/BD/ST/2025/5761 Dated: 28/08/2025

EOI Submission By Date: 22/09/2025

National Aluminium Company Ltd.

NALCO Bhavan, P/1, Nayapalli,
Bhubaneswar, Odisha -751013, India

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1. Background & Objective

National Aluminium Company Limited (NALCO), a 'Navratna' CPSE of Govt. of India, was established on 7th Jan' 1981, with its registered office at Bhubaneswar, Odisha in India. It is one of India's largest integrated complexes in the aluminium value chain having bauxite mining, alumina refining, aluminium smelting including power generation and coal mines.

The Company operates:

- 6.825 million TPA Bauxite Mine and a 2.1 million TPA Alumina Refinery located at Damanjodi, Koraput district, Odisha.
- 0.46 million TPA Aluminium Smelter, a 1,200 MW Captive Power Plant and 4.0 million TPA Utkal D&E Coal mines at Angul, Odisha.

As a part of its green initiatives, NALCO has installed 198 MW Wind Power Plants at various locations across India and 1,020 kWp roof top Solar Power Plants at its premises, contributing its efforts towards carbon neutrality.

NALCO is registering strong growth in its performance year on year. Recently, in FY 2024-25, the Company achieved its highest ever revenue of Rs 16,788 crore and highest ever net profit of Rs 5,325 Crore.

The Company has a vison "*To be a Premier and Integrated company in the Aluminium value chain with strategic presence in Mining both domestic & global, Metals and Energy sectors*". Driven by its Vision, the Company is executing expansion projects to grow in its core business in the aluminium value chain.

- Bauxite mining: The Company is taking steps to open its new Pottangi bauxite mines which will increase the mining capacity by additional 3.5 million TPA.
- Further, NALCO is adding a 5th stream of alumina refinery which will increase the refining capacity by 1.0 million TPA by the next financial year.

Aluminium Industry in India:

Aluminium sector in India is growing rapidly in recent years. The demand for aluminium in the country is growing at a CAGR of 9% during the last 5 years. With forecast of strong growth in GDP of the country in the coming years, the aluminium sector will see huge increase in the demand in the country.

NALCO Plans:

To cater to the growing demand in domestic market, NALCO intends to expand its aluminium smelting capacity by approximately 0.5 million tonnes per annum (MTPA) at its Angul smelter in India through brownfield expansion. The Company is currently

operating a 0.46 million TPA aluminium smelter. The smelter is having 4 pot lines with 240 cells each and operating with AP 18 technology. The Company is looking forward to adopt latest technology for its planned smelter expansion. The proposed expansion will deploy best-in-class, environmentally sustainable technology paralleling global benchmarks.

NALCO invites Expressions of Interest from reputed technology providers/licensors with proven experience in prebake, point-fed, high-amperage aluminium reduction cell technologies for NALCO's proposed smelter expansion.

The **purpose of this EOI** is to identify competent technology licensors and the identified technology providers/licensors would be requested subsequently to participate in binding Request for Proposal (RFP) and to finalise the technology for NALCO's smelter expansion.

2. Indicative Scope of work

The following outlines the envisaged scope under the proposed Technology License Agreement (TLA) to be awarded to the selected licensor after the RFP phase:

- License Grant: Right to use specified aluminium smelter technology—including cell design, carbon area processes, and associated utilities and process know-how—for the proposed smelter expansion.
- Technical Deliverables: Basic engineering package, cell and pot line specifications, carbon plant design parameters, performance guarantees (energy, productivity), and automation/Process Control System (PCS) details. This should also involve waste management, Emissions Controls as per Best available technology and complying to statutory requirements.
- Equipment Scope: Supply and/or detailed specifications for key components—pot tending cranes, cathode blocks, feeders, busbars, green anode plant, anode handling and baking equipment, rodding shop equipment, and other auxiliary systems—or justification and support for their procurement.
- Training & Support: Onsite commissioning support, operator training (including carbon plant operations), technical troubleshooting, and performance optimization.
- Performance & Warranties: Achieving specified metrics—kWh/kg Al, current efficiency, pot productivity, anode consumption rates—verified through acceptance testing. Assurance for Long term technology support, established

spare/Equipment supply and partnership in technology research endeavours including R&D Initiatives and other strategic value addition model.

- Milestones & Schedule: Timeline for delivery of engineering, commissioning, performance acceptance and subsequent technology assistance.

The above scope of work is indicative and may be further refined during the subsequent phase.

3. Pre-Qualification Criteria for Selection as Prospective technology licensor:

The prospective technology licensor/supplier must meet all of the following minimum qualifying criteria:

a) Must possess a commercially proven aluminium smelting technology employing pre-baked anodes with point feeding, operating at a **minimum current of 400 kA** or higher.

b) The offered technology must have been in continuous commercial operation in at least one aluminium smelter with an installed capacity of **0.1 million TPA** or higher for a period of **not less than three (3) years** as on the EOI submission due date.

c) Must have the capability to design, specify, and qualify carbon anodes compatible with the offered smelting technology, including anode dimensions, composition, and baking parameters, to ensure optimal current efficiency, low specific energy consumption, and extended anode life. Alternatively, must demonstrate the ability to work with established anode suppliers to ensure compliance with technology requirements.

Documentary evidence to demonstrate compliance with the above criteria must be submitted.

4. Submission Requirements & Format

The EOI submission must include the following, duly signed by the authorised signatory of the applicant:

a) Completed Annexures – Filled-in Technical Questionnaire as per **Annexure-I** (copy enclosed), signed and stamped by the authorised signatory.

b) Company Profile – Including organisational structure/chart, core areas of expertise, details of global presence, and relevant project case studies with contactable client references.

c) Compliance Statement – A point-wise statement confirming fulfilment of each Minimum Qualification Requirement as specified in Section 3, along with supporting documentary evidence.

Note on Submission Format:

- Language: All submissions shall be in English. Supporting documents in any other language must be accompanied by an authenticated English translation.
- Units & Standards: All technical data shall be provided in SI units. Any deviation must be clearly indicated with equivalent SI units.
- Authorisation: All pages of the submission must be signed and stamped by the authorised signatory of the applicant.
- Completeness: Submissions with incomplete information, missing annexures, or without required documentary evidence are liable to be summarily rejected.
- Confidentiality: All information submitted will be treated as confidential and will be used solely for the purpose of evaluation of the EOI.

5. Evaluation & Shortlisting

- Initial evaluation will be based on the Annexure responses, eligibility, reference checks and commercial disclosure.
- Shortlisted technology licensors will be invited to submit a detailed binding proposal (RFP) subsequently and may be requested to provide presentations, inputs as per an evaluation matrix, technical demonstrations, and site visits etc.
- Evaluation will be based on a matrix including technical robustness, commercial viability, sustainability features, global references, and ability to support EPC/DPR stages.

6. Timeline

All submissions must be received by date 22/09/2025. Late submissions will not be considered.

7. Terms & Conditions

7.1 Confidentiality & NDA

NALCO reserves the right to sign a mutual Non-Disclosure Agreement (NDA) with shortlisted respondents prior to sharing site-specific data, DPR details or to facilitate site visits and deeper technical discussions.

7.2 Clarifications

Any clarifications may be requested in writing to Shri Nagarajan Ravi, EPO-Executive Director (BD) at the Email address: nagarajan.ravi@nalcoindia.co.in and Mobile: +91-9437489892 by date 12/09/2025. NALCO may issue clarifications that will be shared with all prospective respondents.

7.3. Disclaimer on no Commitment

This EOI is for information gathering and shortlisting only. It does not constitute a commitment by NALCO to proceed with any licensor or to issue an RFP. NALCO reserves the right to accept/reject any or all submissions without assigning reasons.

7.4 General Conditions

i. No EMD is required to be submitted by the Party.

ii. NALCO shall not be liable for any mistake or error by the Party in respect of the submissions.

iii. NALCO will not be responsible for any related loss to the parties due to delay/ cancellation etc. of this EOI process.

iv. The Party shall bear all costs associated with the preparation or delivery of its EOI.

v. NALCO reserves its right to call for original of the supporting documents for verification if so deemed fit and also cross-check for any details as furnished by the Party from their previous clients etc. The Party shall have no objection in this regard.

vi. NALCO will examine the EOIs for its completeness, whether the documents have been signed, complete in all respect and the details furnished are generally in order. NALCO if desires may seek feedback from other customer to authenticate the submissions and performance feedback.

vii. The parties may note that mere submission of EOI shall not entitle automatic qualification/selection of the Party for the technology licensing agreement.

viii. NALCO reserves the right to accept or reject any EOI and to annul the invitation of EOI process and reject all EOIs at any time without thereby incurring any liability to the affected Party/Parties(s) or any obligation to inform the affected Party/Parties(s) of the grounds for the NALCO's action.

8. Contact Details

Contact Person: Shri Nagarajan Ravi, EPO-Executive Director (BD)

NALCO Bhavan, P/1, Nayapalli,
Bhubaneswar, Odisha -751013, India

Email: nagarajan.ravi@nalcoindia.co.in Mobile: +91- 9437489892

Issued on: [Date 28/08/2025]

Annexure

Annexure-I (Technical Questionnaire)

Sl No	Details	
1	Legal name	
2	Registered office	
3	Year established	
4	Website	
5	Parent company / group, subsidiaries.	
6	Point of contact for EOI (name, email, phone).	
7	Name of technology offered / trade name	
8	Offered Technology Overview (short description)	
9	Cell type (prebake / inert anode / other), feeding method (point-feed), pot design highlights.	
10	Technology assurance for no. of years	
11	Special conditions for supply of technology, if any	
12	Latest technology commercialised by the party	
13	Month/Year of Commercialisation of latest technology	
14	Reference Plants	
	Plant name, owner, country,	
	Month-year of commissioning,	
	Capacity (ktpa),	
	Amperage (kA),	
	Last 3-year production	
	Performance metrics: DC energy consumption (kWh/kg), Productivity etc.	
	Contact reference	
15	Basic Engineering Package (BEP) / Basic design package availability?	
16	BEP supply time duration	
17	Any additional features	

Declaration & Signature