

HZL	Tender No-HZL/1.0 MnTPA Fertilizer Complex/001	Date - 17/06/2025
Project: Design, Engineering, Supply, Installation, Commissioning and Performance Testing of additional 0.5 MTPA DAP/NPK Plant		

Table of Contents:

S.N.	Title	Page No.
1	Introduction	2
2	Job Details	3
3	Scope of work	3
4	PPEs	3
5	Documentation	3
6	Delivery and Penalty	3
7	Financial Eligibility and Qualification Requirements	4
8	Documents to be submitted with EOI/RFQ	4
9	Cost Bidding	4
10	Site Visit	5
11	Language of Bidding	6
12	Clarification of Bidding Documents	6
13	Bid Prices	6
14	Bid Validity	6
15	Submission of bid	6
16	Bid Evaluation	7
17	Schedules	7

NOTE:

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Tenderers are asked to treat the details of this tender document as private and confidential (save in so far as necessary for preparation and submission of their tenders) and not to disclose or publish the same or any particulars thereof in any trade or technical paper or elsewhere without prior written consent of Hindustan Zinc Limited.

HZL	Tender No-HZL/1.0 MnTPA Fertilizer Complex/001	Date - 17/06/2025
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1. Introduction:

Dear Bidders,

Vedanta is India's leading and world's 6th largest diversified natural resources conglomerate with business operations majorly in India and in South Africa, Namibia, UAE and Australia. We are a fully integrated producer of Oil & Gas, Zinc-Lead-Silver, Copper, Iron Ore, Steel, and Aluminum & Power. With our world class, low-cost and long-life assets, Vedanta contributes 1.4% towards India's GDP, as per IFC.

Hindustan Zinc Ltd (HZL), a vertical of Vedanta Group, is one of the world's largest integrated Pb-Zn-Ag producers with a vision to be the largest Pb-Zn producer. HZL spearheading towards increasing significant volumes as a part of our 2.0 MTPA Growth Projects.

HZL wishes to thank all those who have expressed interest and hope that the invited Tenderers will do the utmost to provide their best proposals. HZL will continue to assist the Bidders by providing any clarifications on the Tender document and assist in access to site inspections where possible.

Good luck, the journey has started on time and with your support and good will, we will all arrive to completion on time.

For and on behalf of HZL,

HZL	Tender No-HZL/1.0 MnTPA Fertilizer Complex/001	Date - 17/06/2025
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2. Job Details:

0.5 MTPA DAP/NPK facility at Chanderiya, Rajasthan on EPC basis

3. Scope:

The Scope of work includes but not limited to Licensing, Basic Engineering, Geo-technical Investigation, Detail Engineering, Procurement, Manufacturing, Painting, inspection, testing, packing, forwarding, shipping, transportation, supply, erection, testing, commissioning and performance testing and guarantees. The Bidder is solely responsible for the Complete plant Performance Demonstration.

The Proposal will be having following plant and facilities:

1. Di-ammonium Phosphate (DAP) / NPK Plant
2. Phosphoric Acid plant along with merchant grade acid facility & incorporation of maximum utilization of Indian Rock for PAP Plant process.
3. Necessary interface Offsites, Utilities and Infrastructure facilities for the Plant
4. Railway Siding facility for both phosphoric acid plant & fertilizer Plant (Raw Material and Finish goods)
5. Power system study of complex & extension of existing switchyard
6. All Preparatory work required for start of construction shall be in bidder scope
7. All required studies for expansion of capacity from 0.5 MTPA to minimum 1.0 MTPA in bidder scope .
8. Time Motion study of Plant logistics for the entire fertilizer complex including all required interface with existing production plant

The detailed scope of work for this EPC project shall be as per Schedule I.

4. PPEs: Business Partner need to follow the HZL/Vedanta standard and Policies

Link- <https://hzlone.hzlmets.com/SafetyStandard/>

5. Documentation

Vendor Shall provide reports as mentioned under Scope of Work.

6. Delivery & Penalty

- a. Business Partner need to follow strict timelines

HZL	Tender No-HZL/1.0 MnTPA Fertilizer Complex/001	Date - 17/06/2025
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- b. If delay is attributable to Business Partner liquidated damages (LD) would be applicable i.e. 0.5% per week delay or part thereof subject to a maximum 5% of order value.
- c. For Non-Performance as per the Performance Guarantee Parameters, liquidated damages (LD) would be applicable subject to a maximum 5% of order value

7. Financial Eligibility and Technical Qualifications

- a. Bidder should have an annual turnover of not less than INR 1,000 Cr or in equivalent foreign currency during the last three (3) financial years with positive net worth.
- b. Failure to meet the above Qualification Requirement, shall render the bid to be rejected and bids of only qualified bidders shall be considered for detailed techno-commercial evaluation. Therefore, the Bidder shall in their own interest furnish complete documentary evidence in the first instance itself, in support of their fulfilling the Qualification Requirement as given above.

8. Documents to be submitted with RFP (Request for Proposal)

- a. Copies of original documents defining the constitution or legal status, place of registration and principal place of business of the company or firm.
- b. Details of the experience and past performance.
- c. Details of similar work done by the Bidder in the last 2 years
- d. Reports on the financial including Profit and Loss Statements, Balance Sheets and Auditor's Reports for the past three years.

9. Cost Bidding

- a. The Bidder shall bear all costs or expenses incurred in relation to or incidental to the preparation and submission of his Bid and the Owner will in no case be responsible or liable for these costs or expenses incurred in relation to or incidental to the preparation and submission of his Bid, irrespective of the conduct or outcome of the bidding process.

- b. Commercial terms and conditions are as:

S.No	Terms &Condition	HZL Terms
1	Price Basis:	At Site
2	Terms of Payment:	10% of Payment shall be paid as advance against submission of Advance Bank Guarantee ('ABG') of equivalent value.

HZL	Tender No-HZL/1.0 MnTPA Fertilizer Complex/001	Date - 17/06/2025
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		70% of Payment shall be paid on achievement of milestones and submission of supporting documents as agreed mutually. 10% of Payment shall be made against successful Mechanical Completion. 10% of Payment shall be made on successful demonstration of Performance Guarantee tests against submission of Security Deposit cum Performance Bank Guarantee.
3	Packing & Forwarding:	Inclusive In vendor scope
4	Freight/Transportation:	Inclusive In vendor scope
5	Insurance:	Inclusive In vendor scope
6	Inspection:	Inclusive In vendor scope
7	Project Completion Period:	To be mutually agreed
8	Security Deposit cum Performance Bank Guarantee:	10% of the Contract Value
9	HR and Safety Compliance	As per HZL Policy & Guidelines HZL policy & its Compliance is mandatory to participate in the tendering process. https://hzlone.hzlmets.com/SafetyStandard/ Other Details (Attached as Annexures) (i)General conditions of contract (ii)Vedanta sustainability clauses (iii)Supplier/vendor code of conduct (iv)Whistle Blower Policy (v)HZL Contractor safety Management Handbook & CSM Procedure. (vi)HZL CSM- Standard Safety Conditions for Contracts and CSM Standards. (vii) Life Saving Rules
10	Subcontracting	Not allowed
11	Providing all tools-tackles, Scaffolding, Statutory & Mandatory Safety PPE's as per nature of job to workers	Inclusive In vendor scope

HZL	Tender No-HZL/1.0 MnTPA Fertilizer Complex/001	Date - 17/06/2025
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12	To-fro, Accommodation, Lodgings-Boarding, Food, local conveyance etc charges	Inclusive In vendor scope
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10. Site Visit

The Bidder is advised to acquaint himself with the actual jobs and examine the conditions, labour, power, water, material availability, transport and communication facilities, environmental regulations, laws and bye-laws of statutory bodies, and collect all information that will be necessary for preparing the bid and entering into a contract. The costs of visiting the Site shall be at the Bidder's own expense (Other than mention in above commercial terms and conditions).

The bidder shall have the sole obligation to satisfy himself before submitting his bid as to the form and nature of the site, the quantities and the nature of the works and materials necessary for the completion of works and the means of access to the Site, the accommodation he may require and to obtain all necessary information as to risks, contingencies, all applicable laws and regulations and other circumstances which may influence or affect his bid.

11. Language of Bidding

a. The bid prepared by the Bidder and all correspondence and documents relating to the bid exchanged by the Bidder and the Owner shall be written in the English language. Supporting documents and printed literature furnished by the Bidder with the bid may be in another language provided they are accompanied by an appropriate translation of pertinent passages in the English language with an affidavit. For interpretation of the bid, the English language shall prevail.

12. Clarification of Bidding Documents

We have organized one pre bid meeting and all technical points to be cleared. If there are still any clarifications and drawings required, you must contact us by email.

13. Bid Prices

- Unless explicitly stated otherwise in the Bidding Documents, the contract price shall be for the entire Scope of Work.
- Price shall be quoted in any Currency.
- The Contract Price is firm and shall be inclusive, including (but not limited to) packing, forwarding, freight, Port clearance, insurance, FOREX fluctuations and applicable taxes & duties except Import duties (for imported goods at actual), GST
- Owner shall deduct applicable taxes at source as per statutory requirements.

HZL	Tender No-HZL/1.0 MnTPA Fertilizer Complex/001	Date - 17/06/2025
Project: Design, Engineering, Supply, Installation, Commissioning and Performance Testing of additional 0.5 MTPA DAP/NPK Plant		

14. Bid Validity

The Bid shall remain valid for a period of 180 days or as communicated by HZL from the specified date.

15. Submission of Bids

The bid shall be submitted in two parts- i) Technical Bid ii) Commercial Bid
Kindly acknowledge the receipt and revert with confirmation of participation, credentials, relevant experience by 25th June 2025.

16. Bid Evaluation

The Owner will examine the bids to determine whether they are complete, whether the documents have been properly signed, and whether bids are generally in order.

NOTE: *Vedanta reserves the right to initiate an eAuction for selection of vendors. Vendors with the highest price bids (referred to as H1/H2) during the RFQ stage may not receive invitations to take part in subsequent eAuction rounds. This approach is designed to encourage all bidders to provide their most competitive quotes during the RFQ stage."*

18. Schedules:

1. Scope of Work

HZL	Tender No-HZL/1.0 MnTPA Fertilizer Complex/001	Date - 17/06/2025
Project: Design, Engineering, Supply, Installation, Commissioning and Performance Testing of additional 0.5 MTPA DAP/NPK Plant		

Schedule I

1.0 INTRODUCTION AND SCOPE

Vedanta is a \$30bn revenue and \$10bn in profit organization and further plans to invest \$20bn in 4-5 years in the expansion of its brownfield and some greenfield capacity of Oil & Gas, Renewable Energy, Display Glass, Semiconductor, Mining and Smelting. Vedanta is one of the leading players in the market and each of its businesses will have an average of 10,000 highly qualified talent.

Hindustan Zinc Limited, a Vedanta Group company, is the world's largest integrated zinc producer and recognized as the world's most sustainable metals & mining company for the second consecutive year by the S&P Global Corporate Sustainability Assessment 2024. HZL is currently executing a 0.5 MTPA DAP/NPK facility. In line with HZL's growth plans we invite expression of interest from EPC partners of global repute with proven track record to be our partner to set up 1.0 MTPA Phosphatic Fertilizer Complex at our existing premises at Chanderia, Rajasthan, India.

Owner/Purchaser: Hindustan Zinc Limited (HZL)

HZL is currently executing a 0.5 MTPA DAP/NPK facility. As part of its expansion strategy, the company intends to scale up capacity to a minimum of 1.0 MTPA, along with the augmentation of the Phosphoric Acid Plant from 0.18 MTPA to 0.36 MTPA, leveraging captive sulphuric acid and locally sourced rock phosphate from Rajasthan.

The Scope of work includes but not limited to Licencing, Basic Engineering, Geo-technical Investigation, Detail Engineering, Procurement, Manufacturing, Painting, inspection, testing, packing, forwarding, shipping, transportation, supply, erection, testing, commissioning and performance testing and guarantees. The Bidder is solely responsible for the Complete plant Performance Demonstration.

The Proposal will be having following plant and facilities.

9. Di-ammonium Phosphate (DAP) / NPK Plant
10. Phosphoric Acid plant along with merchant grade acid facility & incorporation of maximum utilisation of Indian Rock for PAP Plant process.

HZL	Tender No-HZL/1.0 MnTPA Fertilizer Complex/001	Date - 17/06/2025
Project: Design, Engineering, Supply, Installation, Commissioning and Performance Testing of additional 0.5 MTPA DAP/NPK Plant		

11. Necessary interface Offsites, Utilities and Infrastructure facilities for the Plant
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16. Time Motion study of Plant logistics for the entire fertilizer complex including all required interface with existing production plant

2.0 CODES, STANDARDS, REGULATIONS AND REFERENCES

Codes, Standards, Regulations and References listed below shall be applicable.

2.1 The equipment shall conform to the following standards / specifications: -

ASME Section VIII, Div. 1	:	Pressure Vessels
API 650	:	Atmospheric Storage Tanks
DIN 2576	:	Flanges; slip-on type for brazing or welding, nominal pressure 10.
API675	:	Positive Displacement Pumps – Controlled Volume Type.
ASME B73.1	:	Horizontal Centrifugal Pump
ISO5199	:	Centrifugal Pump

2.2 The Bidder shall comply with applicable National, State or Local codes, regulations, ordinances unless defined otherwise.

2.3 Bidder shall take approval from client in regard to all the codes and standards to be used for this package

2.4 Bidder shall be responsible for the design and construction of the equipment including associated accessories in Bidder's scope.

2.5 All documents attached with this specification forms part of the Enquiry Specification for Phosphoric Acid Plant. It shall be Bidder's responsibility to comply with / meet the requirements specified in these documents.

2.6 Health, Safety, and Environment (HSE): Implementing HZL HSE Standard and

HZL	Tender No-HZL/1.0 MnTPA Fertilizer Complex/001	Date - 17/06/2025
Project: Design, Engineering, Supply, Installation, Commissioning and Performance Testing of additional 0.5 MTPA DAP/NPK Plant		

construction standard into the detail scope of work

<https://hzlone.hzlmetals.com/safetystandard/>

- 2.7 Digitalization & Automation: Implementation of IT/OT standard, HZL Cyber security standard and incorporation of further automation, data analytics, and digital twins for improved operational efficiency

3.0 PROCESS DESCRIPTION & SITE DATA

HZL is currently executing a 0.5 MTPA DAP/NPK facility. As part of its expansion strategy, the company intends to scale up capacity to a minimum of 1.0 MTPA, along with the augmentation of the Phosphoric Acid Plant from 0.18 MTPA to 0.36 MTPA, leveraging captive sulphuric acid and locally sourced rock phosphate from Rajasthan

3.1 Site – Data

3.1.1 Location Details

Location	: Chanderiya
District	: Chittorgarh, Rajasthan
Nearest highway	: NH-79 at 900m west
Nearest railway station	: Chittorgarh
Nearest city	: Chittorgarh
Nearest airport	: Udaipur (100Km)

3.1.2 Climatic Conditions of the Location:

HZL	Tender No-HZL/1.0 MnTPA Fertilizer Complex/001	Date - 17/06/2025
Project: Design, Engineering, Supply, Installation, Commissioning and Performance Testing of additional 0.5 MTPA DAP/NPK Plant		

Climatic Conditions

Parameter			Value
Temperature	Mean Max.	°C	46.5
	Design	°C	48
	Mean Min.	°C	1.12
Relative humidity	Max.	%	92
	Min.	%	22
	Ave.	%	59
Rainfall	Number of rainy days	month	17
	Max in 24 hr	mm	189
	Max monthly	mm	621
Pressure	Average Barometric pressure	mbar	966.7
	Wind Velocity	m/sec	47at 10 m Height
	Altitude	m	395 above MSL
Earthquake data (As per IS 1893-2002)	Zone factor		Z=0.1
	Seismic zone		II

4.0 GENERAL REQUIREMENTS

- 4.1 For utility conditions, refer the Utility Datasheet (Annexure-1).
- 4.2 Only equipment that has proven its reliability shall be recommended by Bidder.
- 4.3 All electricals and instrumentation within the package scope shall be suitable for SAFE area classification.
- 4.4 Noise level shall not exceed 75 dBA at 1 m distance from the equipment.
- 4.5 The Bidder shall design the plant at least the plant life of 25 Years minimum.

5.0 TECHNICAL REQUIREMENTS

Rock Phosphate Quality and Its Physical Analysis:

HZL	Tender No-HZL/1.0 MnTPA Fertilizer Complex/001	Date - 17/06/2025
Project: Design, Engineering, Supply, Installation, Commissioning and Performance Testing of additional 0.5 MTPA DAP/NPK Plant		

Rock Phosphate Specification		
	Min %	Max %
P2O5	28.00	36.00
CaO	45%	52.00
Fe2O3	0.40	3.14
Al2O3	0.11	1.00
MgO	0.40	2.83
Fluoride	3.00	4.50
Silica total	2.00	14.49
Organics	2.00	5.00
CO2	0.50	1.00
SO3	1.00	2.00
Na2O	0.02	0.50
K2O	0.01	0.40
LOI	6.00	9.00
Chloride	0.01	0.08
Moisture	3.00	12.00
Imported Rock phosphate size analysis in mm		
Tylor Series Mesh	%	
-200	30.0 - 40.0 %	
+200 / (-)100	10.0 - 20.0 %	
+100 / (-)20	20.0 - 30.0 %	
+20 / (-)4	5.0 - 10.0 %	
+4	1.0 - 3.0 %	

Indian Rock Phosphate Size Analysis in mm		
1	(+ 12.5) mm	3.39
2	(+10)mm	8.56
3	(+06) mm	10.76
4	(+04)mm	12.94
5	(+02)mm	19.18
6	(-02) mm	44.41

HZL	Tender No-HZL/1.0 MnTPA Fertilizer Complex/001	Date - 17/06/2025
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5.1 Sulphuric Acid Quality:

Constituents	Spec
H ₂ SO ₄	98% Min
Specific Gravity	1.82 to 1.84
Fluoride	N.T
% Cl as HCl	0.043
% NO ₃ as HNO ₃	0.003

5.2 Product Requirement:

5.2.1 Phosphoric Acid Specification

The phosphoric acid plant should be capable of producing 100% merchant grade acid and acid with required specifications for producing DAP/NPK/APS grades

The sample specification of Phosphoric acid (merchant grade)as mentioned below, However the required specification of merchant grade phosphoric acid should meet the required international standard

Parameter	Specification
P ₂ O ₅	52-54% P ₂ O ₅
Solids	< 1.0 %
CaO	<0.18%
SO ₄	< 2.5 %
Al ₂ O ₃	< 0.5 %
Fe ₂ O ₃	<1%
MgO	< 0.8 %
F	<0.7%
Na ₂ O	< 0.1%
K ₂ O	0.05%
Cl	< 0.10%

HZL	Tender No-HZL/1.0 MnTPA Fertilizer Complex/001	Date - 17/06/2025
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5.2.2 Fertilizer Grades

All Grades of DAP/NPK/APS fertilizers as per FCO norms

6.0 STATUTORY AND VEDANTA VSF NORMS

- To fulfil the Conditions prescribed by the local/state/central environment authorities / Board and Vedanta's internal Sustainability Frame work (VSF) the following features shall be ensured as part of the total project scheme
- Plant must be designed with best international standard for emission and effluent norms however all guidelines of CPCB with regards to industrial emission and effluent norms and monitoring have to be followed stringently
- All required measures for controlling fugitive emissions during the project and plant operation needs to be adhered to.
- The plant shall be designed for "Zero Liquid Discharge".

7.0 UTILITIES

Following utilities shall be provided by the Owner at a single location of area.

- Potable water
- Raw Water
- MP Steam
- Sulphuric Acid
- HSD/PNG
- Construction Power and water

8.0 PAINTING & SURFACE PREPARATION

- Painting and surface preparation shall be carried out as per Painting specification shared and approved HZL.

9.0 PERFORMANCE GUARANTEE / WARRANTY OF EQUIPMENTS

- Bidder shall prepare and submit a detailed performance parameter including the Guaranteed Product Quality and Quantity as mentioned in Technical Requirement along with the Plant Availability, Recovery Efficiency, Environmental Parameters and other Guaranteed operating efficiency parameters like Specific Power Consumption, Specific Water Consumption and Specific Raw Material & Other Raw Material

HZL	Tender No-HZL/1.0 MnTPA Fertilizer Complex/001	Date - 17/06/2025
Project: Design, Engineering, Supply, Installation, Commissioning and Performance Testing of additional 0.5 MTPA DAP/NPK Plant		

Consumptions etc. Bidder to consider global benchmark engineering standards

- Bidder shall Guarantee the “Zero Liquid Discharge” design and also other environmental Norms design.

10.0 PROCESS SELECTION:

The Bidder shall study various technological options for DAP/NPK Complex and recommend the solution which will fulfil requirements like Best in class operation, environment friendly, economical investment and low-cost operation. The Bidder shall submit the technical proposal along with the copy of “Patterned Technology” along with the copy of the “Technology License” if any and clear reference plants.