



NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA – 769 008, ODISHA

Single Tender Enquiry

Department: Electrical Engineering

Date:04/02/2021

Tender Notice No: NITR/PW/EE/2021/239

Important Dates

Event	Date	Time
Pre-bid Conference	NA	NA
Last Date of submission of Bid	17/02/2021	03:00 PM
Date of opening of Techno-commercial & Financial Bid	18/02/2021	03:00 PM

To,

M/S Opal-RT Technologies India Pvt Limited.
648/A,Ohm Chambers,2nd Floor ,100ft Road,
Binnamangala, Indiranagar,Bangalore-560038
Login ID: abdul.zahir@opal-rt.com

Bidding Through

CPP Portal

<https://eprocure.gov.in/eprocure/app>

Dear Sir,

We intend to purchase the commodities specified below and invite quotations in accordance with the terms and conditions detailed in the bid document. If you are interested, kindly send your offer with prices and complete terms within the time mentioned above.

For any clarification:

Yours sincerely,

Attention.

Prof. Monalisa Pattnaik
Department of Electrical Engineering
National Institute of Technology
Rourkela-769008, Odisha
Email: pattnaikm@nitrkl.ac.in
Phone: 0661 2462423

Prof. Monalisa Pattnaik,
Assistant Professor
Electrical Engineering Department

Encl:

- 1) Schedule of requirement, specifications, dates etc.
- 2) Bid document containing detail terms and conditions.

1. Schedule of requirements

Sl. No.	Description of Goods/Service	Quantity
1	Inverter System	1(One)

2. Specifications and allied Technical Details

For detailed specification see Annexure II

3. Format of Quotation

It is a one-part bid with separate techno-commercial and price bids.

4. The Bid should be submitted through <https://eprocure.gov.in/eprocure/app>

5. Quotations should be valid for a period of **90 days** from the date of opening of techno-commercial bid.

6. Some important dates:

i.	Pre-bid Conference:	Date: NA	Time: NA
ii.	Last date for submission of bid :	Date: 17/02/2021	Time: 03:00 PM
iii.	Opening date of techno-commercial bid & Financial Bid:	Date: 18/02/2021	Time: 03:00 PM

7. **Warranty:** Warranty must be **1 year** onsite which should be clearly mentioned along with the quotation.

8. **GST:** GST should be charge according to applicable rates.

9. **Tender Cost:** Tender cost (Non-refundable) in the shape of Demand Draft (DD) for **INR 500/- (Rupees Five Hundred Only)** in favour of "**Director, NIT Rourkela**" payable at Rourkela from any Scheduled Commercial Bank except Co-operative and Gramin Bank. Tender cost should reach physically through **Speed post/ Registrar post / Courier**, containing in an envelope & superscripted with subject, tender reference number addressing to **Registrar, NIT Rourkela - 769008, Odisha**; on or before **18/02/2021 at 03:00 PM**, failing which the bid will be summarily rejected.

10. **Bid Security :** - It is mandatory to submit the "**Bid Security declaration**" form as mentioned in **Annexure I**, failing which the bid will be summarily rejected.

11. **Performance Security: 3 % of the contract value** should be deposited to the Institute within 15 days from the date of issue of Purchase Order, in shape of Demand Draft (DD)/Bank Guarantee in favor of "Director, NIT Rourkela and payable at Rourkela" from any Scheduled Commercial Bank except Co-operative and Gramin bank. And Performance security should remain valid for a period of 60 days beyond the date of completion of all contractual obligations of the suppliers including warranty obligation.

12. Please go through the enclosed "bid document" carefully for other bidding instructions.

13. Please send you quotation through <https://eprocure.gov.in/eprocure/app>

14. A. Technical Evaluation Criteria:

- i. If the supplier is Original Equipment Manufacturer (OEM) should have own service center in India. The bidders must enclose details of their infrastructure with reference to locations and technical manpower, availability of inventory spares etc. A valid GST registration certificate of OEM should be submitted along with bid.
- ii. Scanned copies of the technical brochure of the above equipment and accessories (**Annexure-II**) given in the quotation must be included in the technical bid.
- iii. Design and schematic diagram of the equipment should be provided for better understanding.
- iv. Point wise technical compliance along with any deviation of the mentioned specifications (**Annexure-II**) must be indicated along with technical documents.
- v. Make and model no. should be mentioned in the technical bid.

B. Financial Bid Evaluation Criteria:

Final Price comparison for the award of contract to decide Lowest price (L1) will be made based on overall price quoted for item no. 1.01 in BOQ.

15. For technical details, you may contact

Prof. Monalisa Pattnaik
Department of Electrical Engineering
National Institute of Technology
Rourkela-769008, Odisha
Email: pattnaikm@nitrkl.ac.in
Phone: 0661 2462423

NB: Please furnish your Dealership Certificate (must) and Proprietary Nature Certificate (If applicable)

BID SECURITY DECLARATION

Tender Ref. No.: _____ Dated _____

Tender ID : _____

To

**The Registrar,
National Institute of Technology, Rourkela
Sundargarh, Odisha-769008**

The undersigned, declare that I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration. I/We accept that I/We may be disqualified/ suspended from bidding for any tender /contract in your Institute (NIT Rourkela) for a period of **Five Years** from the date of notification of present tender, if I am /We are in a breach of any obligation under the bid conditions as under, if I/We

- a) Withdraw/modify/amend, impair or derogate the tender/bids, during the period of bid validity specified in the form of Bid; or
- b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity
 - (i) fail or refuse to execute the contract, if required, or
 - (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown) in the capacity of (insert legal capacity of person signing the Bid Securing Declaration)

Name: (insert complete name of person signing the Bid Securing Declaration) Duly authorized to sign the bid for and on behalf of (insert complete name of Bidder)

Dated on _____ day of _____ (insert date of signing) Corporate Seal (where appropriate)

(Note: In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid)



NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA – 769 008, ODISHA

BID DOCUMENT

1. Instructions to the bidders

- 1.1 Bids are invited on behalf of the Director, National Institute of Technology (NIT), Rourkela– 769008, Odisha, from the intending bidders for supply of the goods/stores/equipment for the Institute as detailed in the enquiry letter.
- 1.2 The bidders should quote their offer/rates in **BOQ** in clear terms without ambiguity.
- 1.3 In Case of any discrepancy between the rate in figures and that in words, the rate in words will be accepted as correct.
- 1.4 The last date for receipt of the bid is marked in the tender document.
- 1.5 The bids should be uploaded in <https://eprocure.gov.in/eprocure/app>. Please follow the guidelines of the site.
- 1.6 If a prospective bidder requires any clarification in regard to the bidding documents, s/he may make a request the concerned officer or faculty member at least 15 days before the deadline for receipt of bids.
- 1.7 Bid received after deadline of receipt indicated in para 1.4 above, shall not be taken in to consideration.
- 1.8 Each bidder shall submit only one bid. A bidder, who submits more than one bid, shall be disqualified and considered non-responsive.
- 1.9 (In respect of high value plant, machinery etc. of a complex and technical nature). The bids may be submitted in one part, viz., techno-commercial bid and financial bid.
- 1.10 The bidder has to sign in full at all pages of the scanned part of the bidding document. No over- writing in those pages is acceptable.
- 1.11 If any bidder does not fulfil technical specification, his/her eligibility will be cancelled even if his/her price got L1 status.
- 1.12 Bidders registered with any of the following agencies/ bodies as per Public procurement policy for Micro & Small Enterprises (MSE) order 2012 are exempted categories from payment of EMD & Tender cost provided that the registration Certificate issued by any one of these below mentioned agencies must be valid as on close date of tender. Micro small or medium enterprises who have applied for registration or renewal of registration with any of these agencies/bodies but have not obtained the valid Certificate as on close date of tender are not eligible for exemption.
 - i) Khadi and Village Industries Commission (KVIC)
 - ii) National Small Industries Corporation (NSIC)
 - iii) Any other body specified by Ministry of MSME/GOI

2. Conditions of the bid

- 2.1 The rates quoted should preferably be net, inclusive of packing, forwarding, freight, Insurance and all other incidental charges including taxes. In case these charges are quoted extra in addition to the quoted rates, the amount thereof or ad-valorem rate must be specified. Packing, forwarding, freight, etc., when quotes separately are reimbursable at actuals. If external agencies are employed, their receipts must be enclosed with the invoice.
- 2.2 Duties and Taxes are to be quoted separately. Ad-valorem rates thereof should be clearly indicated with reference to the relevant Acts and Rules.

It may be noted that the Institute is availing custom duty exemption in terms of Notification No. 51/96 – Customs dt. 23.07.1996, Notification No. - 47/2017- Integrated Tax (Rate) dt. 14.11.2017 and Notification No- 45/2017 – Integrated tax (Rate) dt. 14/11/2017 & Notification No. - 45/2017- Central tax (Rate) dt. 14.11.2017, Notification No. - 45/2017- Union Territory Tax (Rate) dt. 14/11/2017 [Vide DSIR, Ministry of Science and Technology, Government of India, Registration No.: TU/V/RG- CDE (227)/2016, dated: 13.11.2018]

- 2.3 The goods are required to be delivered at the indenting Department of NIT, Rourkela, and must be reached within **90 days** from the date of placement of the supply of order under the risk and arrangement of the bidder and offers with delivery beyond the above period shall be treated as unresponsive. In case the delivery time is higher, the same must be mentioned clearly in the quotation.
- 2.4 The bid should remain valid for a period of **90 days** from the date of opening. In case your offer has a different validity period that should be clearly mentioned in the quotation.
- 2.5 Conditional discount, if any, offered by the bidder shall not be considered at the time of evaluation.
- 2.6 The goods offered should strictly conform to the specification and technical details as mentioned in schedule of requirements in the tender documents.
- 2.7 The Institute may like to conduct pre-dispatch inspection of goods, where applicable.
- 2.8 Period of guarantee/warranty, where applicable, should be specified in the bid.
- 2.9 If the successful bidder, on receipt of the supply order, fails to execute the order within the stipulated period, in full or part, it will be open to the Director, NIT, Rourkela to recover liquidated damage from the firm at the rate of 1 percent of the value of undelivered goods per month or part thereof, subject to a maximum of 5 percent of the value of undelivered goods. Alternatively, it will also be opened to the Director, to arrange procurement of the required goods from any other source at the risk and expenses of the bidder.
- 2.10 The successful bidder may be required to execute a contract, where applicable.
- 2.11 The bidder has to furnish up to date GST and Income Tax Clearance Certificate along with the bid.
- 2.12 Purchase order / Work order shall be placed on the bidding firm(s). In case of deviation to this, if any, the bidding firm should produce any such sufficient documents/credentials i.e, Agreements, MOUs, Arrangements etc. with the third party/ OEM to satisfy the buyer. A consent letter from the third party/ OEM to that effect must be enclosed along with the bidding documents.
- 2.13 Payment (*100 percent*) will be made by Account Payee Cheque/Bank Draft, within 30 days from the date of receipt of the goods in good condition or receipt of the bill, commissioning of the equipment, where applicable, whichever is later/latest.

- 2.14 State Bank of India is the sole Banking partner for NIT Rourkela for operation of LC (Letter of Credit).
- 2.15 In the event of any dispute arising out of the bid or from the resultant contract, the decision of the Director, NIT, and Rourkela shall be final.
- 2.16 The bid document/resultant contract will be interpreted under Indian Laws.

Requirement of Inverter System

1. It should be compatible, Integreable , Controllable & triggered by Matlab-Simulink based Real Time Simulator.
2. Inverter rating: 3kva.
3. AC Voltage : 3 phase 415v, 50 hz.
4. DC Voltage 48V.
5. Isolation through 3 phase transformer.
6. Controller: DSP or microcontroller.
7. Power device: IGBT or MOSFET.
8. Front panel : keypad, lcd display.
9. Operation from RTS ,External Controller & factory supplied controller.
10. Protection: overvoltage , under voltage, over current, short circuit.
11. Inbuilt battery Controller with Bi-directional Power Flow Control.
12. Voltage & current sensing circuitry with sensors.
13. AC& DC Semiconductor fuses , switch gear & isolator.
14. Provision for External Controller Control.

Technical Specification

SN	Parameter	Value	Unit
Electrical			
1.	Rated Power	1000	W
2.	Rated Current	35A @28.8V	
3.	Maximum Current	40	A
4.	Voltage at Maximum Current	24.2	V
5.	Maximum Voltage	48	V
6.	Safe Current at Maximum Voltage	35	A
7.	Knee Voltage (after which Voltage Deviation is very less for increment in load current)	28.8	V
8.	Rise time of Voltage for Load Change	<1 Sec	
9.	Slew Rate of Voltage		
10.	Rating of ON-Board Voltage Sensors	Inbuilt	-
11.	Rating of ON-Board Current Sensors	Inbuilt	-
12.	Initialization time of Fuel Cell Stack	<30 sec	
13.	Nominal Load Rating at Initialization	<1000	W
14.	Nominal Temperature of Stack at Initialization	35	°C
15.	Maximum Temperature of Stack after 60min Full load Operation.	65	°C
Mechanical			
1.	Dimension of Stack (B/W/H)	219 x 268 x 123	mm
2.	Weight of Stack	4	Kg
3.	Type of Hydrogen	99.995%	
4.	Nominal Hydrogen Flow rate	13	L/min
5.	Connector (Cylinder to Stack)	Normal silicon pipe of 6mm dia	
6.	Nominal Pressure of H2 Cylinder (100% Full)	0.55	Bar
7.	Nominal Pressure of H2 for Stack	0.45 to 0.55	Bar
8.	Type of Pressure Measurement available with the connector.	In line pressure Regulator	
9.	Hydrogen Cylinder Volume	47 Litres@ 150 bar	
10.	Nominal Flow rate of H2 at Full Load Condition.	13	L/min @0.5 bar
11.	Nominal Pressure Drop from 60min Full Load Operation.	--	
Accessories			
a.	Connections/Tubing	f.	SCU ON/OFF switch
b.	Electronic valves	g.	Software
c.	Electronic control box	h.	Interface Card
d.	Fuel cell ON/OFF switch	i.	Inline Pressure Regulator
e.	H2 Cylinder	j.	Two sided pressure valve with nozzle.