NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA-769008(ODISHA)
An Institute of National Importance under Ministry of Education, GOI

NOTICE INVITING TENDER

Tender Notification No: NITR/PW/EE/2021/239 Dated: 04/02/2021

The National Institute of Technology, Rourkela invites bids from the eligible bidders for Procurement of **Inverter System** at Dept. of Electrical Engineering, NIT Rourkela.

Last date of Submission of Bid : 17/02/2021 by 03:00 PM

Opening date of Techno-commercial & financial bid : 18/02/2021 at 03:00 PM

For Details: https://nitrkl.ac.in/OldWebsite/Jobs_Tenders/9Equipment/Default.aspx

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

Bidding through: https://eprocure.gov.in/eprocure/app

Sd/-
Registrar

NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA – 769 008, ODISHA

(SINGLE TENDER NOTICE NO: NITR/PW/EE/2021/239 **Date: 04/02/2021**

Procurement of Inverter System at NIT Rourkela.

Sl. No.	Description of Goods/Service	Quantity
01.	**Inverter System (As Per the Specification mentioned in Annexure-II in Tender Documents)**	**01(One)**

1. **Quantity Required** : As mentioned above (all information provided in the technical specification)
2. **Delivery** : Within **90 days** from the date of purchase order
3. **Last date of submission of Bid** : **17/02/2021 by 03:00 PM**
4. **Opening date of Techno-commercial & Financial Bid** : **18/02/2021 at 03:00 PM**
5. The firm should not have been black listed at any time.
6. The submission of following bids by the tenderer should be through https://eprocure.gov.in/eprocure/app Please follow the guidelines as per the portal.

Procurement of Inverter System at Department of Electrical Engineering, NIT Rourkela.

(SINGLE TENDER NOTICE NO: NITR/PW/EE/2021/239 Date: 04/02/2021)

Due on 18/02/2021 by 03:00 PM

7. **Liquidated damage clause** will be charged for any delay in supply of goods.
8. The validity of the tender shall be **90 days** from the date of opening of the bids.
9. Detailed advertisement including all tender documents is also available in our website at http://nitrkl.ac.in/OldWebsite/Jobs_Tenders/9Equipment/Default.aspx.
10. NIT reserves the right to qualify or deny prequalification of any or all applicant without assigning any reasons.

(REGISTRAR)
NIT, Rourkela
Fax No- 0661-2462022
Ph. No -0661-2462021

Annexure-II

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	℃
15.	Maximum Temperature of Stack after 60min Full load Operation.	65	℃
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 b. Electronic valves c. Electronic control box d. Fuel cell ON/OFF switch e. H2 Cylinder	f. SCU ON/OFF switch g. Software h. Interface Card i. Inline Pressure Regulator j. Two sided pressure valve with nozzle.		