



**NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA-769008 (ODISHA)**

An Institute of National Importance under Ministry of HRD, GOI

NOTICE INVITING TENDER

Tender Notification No: NITR/PW/CIF/2019/96

Dated: 21/02/2019

The National Institute of Technology, Rourkela invites bids from the eligible bidders for procurement and installation of **Liquid Nitrogen Plant with Accessories (24×7×365 – Continuous operation)** at NIT Rourkela.

Last date of Submission of Bid : **14/03/2019 at 11:00 AM**

Date of opening of technical Bid : **15/03/2019 at 11:00 AM**

For Details:

http://nitrkl.ac.in/OldWebsite/Jobs_Tenders/9Equipment/Default.aspx

Contact: Dr. Suman Ghosh , ME; Ph: +91-661-2462531;

Email: ghoshs@nitrkl.ac.in

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

**sd/-
REGISTRAR**



**NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA-769008, ODISHA**

(OPEN TENDER NOTICE NO.: NITR/PW/CIF/2019/96

Dated: - 21/02/2019)

(PROCUREMENT OF LIQUID NITROGEN PLANT WITH ACCESSORIES)

Item No	Description	Quantity
1	A fully automated and integrated LN₂ plant with a capacity of 60 L/day. Plant should run continuously (24×7×365 – Continuous operation) without any human interruption. Productivity should not be reduced below 90% even after 5 years.	1 Unit

1. Quantity required : **As mentioned above (All information regarding technical specification provided in the Annexure-I)**
2. Delivery : Within **60 days** from the date of purchase order
3. **Last Date of submission of bid : 14/03/2019 at 11:00 AM**
4. **Date of opening of technical bid : 15/03/2019 at 11:00 AM**
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 Installation of Liquid Nitrogen Plant with Accessories
with a capacity of 60 L/day**

(Tender Notice No.: NITR/PW/CIF/2019/96 dated: 21/02/2019) Due on 14/03/2019 at 11:00 AM

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 applicants without assigning any reasons.

**(REGISTRAR)
NIT, Rourkela
Fax No- 0661-2462022
Ph. No -0661-2472021**

Specifications for 'Liquid Nitrogen Plant with Accessories (for 24×7×365 – Continuous operation)'

Description

A fully automated and integrated LN₂ plant that can run continuously without any human interruption. Productivity should not be reduced below 90 % even after 5 years.

The detailed Technical specification is as follows:

1. Capacity and purity
 - a. Productivity: 60 liters per day or higher
 - b. Purity of LN₂: Minimum 98%
 - c. Storage (Dewar) Capacity: Minimum 200 liters with proper level indicator and proper LN₂ discharge arrangements, with a flexible stainless-steel hose pipe
 - d. Productivity rate should not be reduced below 90% of the total capacity even after 5 years after installation.
2. Controller
 - a. One centralized controller with instrumentation is required to control each part of the sub-system: Cryocooler Compressor, filters, chiller, air compressor, gas separator unit, etc.
3. Cryocooler compressor
 - a. Should be an integral part of the cryocooler
 - b. If not an integral part of the of cryocooler, then the connection between compressor and cold head must be through stainless steel flexible hose pipe.
4. Water chiller
 - a. It should be integrated with close-loop water circuit system.
 - b. Chiller must be from the Original Equipment Manufacturer (OEM), if not, then it must be from a reputed international brand. Detailed specifications, details of the manufacturer and user list used in the liquid nitrogen plant should be provided.
5. Air-compressor and filter unit
 - a. Purity of nitrogen gas: Minimum 98%.
 - b. Membrane /PSA based nitrogen filtration system is preferred.
 - c. Air compressor must be from the Original Equipment Manufacturer (OEM), if not, then it must be from a reputed international brand with detailed specifications, details of the manufacturer and user list used in the liquid nitrogen plant.
6. Schematic representation of the complete working cycle and flow diagram of each of the subsystem (chiller, controller, cryocooler, cryocooler & air compressors, filters, dewar, etc) should be provided along with the technical bid.
7. Technical bid should also include power consumption of the plant, efficiency of different components, coolant type, flow rate and conditions, chiller details, etc.
8. The whole plant including all the subsystems must follow all the standard safety norms and must be equipped with all safety alarms and accessories, as required. Proper safety instructions for the main unit and for all the accessories must be provided in the manual
9. The whole system and its accessories must work in a surrounding with a temperature up to 50°C and relative humidity up to 95%.
10. The system must operate with a noise level below 80 dBA at a distance of 1 m.
11. System/fault diagnostics must be integrated with the Visual Display Unit.
12. The quotation must specify the pre-requirements for installation (if any) and must include the requirement of onsite training (if any) for the operator.

Details of the configuration and deviation must be provided along with technical bid.

Other Terms and Conditions

1. Minimum 10 numbers of Certificates of Installation and Commissioning (from the users) of LN₂ Plant having mentioned capacity or higher in last 5 years from India only (with details of user).
2. Minimum 5 numbers of Certificate of Performance of successful running of LN₂ plant for more than 5 years with 80% or more productivity from the User within India only.
3. 5 number of Annual Maintenance Contract (AMC) certificates from users within India only.
4. Certificate from OEM or its Indian representative to have a complete after sales service set up unit in India.
5. If the bidder is not an OEM, the representative must submit a certificate from OEM for serving the same OEM in India at least for 5 years.
6. Warranty and Comprehensive Maintenance Contract (CMC):
 - (i) Comprehensive warranty for 3 years including spares and consumables. Warranty will be effective from the date of successful installation at NIT-Rourkela.
 - (ii) Price quote should also include a Comprehensive Maintenance Contract (CMC) for further 4 years after completion of the above-mentioned warranty period. CMC should cover all the spares and consumables. The payment for CMC will be done after satisfactory performance at each six-month interval during the CMC period. Response time for maintenance during warranty and CMC periods should not be more than 24 hours. Bid should include TWO preventive maintenance visits in each year and unlimited number of emergency visits. Contract will be awarded on overall basics (considering the price quote for the product and price quote for CMC together).
7. Price should include installation and delivery of the plant to CIF Kolkata basis. Price should be quoted in foreign currency for imported items and in Indian Rupee for indigenous items.
8. **Terms of Payment:** 80% of the total amount (total contract value) will be paid through L/C , Remaining 20% will be paid through wire transfer after successful completion of installation and testing.