



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/2018/35

Dated: 28.06.2018

The National Institute of Technology, Rourkela invites bids from the eligible bidders for procurement of **Liquid Nitrogen Plant with Accessories** at NIT Rourkela.

Last date of Submission of Bid : 27/07/2018 at 03:00 PM

Opening date of Technical Bid : 30/07/2018 at 11:00 AM

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

Contact: Prof. Mukesh Kumar Gupta, BM; Ph: 0661-2462294

Email: guptam@nitrkl.ac.in

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

**sd/-
REGISTRAR**



NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA- 769008, ODISHA

(TENDER NOTICE NO: NITR/PW/CIF/2018/35

dated: 28/06/2018)

(Purchase of Liquid Nitrogen Plant with Accessories at NIT Rourkela)

Sl. No.	Description of Goods/Service	Quantity
1.	Liquid Nitrogen Plant with Accessories (Detailed specification as per attached Annexure – I)	01

1. **Quantity required** : as mentioned above (All information provided in technical specification in Annexure I)
2. **Delivery** : Within **120 days** from the date of purchase order
3. **Last date of Submission of Bid** : **27/07/2018** at **03:00 PM**
4. **Opening date of Technical Bid** : **30/07/2018** 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.

Purchase of Liquid Nitrogen Plant with Accessories

(Tender Notice No: NITR/PW/CIF/2018/35 dated 28/06/2018) Due on 27/07/2018 at 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 **120 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 -0661-247202

(Detailed Specification of Liquid Nitrogen Plant with Accessories)

Fully automatic, single-switch operable, complete system of producing liquid nitrogen, inclusive of all the required accessories, equipments and safety devices. The detailed specifications are as follows:

The system should be capable of producing at least 60 L of liquid nitrogen per day with a purity level of at least 99% and should have an in-built storage capacity of at least 100 L with digital pressure and level indicators having accuracy of 1L (1%) or better. The production rate should not reduce below 50 L per day for at least 5 years. The Water-Chiller, if required, should be System Integrated System Loop Water-Chiller. No external chilled water supply should be required. The whole system, including the storage vessels, should also be fitted with all standard safety and required accessories, audio/visual alarms, and should be in conformance to International Standards such as CE or ASME etc. In addition, personal protection equipment such as cryogenic gloves, goggles, flexible cryogen transfer siphon with handle etc. should be provided for at least two personnel for handling the liquid nitrogen.

The system should be capable of running fully automatic, unattended full-proof and fail-safe operation through Programmable Logic Controller (PLC), which should have display unit with Human Machine Interface (HMI) having graphic touch screen to display liquid nitrogen level, operational parameters and remote diagnostics. The system should work at electrical conditions (3 Phase, 50 Hz±2%, 400-440 V) of India, should achieve full production rate within 30 min of start and should have features to automatic restart after resumption of a power failure of any duration. Similarly, the system should have feature to switch-off as soon as the liquid nitrogen level in storage tank reaches 100% and should restart when the liquid nitrogen level reaches a preset lower level. The whole system should work at ambient temperature of 5°C - 45°C and RH of 40% - 95% or wider.

The system should be noise-less (Noise level: less than 80 dBA at 1 m distance) and be capable of running continuously for at least 5000 h without servicing/ maintenance and should not require major maintenance for at least 35000 h. System diagnostics should be integrated with the visual display unit.

The Original Equipment Manufacturer (OEM) should be an ISO certified company. Plants having cooling cycles involving toxic blends of gases or mixture of refrigerants will not be accepted. The whole plant, including all accessories (i.e. air compressor, water chiller etc., if required) should be tested at Factory of the OEM of liquid nitrogen plant. Local supplies, which are not tested with the offered liquid nitrogen plant at the OEM Factory itself, will not be accepted. Offer should be accompanied by test certificates from the appropriate authority for the quoted items. Proper safety instructions for each accessory should be available in the manual.

The quotation must specify the pre-requirements (such as electrical power requirements, room requirements etc.) for installation and the offer must include onsite installation and commissioning of the plant and all its components along with onsite training of the operators. Systems requiring special foundations such as RCC / Vibration Resistance Flooring / AC Rooms / Dust-Free Special Clean Rooms etc. will not be accepted. The offered model should allow portability of the system.

The quotation should also:

1. Confirm that the plant operating procedure will allow transfer of liquid nitrogen from the storage vessel into vacuum insulated transfer tube or to the external tanker (having pressure lower than the pressure of the Storage Tank in-built within the supplied system) without adversely affecting the liquefaction process in any mode of operation.
2. Give performance data on guaranteed liquefying rates in quoted operating pressure and corresponding liquid nitrogen purity.
3. Remove water traces, if any by integral purifier or other technology.
4. Confirm that no defrosting/purging would be necessary.
5. Furnish preventive maintenance schedules for the plant and its components.

6. Contain a list of all the spare parts required for smooth operation of the plant.

The quotation should include at least two years of on-site comprehensive Warranty / Guarantee, commencing from the date of complete and satisfactory installation of the equipment, against the defect of any manufacturing, workmanship and poor quality of the components. The quotation should also include five (5) years of comprehensive maintenance contract including the major maintenance kit or spares required for five (5) years of plant operation along with the detailed part list and numbers. Two sets of complete user and service manual in English language in both Hard copy and Soft copy should also be provided.

Price should be quoted as single combined price of the plant, site preparation and installation, warranty and spares (CMC) etc., all inclusive. The price may be quoted as FOB Rourkela /CIF Kolkata price. NIT Rourkela is exempted to pay customs duty.

Bidder or its Indian Representative must have a Complete After-Sales Service Set-up in the Eastern Region of India (preferably in Odisha), for fastest response. Installation / Commissioning should be accomplished with priority, as soon as we receive the Consignment at site and our Site will be ready as per your Pre-Installation Guidelines (to be provided before shipment of plant). Warranty and After-Sales Service should be provided within Maximum 24 to 48 hours of our call.

Bidder or their Manufacturer must have Supplied, Installed and Commissioned at least Five (5) Liquid Nitrogen Plants world-wide in last five (5) years. Please provide all relevant Customer Details. Bidder should also certify that all Spares for the offered Plant will be available with their Indian Representative and can be procured as and when required, in INR. Bidder or its Indian Representative must have suitable Experience in Installation/Commissioning and After-Sales Service of Liquid Nitrogen Plants in India. Bidder or their Indian Representative mandatorily needs to provide at least five (5) Purchase Order Copies (may be un-priced) of AMC / Repair of Liquid Nitrogen Plants in last five (5) years in India. Bidder or their Indian Representative should have ISO Certification towards Supply, Installation, Commissioning and Service of LN2 Plant in India.

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