

## **Tender Document for Rate Contract for supply of Liquid Nitrogen (LN2) at IPR**

### **1.0 SCOPE**

The Supplier shall Supply to the Purchaser (IPR) Liquid Nitrogen with a purity of 99.99% with less 2 ppm impurities (Oxygen, Moisture) or better as and when required during the pendency of the Rate Contract as indicated at clause 2.0.

### **2.0 QUANTITY TO BE SUPPLIED**

The average annual requirement shall be about 40,00,000 Ltrs. However, quantity may be higher for some reasons, which shall also be supplied at the same rates.

### **2.2 TRANSFER OF LN2 AND PROVIDING TRANSFER DEVICE AT IPR PREMISES BY SUPPLIER**

- Transfer line for decanting LN2 from Supplier's tanker to IPR tanks
- Suitable couplings to fit with the IPR tanks.
- The transportation tankers should be mounted with pressure gauges, level meter, vaporizer, required valves etc. in working condition.
- Any other equipment required for carrying out the cool-down of IPR tanks and transfer of LN2.

### **2.3 DELIVERY POINT**

The Liquid Nitrogen shall be delivered by the supplier at IPR premises in supplier's own tankers. The delivery shall be said to be completed only when the LN2 is filled into the storage tankers installed at Purchaser's premises. Weighments shall be done only **on the Purchaser's own weigh Bridge** or on the weigh bridge identified by IPR. Weighing charges shall be borne by the supplier.

### **2.4 DELIVERY SCHEDULE**

The delivery schedule shall be as under:

- 20,000 – 25,000 Ltrs per day during peak period (4 months in one or more stretches as per IPR intimation)

Supply should be made only after getting intimation from our stores section. Please refer clause No.5 below. Dispatch details such as Lorry/Tanker No., quantity, expected time of arrival at IPR may be sent to the Asst. Stores Officer by email ([stores@ipr.res.in](mailto:stores@ipr.res.in))/[jcpatel@ipr.res.in](mailto:jcpatel@ipr.res.in)/Fax No.079-239692277 or Telephone (079-239692260 / 239692262).

**3. PRICE VARIATION CLAUSE (PVC)**

9.1 The price variation due to change in rates of electricity and diesel (fuel) shall be allowed as given below (no other factor will be considered).

(a) Price variation with change in electricity rates:

$$P_n = P_i + \{(E_n - E_i) \times 0.88\}$$

Where,  $P_i$  &  $P_n$  = Initial and new price of liquid nitrogen (Rs /kg)

$E_i$  and  $E_n$  = Initial and new price of electricity rate (Rs /unit)

(b) Price variation with change in diesel (fuel) rates:

$$T_n = T_i + \{(D_n - D_i)/D_i \times (T_i/4)\}$$

Where,  $T_i$  &  $T_n$  = Initial and new price of transportation (Rs /kg)

$D_i$  and  $D_n$  = Initial and new price of diesel (fuel) (Rs /lit)

The Vendor Should Submit the  $T_i$ ,  $D_i$  and  $E_i$  Values of their states with authentic certification to fulfill the PVC Criteria.

**3.2 (a)** The PVC shall be applicable and price variation with change in electricity and diesel (fuel) rates will be allowed as & when the rates are changed.

**(b)** The base rates of electricity and diesel must be given in offer.

**(c)** The electricity rates means the official electrical tariff, including all applicable fuel surcharges and electrical duty, as published by the relevant State Electricity board and/or Regulatory Commission. The rate of diesel means price in Rs/lit. as declared by IOCL/HPCL/BPCL.

**4. PRICE EVALUATION**

IPR will consider the landed price of LN2 per liter. Which includes Basic cost, Taxes and Delivery charges (Transportation charges). In order to match the lowest offer, the price variation may be allowed within (L1 + 5 %) in landed cost to ensure more availability of LN2 supply.

**5. VALIDITY OF RATE CONTRACT**

Fixed/Firm price for Liquid Nitrogen shall be offered for a minimum period of one year. However, this price shall be firm for extended period of 2 years, if the contract is extended annually for 2 additional years.

**6. OPERATION OF THE CONTRACT**

IPR shall inform the supplier about the requirement of LN2 over phone and subsequently issue supply requisitions during the pendency of the Rate Contract indicating Rate Contract number, quantity, date of delivery etc. and it shall be binding on the supplier to effect supplies of LN2 without delay.

**7. SUBMISSION OF DOCUMENTS FOR MAKING PAYMENT**

The bills of the supplier of LN2 shall be submitted monthly basis/against each supply and shall be settled by the Purchaser within 30 days from the date of receipt of bills. Billing should be made for the actual quantity supplied and measured by/at IPR. The supplier shall present the following documents for claiming payment:

- (a) Original Invoice / Weighing slip in triplicate indicating quantity measured by/at IPR, unit, rate and amount. Rate Contract No. and date should be mentioned in Invoice and Delivery challan.
- (b) Invoice should be on per Ltr. basis. No other measurement for invoice or supply is acceptable.
- (c) **Measurement of Quantity:** Quantity will be measured on weightment differential basis in Kg. before and after decantation of tanker. This difference will be converted in Liter by below given conversion factor.
  - 1 Kg. LN2 = 1.237 Liter
  - 1 Kg. LN2 = 0.878 m<sup>3</sup> @ 27°CAbove conversion factor will be as per the following standard reference.
  - (i) NIST Handbook No.44-2004, Section 3.34: Cryogenic Liquid – Measuring Devices (N.4; UR.2.5)
  - (ii) “Thermo physical properties of Fluids”, Journal of Physical and Chemical Reference Data, Volume II, 1982, Supplement No.1, published by American Chemical Society and American Institute of Physics for the National Institute of Standards and Technology (Amend 1986).
- (d) Purity certificate indicating the amount of impurities present
- (e) Delivery challan
- (f) Invoice and all other dispatch documents to be submitted to our Stores section.
- (g) Weighing slip from weigh bridge

**8. INSPECTION AND ACCEPTANCE TESTS**

Inspection shall be carried out by the supplier in respect of purity of Liquid Nitrogen at his premises and the inspection report shall accompany the supply. The purchaser shall have the right to verify the inspection done by the supplier at his premises. The Supplier shall provide all the facilities required for such verification of inspection to the inspector of the Purchaser, free of cost. In case verification of inspection is done by the Purchaser at the premises of the supplier prior to dispatch of Liquid Nitrogen, an inspection certificate duly signed by the Inspector of Purchaser shall be given to the Supplier. Purchaser reserves the right to inspect the products supplied after its receipt at its premises.

**9. QUALITY ASSURANCE PLAN**

Supplier shall submit Quality Assurance Certificate certifying the purity of LN2 along with supply.

**10. RELAIBILITY ASSURANCE ON LN2 SUPPLY**

IPR reserves rights to get supply of liquid nitrogen in split mode from at least four - five suppliers to assure the supply of liquid nitrogen on peak days at IPR. The first preference for the supply will be given to the lowest offer (L1).

However, IPR accepts the price variation within (5% + L1) on the total landed cost per liter for other suppliers. The supplier has to ensure the delivery of liquid nitrogen on round the clock basis after intimation of IPR.

**11. RETENTION PERIOD**

IPR shall accept LN2 24 hours a day. Maximum detention time for the tanker is 8 to 12 hours from the time of reporting at IPR site.

**12. SAFETY MEASURES**

Proper and protective safety measures for handling liquid nitrogen at IPR site is the responsibility of the supplier. Purchaser will not be responsible for any accidents occurred during transfer of Liquid Nitrogen. All other safety precautions for the transport tankers should be as per SMPV rules of Government of India.

**13. CANCELLATION OF CONTRACT**

The Rate Contract for supply of Liquid Nitrogen may be cancelled by giving three months notice to any side. In the event of cancellation of Rate Contract, IPR shall not pay any charges other than the supplied quantity of LN2.

**14. SUB-CONTRACTOR**

Supplier shall not, in any circumstances, sub-contract supply of LN2 to any party without prior written approval of the Purchaser. The Purchaser shall not refuse to grant approval for the placement of sub-contracts if these sub-contracts according to the opinion of the Purchaser are capable to supply the required LN2 as per the specification mentioned in the Rate Contract. However, Supplier shall be responsible for the proper execution of any sub-contract placed by him in connection with this rate contract.

**15. PARALLEL/ADHOC CONTRACTS**

The Purchaser reserves the right to enter into parallel/Adhoc Contract(s) simultaneously or at any time during the period of this Contract with one or more agencies.

**16. TECHNICAL QUALIFICATION CRITERIA**

The following technical qualification criteria shall be met by the bidders while submission of the offer. Based on the inputs received from the bidders, a comparative assessment will be made for the selection of technically acceptable bidders.

**16.1 BASIC DETAILS ON PLANT CAPACITY / LOCATION / AVERAGE DAILY PRODUCTION RATE**

No. of LN2 Plants		Location	Plant Capacity (Ltrs /day)	Average daily production rate (in Ltrs)	Load factor

**16.2 DETAILS OF CURRENT / ON-GOING RATE CONTRACTS**

No. of current / on-going rate contracts Client details	Quantity already committed for running contracts / Order Quantity	Average Daily supply of LN2 (Ltrs)	Client location

**16.3 LOGISTICS DETAILS**

No. of Owned Trailers	Trailer Capacity	No. of leased Trailers	Trailer Capacity