



**INTERNATIONAL ADVANCED RESEARCH CENTRE
FOR POWDER METALLURGY AND NEW MATERIALS (ARCI)**
Balapur PO, Hyderabad – 500 005, Telangana, India
Tel: 040-24452326 Fax: 040-2444269; Email : stores@arci.res.in
URL: www.arci.res.in

Tender No CL20160022

Date 22.11.2016

TENDER DOCUMENT

Hiring of 2 Nos. of 1 KL Capacity Vacuum Insulated Liquid Argon Storage Tanks along with 1 No of Atmospheric Star Fin type Aluminium Vaporizer and time to time Refilling of Liquid argon tank.

Tender Documents	:	Documents can be downloaded from www.arci.res.in
Address for Submission of the Tender	:	International Advanced Research Centre for Powder Metallurgy and New Materials , Balapur Post, Hyderabad – 500 005, Telangana, India
Date of Publication of Tender Notice	:	5th January 2017
Cost of Tender Document	:	Rs. 1000.00
Last Date for Submission of Tender	:	27th January 2017
For any enquiry	:	Tel : +91-40-24452326 and +91-40-24452390 Fax No. +91-40-24452699 email : stores@arci.res.in and janad@arci.res.in



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Instructions to Bidder

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RE-TENDER NOTICE

International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI) is an Autonomous Research and Development Centre of Department of Science and Technology (DST), Government of India with main campus at Hyderabad and with operations in Chennai and Gurgaon

ARCI would like to procure the following equipment. The Technical Specifications Schedule of Requirements and Allied Technical details are given in Part-1 of tender document.

- Item: **Hiring of 2 Nos. of 1 KL Capacity Vacuum Insulated Liquid Argon Storage Tanks along with 1 No of Atmospheric Star Fin type Aluminium Vaporizer and time to time Refilling of Liquid argon tank.**
- Tender Enquiry No: (Case No.) CL20160022 date 22.11.2016

- Last date of submission of Tender (Both Technical and Price Bid): **27th January, 2017**
- Technical Bid should enclosed Demand Draft drawn in favour of ARC-International, payable at Hyderabad towards cost of tender document.
-
- **The firms, who have already submitted their offer earlier need not re-submit, unless they desire to revise their earlier offers.**

- The item to be delivered and installed at : **INTERNATIONAL ADVANCED RESEARCH CENTRE FOR POWDER METALLURGY AND NEW MATERIALS, BALAPUR POST , RCI ROAD, HYDERABAD -500 005**

The tender document should consist of the following :

Two bid system should be followed for this tender. In this system the bidder must submit offer in three separate sealed envelopes i.e., .one envelope for each for technical bid, EMD and commercial bid. These envelopes should be securely sealed and stamped separately for each quoted equipment and clearly marked as “Envelope No.1 – Technical Bid”, “Envelope No. 2- EMD” and “Envelope No.3 – Commercial Bid”. All the sealed envelopes should be placed in another larger envelope. The main envelope which will contain all the envelopes should be superscribed with the tender enquiry no. CL20160022 due on 27th January 2017 with name of the equipment /item and is to be submitted to the address given below so as to reach **on or before 27th January 2017**.

The Bidder should ensure that the Prices are mentioned only in the Financial Bid and nowhere in the Technical Bid.

Address for submission of the Tender :

International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Balapur Post, RCI Road, Hyderabad- 500 005, Telangana, India.

Last date for submission : 27th January 2017

Tender should be submitted before last date stated above. The Tenders not accompanied EMD and cost of tender document in form of Demand Draft favoring Director, ARCI, payable at Hyderabad are liable for rejection.

The bid can be submitted in person or through post/courier. ARCI will not be responsible for transit delay for tenders submitted by Post / Courier etc.

All the tenders, in which any of the prescribed conditions are not fulfilled or incomplete in any respect are liable to be rejected.

DISQUALIFICATION OF TENDERS:

The tenders are liable for rejection in the following circumstances:

- If they are not in line with the terms and conditions of this tender notice.
- Conditional quotations
- Incomplete tenders
- Tenders without EMD and cost of tender document
- Tenders submitted through Fax or e-mail
- If two bid system is not followed

Director, ARCI reserves the right to accept or reject any or all tenders either in part or in full or to split the order without assigning any reasons there for.

IMPORTANT NOTE: Amendment, Corrigendum if any to this tender document, WILL BE HOSTED ONLY IN ARCI WEBSITE and no separate Press Notification will be issued. Bidders are advised to visit our website regularly to know such details.

**Director
ARC-International, Hyderabad**

PART-1
TECHNICAL BID

I. Vendor qualification criteria:

- A. Original equipment manufacturer (OEM) or authorized representatives of OEM only can quote for this tender. Vendor should submit authorization letter valid on tender date from OEM along with the quotation.
- B. The OEM should have proven expertise in manufacture and supply of the item.
- C. The bidder should have supplied at least 3 or more similar units in India or abroad in the last 3 years
- D. It is essential that the manufacturer shall provide the list of users of the equipment with contact particulars.
- E. OEM is required to submit a letter of commitment at the time of quote for supply of spares and also for efficient and prompt after sales service of the equipment for a minimum period of 3 years after the guarantee/warranty period under mutually agreed terms and conditions.
- F. Failure to meet any of the above vendor qualification criteria may lead to disqualification of tender at technical evaluation stage itself and vendor's quotation may not be considered for procurement.

II. Pre dispatch inspection

- A. The manufacturer/supplier of the unit shall demonstrate, if required, at their works during pre- dispatch inspection by ARCI personnel and shall satisfy all the technical specifications as described in the tender document.
- B. The manufacturer /supplier of the unit shall demonstrate the features as provided in Annexure-I (Scope of supply work):
- C. All the consumables, raw materials, required for the above demonstration should be arranged by the tenderer.
- D. All the utilities and manpower required for the demonstration shall be arranged by the supplier only

III. Acceptance criteria :

- A. The manufacturer/supplier should carry out installation and commissioning of the unit at ARCI.
- B. The entire functionality of the equipment according to the specifications should be demonstrated at ARCI
- C. The manufacturer /supplier of the unit shall demonstrate the features as specified in Annexure I (Scope of Supply)
- D. All the consumables and raw materials required for the above demo will be arranged by ARCI.

IV. Other aspects:

1.PATENT RIGHTS:

The Supplier shall indemnify ARCI against all third-party claims of infringement of patent, trademark or industrial design rights, copy rights arising from use of the Goods or any part thereof in India.

2. Training:

The manufacturer shall impart training in the operation and preventive/breakdown maintenance of the complete unit including sub-parts during installation to ARCI personnel for at least 2 no. of days at ARCI.

Optional training at OEM site: (on case-to-case basis during pre-dispatch inspection)

3. Utilities/Infrastructure for installation:

A. Supplier shall indicate all the required utilities/infrastructure such as power, water, gas, etc including power backup requirements.

B. Supplier shall provide overall dimensions of the Unit along with floor area/height of the site or building, including foundation details if any, for accommodating the Unit.

C. The operating environment for the Unit including temperature and humidity control, anti-vibration, EMI, EMC etc. should be indicated.

D. If any charges extra are payable for Installation and Commissioning, the same should be specified in the commercial offer (**Price Schedule**).

4. Manuals, software and other drawings etc :

The following documents (in English) shall be provided along with the Unit in both hardcopy and softcopy forms:

A. Operation and maintenance manuals, troubleshooting procedures, calibration methods, wiring and other schematic diagrams, list of components, spares and accessories.

B. If there are any bought-out systems and components, manuals should be provided in hardcopy and softcopy forms for the same.

C. Calibration certificates for sensors, instruments, gauges, display units etc. must be provided.

D. Software upgrades pertaining to the supplied Unit should be provided free of cost as and when new versions are released by the OEM.

E. Safety and security instruction manual should be provided.

5. After-sales service:

The supplier shall guarantee efficient and prompt after-sales service including the supply of the spares for a minimum period of 5 years after the guarantee/warranty period under mutually agreed terms and conditions.

6. Bought-out items:

All bought-out sub-systems and components if any should be of reputed make conforming to international standards. Make and details of all bought-out sub-systems and components shall be specified.

7. General Quote:

The breakup for accessories or sub system(s) /attachments apart from the basic system, if any, should be quoted separately.

8. Export License: The supplier should clearly indicate their ability/readiness to obtain the export license /clearance from the concerned authority for the supply of the unit as per the contract specifications to ARCI.

9. Technical compliance statement: The vendor should provide item wise details against each and every specification, Deviations if any are to be highlighted.

10. Guarantee/warranty:

The Unit shall be under warranty for a period of at least one year from the date of acceptance. During the warranty period, all software and hardware updates shall be provided free of cost. Items, if any, excluded from the warranty shall be explicitly mentioned by the supplier.

The Unit shall be guaranteed for satisfactory performance for 3 no. of years from the date of installation, commissioning and acceptance at ARCI. The manufacturer shall replace premature failure of parts during the guarantee period at their cost and risk.

11. Delivery/ time schedule:

The offer shall be accompanied by a detailed delivery time schedule showing the individual time schedule required for submission of initial equipment layout drawings, foundation drawings along with load data, main equipment and sub-assembly drawings, shipment schedule of the equipment as well as the time for installation, commissioning and performance tests.

12. Packing:

The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the

Goods' final destination and the absence of heavy handling facilities at all points in transit. In order to maintain safety of the equipment, we prefer to have wooden crating with adequate cushion inside for transportation of any goods. The Material has to be dispatched with International standard packing to withstand rigors, and to avoid any transit damages.

13. **Packing Instructions:**

Each package will be marked on three sides with proper paint/indelible ink, the following:

- i. Purchaser Name & Address
- ii. Item Nomenclature
- iii. Order/Contract No.
- iv. Country of Origin of Goods
- v. Packing list reference number

14. **Insurance:**

The Goods supplied under the Contract shall be fully insured in Indian Rupees against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery.

For delivery of goods at the purchaser's premises, the insurance shall be obtained by the Supplier in an amount equal to 110% of the value of the goods from "Warehouse to warehouse" (final destinations) on "All Risks" basis including war Risks and Strikes. The insurance shall be valid for a period of not less than 3 months after dispatch **or upto installation and commissioning of stores whichever is later** . However, in case of orders placed on FOB/FCA basis, the purchaser shall arrange insurance.

15. **General instructions:**

- A. The Technical Bid must be submitted in an organized and structured manner. No brochures/leaflets etc. should be submitted in loose form. Please indicate page nos. on your quotation. **The price should not be mentioned anywhere in this document.**
- B. Tenders, which are submitted without following the Two-Bid Offer System, are liable to be rejected.
- C. The technical offer should be complete to indicate that all products and services asked for are quoted. Each page of the bid and cutting/corrections shall be duly signed and stamped by the bidder. Unsigned Tenders are liable to be rejected. Failure to comply with this requirement may result in the bid being rejected.
- D. The purpose of certain specific conditions is to get or procure best product/service etc. for ARCI. The opinion of Technical Committee shall be the guiding factor for technical short listing.
- E. Vendor should provide list of deliverables / bill of materials and services.

PART- 2

EARNEST MONEY DEPOSIT

Earnest Money Deposit in the form of Indian or foreign demand draft Drawn in favour of **Director , International Advanced Research Centre, Payable at Hyderabad.**

No interest is payable on EMD. The EMD will be returned to the bidders(s)/Agents whose offer is not accepted by ARCI within one month from the date of the placing of the final order(s) on the selected bidder(s). EMD of the successful bidder shall be converted into performance guarantee and shall be release on submission of bank guarantee.

EMD in the form of BG is not acceptable.

Amount of EMD Rs. 1,91,500.00 (Rupees one lakh ninety one thousand five hundred only).

PART-3

FINANCIAL BID

I. Terms and Conditions:

- a) Envelope 3 should contain price schedule (as per the table) complete in all respects with proper seal and signature of authorized person.
- b) Tender with any condition, including conditional rebate, are liable to be rejected .
- c) Cost of all the items should be mentioned clearly and individually in the Commercial Offer (Part- II) only.
- d) AMC scope with associated costs including number of visits has to be quoted separately.
- e) The Bidders are requested to quote for research institutional price for Machine/ Equipment and, since ARCI is eligible for the same.
- f) Printed conditions of the vendor submitted with the tender will not be binding on ARCI.
- g) The commercial bids of only the technically qualified bidders shall be considered for further processing.
- h) The price quoted shall be considered firm and no price escalation will be permitted during the currency of contract. The quotation should be in standard currency on Ex works/FOB/FOR basis. Freight, insurance, Agency commission (if any) and commissioning charges, if not included, may be quoted separately in Commercial Bid.
- i) Commercial Bid (prices quoted) should not be enclosed in the technical bid envelope. If the price quote is submitted with technical bid the tender are liable to be rejected.
- j) The Director ARCI reserves the right to accept the offer in full or in parts or reject summarily or partly thereof.

II. Payment terms:

- a) For import :

An irrevocable Letter of Credit [L/C] for 100% of the order value will be established by the purchaser in favour of the supplier, through purchaser's bank in India once the following condition is met:

Receipt of order acknowledgement and acceptance of the order.

THE ACTUAL PAYMENT TO SUPPLIER WILL HOWEVER BE RELEASED IN TWO STAGES IN THE FOLLOWING MANNER:

Payment for 90% of the order value will be made upon shipment of the equipment and negotiation of the following shipping documents through L/C :

- 1) Signed Commercial Invoice - Original + 5 Copies

- 2) Airway Bill/Bill of lading - Original + 5 Copies.
- 3) Packing List -Original + 5 Copies
- 4) Certificate of conformity from the supplier that stores/equipment has been tested by the supplier and the same meet the technical specification - Original + 3 Copies.
- 5) Supplier's Certificate to the effect that the contents in each package are not less than those entered in the Invoice and the Packing List - Original + 3 Copies.

Balance 10% of the order value will be released through L/C upon submission of the following documents:

- 1) Commercial Invoice for 10% order value.
- 2) Final Acceptance Certificate [FAC] issued by the purchaser/authorized representative in original against satisfactory installation and commissioning of the equipment at ARCI Site.
- 3) Bank Guarantee Equivalent to 10% of total order value covering warranty period of the equipment issued or counter guaranteed by an Indian Bank clearly mentioning the relation with OEM if submitted by Indian Agent.
- 4) If the above-mentioned performance bank guarantee is not provided, 10% of the order value (i.e. second stage payment) will be released only after the expiry of the warranty period from the date of FAC.

1) Domestic purchase:

Payment Terms

Subject to deduction of taxes at source, if any,

90% of the goods cost + 100% taxes will be paid after receipt of the goods at our site subject to inspection & acceptance of the goods/works/commissioning by ARCI authorities.

Balance 10% will be paid against submission of Performance Bank Guarantee (i.e. 10% of the total order value excluding taxes etc.) from a Nationalized /Scheduled Bank valid till the expiry of the warranty period OR after completion of warranty period from the date of successful commissioning of equipment at ARCI.

III. Final acceptance certificate (FAC)

On installation, the working of the equipment should be demonstrated so as to comply with all the technical specifications. In this connection, it is to be noted that the installation report is not to be treated as the Final acceptance certificate (FAC)

The FAC will be issued by the PURCHASER only on demonstration of the technical specifications. The warranty shall commence only from the date of the issuance of the FAC. The FAC shall be issued by the PURCHASER at a date not later than 30 (thirty) days from the date of installation provided the equipment functions as per the specifications.

IV. Liquidated damages(LD)

As time is the essence of the contract, delivery period mentioned in the Purchase Order should be strictly adhered to. Otherwise, LD clause will be applicable /enforced. If the supplier fails to Supply, Install and Commission the equipment as per specifications mentioned in the order within the due date, ARCI may levy a penalty for such delay by way of liquidated damages, at 0.5% per week of delay or part thereof, and in aggregate not exceeding 5% of the order value. Such LD will be deducted from any amount due or which may become due to the supplier.

V. Order acceptance

The successful bidder, on award of contract / order, must send the contract / order acceptance in writing, within 15 days of award of contract / order failing which the EMD will be forfeited.

VI. Award of contract:

ARCI reserves the right at the time of award of Contract to increase or decrease the quantity of items specified in the Schedule of Requirements without any change in price or other terms and conditions.

VII. Corrupt or Fraudulent Practices:

ARCI requires that the bidders who wish to bid for this project have highest standards of ethics. ARCI will reject a bid if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices while competing for this contract. ARCI may declare a vendor ineligible, either indefinitely or for a stated duration, to be awarded a contract if it at any time determines that the vendor has engaged in corrupt and fraudulent practices during the execution of contract.

VIII. Interpretation of the clauses in the Tender Document / Contract Document:

In case of any ambiguity / dispute in the interpretation of any of the clauses in this Tender Document, Director, ARCI's interpretation of the clauses shall be final and binding on all parties.

The equipment must be supported by a Service personnel trained by the principal vendors

The vendor will have to arrange for all the testing equipment & tools required for installation, testing & maintenance etc. Installation and integration of all supplied hardware and software shall be done by the vendor. The vendor shall install and

configure all required hardware and software. The bidder must install and configure user application / software, and demonstrate its running in parallel as part of the system acceptance. The application software will be provided by the Institute.

IX. Indemnity:

The vendor shall indemnify, protect and save ARCI against all claims, losses, costs, damages, expenses, action suits and other proceeding, resulting from infringement of any law pertaining to patent, trademarks, copyrights etc. or such other statutory infringements in respect of all the equipment's supplied by him.

X. Arbitration

For Domestic Supplier

In case of Dispute or difference arising between the Purchaser and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to arbitrator appointed by Director ARCI. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to this order.

The venue of the arbitration shall be the place from where the purchase order/contract is issued.

Notwithstanding any reference to arbitration herein, (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and (b) the Purchaser shall pay the Supplier any monies due the Supplier.

For Imports

In the case of a dispute between the purchaser and a Foreign Supplier, the dispute shall be settled by arbitration in accordance with provision of sub-clause (a) above. But if this is not acceptable to the supplier then the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules.

Declaration by the Vendor

It is hereby declared that I/We the undersigned, have read and examined all the terms and conditions etc. of the tender document for which I/We have signed and submitted the tender under proper authorization. It is also certified that all the terms and conditions of the tender document are fully acceptable to me/us and I/We will abide by the conditions of the tender. We have not given any printed conditions beyond the scope of this tender. This is also certified that I/We/our principal manufacturing firm has no objection in signing the purchase contract if the opportunity for the supply of the items against this tender is given to me/us.

Date:

Signature:

Name:

Address:

Designation:

On behalf of:

PRICE SCHEDULE FOR FOREIGN SUPPLIERS

Currency:

SI No	Name of the equipment	Country of Origin	Quantity	Price in foreign currency
1.	Name of main equipment			
2.	Accessories			
3.	Spares and consumables			
Packing and forwarding Charges				
Ex-works Price				
Discount if any				
Net Ex-works Price				
FOB Charges				
FOB Price				
Charges for freight and insurance				
Total price (CIF/CIP)				
AMOUNT IN WORDS				

Note: The Bidder may please fill in this form or the same may be typewritten on the Letter Head of the Bidder exactly as per the above format and submit the same as per the instructions given in the tender document.

ARCI is exempted from paying Excise Duty as per Notification No.10/96 & exempted from paying Customs duty as per Notification No.51/96-Cus (as amended from to time). Hence rates to be quoted accordingly

Other information:

- a) Any installation and commission charges
- b) Any other optional item and their prices should be mentioned separately
- c) AMC Charges

[SIGNATURE OF BIDDER]
NAME AND ADDRESS OF BIDDER

PRICE SCHEDULE FOR DOMESTIC SUPPLIERS

SI No	Name of the equipment	Quantity	Unit/Price	Total Amount(Rs)
1	Main equipment			
2	Accessories			
3.	Spares and consumables			
Discount if any				
Net Price				
Taxes if any				
Total price (FOR – ARCI)				
AMOUNT IN WORD:				

Note: The Bidder may please fill in this form or the same may be typewritten on the Letter Head of the Bidder exactly as per the above format and submit the same as per the instructions given in the tender document

ARCI is exempted from paying Excise Duty as per Notification No.10/96 & exempted from paying Customs duty as per Notification No.51/96-Cus (as amended from to time). Hence rates to be quoted accordingly

Other information:

- d) Installation and commission charges, if any
- e) Optional items and their prices should be mentioned separately
- f) AMC Charges

[SIGNATURE OF BIDDER]
NAME AND ADDRESS OF BIDDER

SCOPE OF WORK

Hiring of 2 Nos. of 1 KL capacity vacuum insulated liquid argon storage tanks along with 1 No of atmospheric star fin type aluminium vaporizer and time to time refilling of liquid argon tank.

Technical specifications of 2 numbers of 1 KL capacity vacuum insulated liquid argon storage tanks along with 1 number of atmospheric star fin type vaporizer are as follows.

1 kL capacity vacuum insulated liquid argon storage tanks	
Quantity	2 Nos.
Design type	Vertical storage
Vessel	Double walled steel container with proper insulation (perlite and vacuum)
Design and fabrication code	EN13458 or any equivalent international code
Liquid argon storage capacity	1000 liters(approx.)
Allowable working pressure	$\geq 19 \text{ kg/cm}^2$
Design temperature	Between -196°C and $+ 45^\circ\text{C}$
Protection	Mechanically stable outer vessel with two coats of painting (primer and final)
Atmospheric star fin type aluminium vapourizer	
Quantity	1 No
Purpose	Star fin type atmospheric aluminium vapourizer shall be connected to the both liquid argon storage tanks for vaporization of liquid argon (from either or both the tanks) to gaseous state at desired pressure and flow rate.
Operating pressure	$25 \text{ kg/cm}^2(\text{max})$
Delivery flow rate	The supply of argon gas from vaporizer should be regulated to deliver at a pressure between 2 and 8 kg/cm^2 with a required flow rate of $35\text{-}45 \text{ m}^3/\text{h}$. The design shall ensure the gas delivery at constant pressure even with changes in the flow rate from the vaporizer outlet.
Inlet temperature	Between -196°C and $+ 45^\circ\text{C}$
Outlet temperature	10°C (approx.) below the ambient temperature
Heating medium	Ambient

- The vender should install only the NEWLY manufactured liquid argon storage tanks and vaporizer in the ARCI premises.
- The vender shall provide the pipe spool including safety valves, pressure gauges, regulators, isolation valves etc. to deliver the argon gas at the delivery end of the vaporizer at required flow rate and pressure.
- The vender shall carry out the erection and commissioning of the liquid argon storage tanks along with the vaporizer. Necessary piping as per standard should be provided for flow of liquid argon and supply of argon gas from the delivery end of the vaporizer. The piping shall include a pressure/flow regulator at the delivery end of the vaporizer which shall be connected to a gas manifold. The vendor should provide incidental/petty items that are required for installation and commissioning of the liquid argon storage tank along with the vaporizer.
- The vendor should arrange the approval from statutory authorities (like CCOE) to install the liquid argon storage tanks in the ARCI premises.
- The vendor should have the approval of the drawings and other documents as per the code from statutory authorities (like CCOE) before the fabrications of the tanks to be installed in ARCI premises.
- The vendor shall carry out the periodic as well as breakdown maintenance of the tanks and vaporizer for the entire period of hiring contract. The part maintenance shall include but not limiting to pressure testing, replacement of defective and worn out parts, painting, placing safety banners and hoardings etc.

Time to time refilling of liquid argon.

1. The vendor is required to refill the above-mentioned liquid argon storage tanks at ARCI premises.
2. Liquid argon purity: $\geq 99.998\%$
3. The supplier should to refill the tanks as and when required basis with a notice period of 7 days.
4. Estimated average consumption of liquid argon shall be 600-1200 m³ per month. However, the payment will be based on the exact quantity of liquid argon received by ARCI.
5. The liquid argon should be delivered by the vendor using their transport tanker and the item to be transferred to the liquid argon storage tanks by the authorized person of the vendor.
6. Each time, the quantity (in kg) of liquid transferred to the storage tanks will be determined based of the weight difference of the transport tanker before and after refilling of the storage tanks. The weight of transport tanker before and after refilling of storage will be taken in a weight bridge nearest to ARCI and same will be witnessed by the ARCI personnel.

In addition the vendor should meet the following requirements:

1. A separate technical compliance with ARCI's each specification for every part must be given in the technical bid. Any deviation from the requested specification need to be clearly mentioned in the compliance sheet.
2. The vendors shall have designed, manufactured and supplied at least three or more such tanks (capacity 1kL) for storing of liquid argon/nitrogen/oxygen within a stretch of last three years and the tanks must be operating satisfactorily for at least two years from the date of commissioning. The vendor should provide reference of purchase orders in support of this.
3. The vendor should provide the complete layout diagram indicating the area required for installation of the above tanks and vaporizer assembly. If the tanks installation requires any civil foundation same shall also be mentioned with support of engineering drawing.
4. The vendor should carry out the non-destructive testing of the inner and outer vessels of each storage tank as required by the fabrication code (EN13458) and supply shall include the test certificates.
5. Training for operation and maintenance of liquid argon storage and gas delivery shall be extended to ARCI personnel.

As a part of the hiring contract of the tanks and vaporizer, the vender should provide as set of following documents.

1. Quality test certificates for the liquid argon storage tanks. The certificate should be from a third party inspection agency (like CCOE).
2. The certificates including calibration certificates for safety valves, pressure gauges, and level gauges.
3. Complete design drawing of the item along with the flow scheme.
4. Material tests report for the inner and outs vessels of liquid argon storage tanks.
5. Relevant inspection and test reports (like radiography etc.)
6. Operation, maintenance and safety manual.