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Balmer Lawrie & Co. Ltd.

LOGISTICS INFRASTRUCTURE

Food Processing, Packaging and Temperature Controlled Warehouse

Plot No. F-9/5, Additional MIDC Patalganga, District – Raigarh, Maharashtra

Tender for

Design, Supply, Erection, Testing and Commissioning of Refrigeration System

,

TENDER NO: BL/LI/CC/TCW-MUM/REFRIGERATION/16-17/16

Date: - 17.01.17

Due Date & Time:- 07-02-2017 at 17:30 hours

Bidder Signature & Stamp

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Bidder Signature & Stamp

NOTICE INVITING TENDER

Balmer Lawrie & Co Ltd invite ONLINE BIDS from experienced, competent and resourceful contractors with sound technical and financial capabilities for **Design, Supply, Erection, Testing and Commissioning of Refrigeration System** for Food Processing, Packaging and Temperature Controlled Warehouse at Patalganga, in Raigad District, Maharashtra**.**

Tenderers are advised to download Notice Inviting Tender along with other tender documents from www.balmerlawrie.com.

TENDER SCHEDULE

S. No	Description	Details
1	Name of Work	**Design, Supply, Erection, Testing and commissioning of Refrigeration System.**
2	Tender No	BL/LI/CC/TCW-MUM/REFRIGERATION/16-17/16
3	Completion Period	Total Completion shall be 16 Weeks from the date of receipt of PO or LOI whichever is earlier.
4	Validity Of Offer	120 days from the due date of tender submission.
5	Tender Fee	Rs. 2000/-
6	EMD	Rs. 200,000/-
7	Pre-bid Meeting	25.01.2017
8	Downloading / Submission of Tender :	
	a. Starts on	**17.01.2017**
	b. Closes on	**07.02.2017 at 17.30 Hrs.**
	c. Last Date of Receiving Queries	**27.01.2017 by 17.30 Hrs.**

SPECIAL INSTRUCTION TO BIDDER

1. LIST OF DOCUMENTS TO BE SUBMITTED

I. The **signed and stamped** copies of following documents should be sent as part of the technical/commercial bid submission

i. Power of Attorney authorizing the person who has signed the tender to act and sign on behalf of the company.
ii. Certificate of registration/incorporation in the case of Pvt Ltd/Public Ltd Company /certified copy of / partnership deed in the case of LLP/Partnership firm/ any document under the relevant rules/laws if the firm is a proprietorship firm.
iii. Copy of Income Tax PAN Card.
iv. Copies of VAT, Excise and Service Tax Registration number.
v. Charted accountant's certificate or Audited / Certified Balance sheet and Profit and Loss account of tenderer's company for last three years ending 31.03.16.
vi. Copies of valid PF and ESI Registration.
vii. Copies of experience certificate as per Prequalification criteria.
viii. Submission of Technical Data Sheet and the undertaking as attached with the tender.
ix. Details of Tools and Tackles required for the Maintenance Purpose.

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II. **Tender Fee -** Tender fee of Rs.2000/- (non-refundable) by demand draft on any Scheduled Bank payable at Kolkata in favour of M/s Balmer Lawrie & Co. Ltd.

III. **Earnest Money Deposit -** EMD (Earnest Money Deposit) should be a Bank Draft or Bank Guarantee of Rs 200,000.00 (Rupees Two Lakhs only) drawn in favour of M/s Balmer Lawrie & Co Ltd payable at Kolkata or executed by a scheduled bank in favour of Balmer Lawrie & co Ltd as per format enclosed (in the case of a BG). EMD submitted by way of Bank Guarantee should be valid for a minimum period of 120 days from the due date of tender submission.

Earnest Money deposit (EMD) and Tender Fee are exempted for vendors registered under NSIC or coming under the definition of Micro and Small Industries and holding valid registration certificates covering the tendered items/services.

2. VERIFICATION OF DOCUMENTS / SUBMISSION OF BIDS / CANCELLATION OF BIDS

a. If Balmer Lawrie wants to verify all the submitted documents, then the bidder should bring all original documents.
b. Failure on part of the tenderer to report on specified date and time for paper verification may result in rejection of the tender submitted by them without further communication.
c. Tenderer should be in a position to produce all the original documents and/or any other information on dates as intimated or as and when required by Balmer Lawrie.
d. Incomplete Tenders are liable for rejection without any reference to the tenderer and decision of Balmer Lawrie in this respect will be final.
e. If at any stage it transpires that any bidder has submitted false or forged documents, then the bidder may be Blacklisted and the EMD would be forfeited, contract could be cancelled, criminal prosecution or any other action as deemed fit may be initiated.
f. Balmer Lawrie reserves the right to reject any or all tenders without assigning any reasons whatsoever.
g. Bids of any tenderer may be rejected if a conflict of interest between the bidder and Company (Balmer Lawrie) is detected at any stage.
h. All the bids will be evaluated based on the criteria as mentioned in this NIT. Tenders of those bidders who are not meeting the criteria as specified in the NIT, will not be considered for commercial evaluation.
i. Tenders, if submitted through e-mail or fax, shall be summarily rejected.

3. SCOPE OF WORK

The Tender has been called to provide detail design engineering, supply, installation, testing, commissioning and providing defect liability services for a fully functional Refrigeration system along with specifications as referred in various clauses of Tender. The attached BOQ and Technical Specifications are only indicative and provided to the bidders to provide the first-hand idea for the nature and extent of the job. Bidders need to make the detailed engineering estimate to ensure the system is functionally and operationally complete in all respects to satisfy Balmer Lawrie's requirement without any additional payment after finalization of the tender and issuance of the work order.

4. COMPLETION PERIOD

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Time is the essence of the contract. The time schedule for total work according to the contract shall be **16 (Sixteen) weeks** from the date of receipt of purchase order or LOI whichever is earlier.

5. **TENDER DOCUMENT AND COST OF BIDDING**

Tender Documents can be downloaded from our website **www.balmerlawrie.com.**
The bidder shall bear all costs associated with the preparation and delivery of bid including costs and expenses related to visits to site or any other locations, and the cost of any investigations, evaluations and consultations etc. BL will in no case be responsible or liable for any costs regardless of the outcome of the bidding process.

6. **PRE-QUALIFICATION CRITERIA**

The tenderers shall fulfil the following pre-qualification criteria:

a. Payment of Tender Fees of Rs. 2000/-
b. Payment of EMD of Rs. 200,000/-
   Note: - Tender Fee and EMD are exempted for the MSME or NSIC registered vendors.
c. Average annual turnover of the tenderer shall be minimum of **Rs. 400 lacs** during last three financial years ending 31st March, 2016 in related business.
d. The tenderer should have executed similar work of the following minimum values during past seven (7) years ending last day of month previous to the one in which applications are invited. Values of the job should be any one of the following.
   i. 3 Similar Works each of value not less than Rs. 160.00 lacs or
   ii. 2 Similar Works each of value not less than Rs. 200.00 lacs or
   iii. 1 Similar Works of value not less than Rs. 320.00 lacs.

   Copy of work orders and satisfactory completion certificates from the owner or from their consultant should be enclosed as supporting documents. In the event the consultant issued completion certificate on owners' behalf for a particular job, copy of order issued by the owner to the consultant shall also require to be furnished.
e. Tenderer should not be blacklisted by any Central or State PSU or any governmental institutions. Tenderer should give a self- certification towards the same and if on a later date Balmer Lawrie finds out that this certification is wrong, the order issued to the successful bidder is liable to be cancelled forthwith.

7. **TENDER DOCUMENTS**

Tender Documents comprises Notice Inviting Tender, General & Special Condition of Contract, Technical Specification and Drawings as unpriced part. The Priced Part consists of unpriced bill of quantities. Bidders are requested to download the tender document and read all the terms and conditions mentioned in the tender document and seek clarification if any, from **Rakesh R. Choudhary, Project Leader (Cold Chain) (Mobile no. 9866400155)** or can send their queries on Choudhary.rr@balmerlawrie.com within the schedule date.

8. **VALIDITY OF OFFER**

Tendered shall keep their offer valid for acceptance for a period of 120 days from the date of opening of technical bid.

9. **PRICE VARIATION**

The price should be firm and irrevocable and not subject to any change till the validity of the contract period.

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10. **QUANTITY**

The quantity as mentioned in the BoQ is indicative and a quantity tolerance of ± 10% is expected, your prices should be firm to accommodate this variation in total value and not in the individual item.

11. **LATE BIDS**

Bids received after the due date shall not be accepted under any circumstances, bidders are requested to send their bids considering the holidays. Office of Balmer Lawrie is closed on Saturday and Sunday and holidays as per the company policy.

12. **OPENING OF BIDS**

The bids will be opened online only

13. **DEVIATIONS**

It is expected that bidders will submit their bid strictly based on the terms and conditions and specifications contained in the bidding documents and will not stipulate any deviations. Should it, however, become unavoidable, deviations (in the form of Deviation Sheet) should be submitted along with the Bid.

BL reserves the right to reject any bid containing major deviation(s).

14. **BID SIGNING**

All signatures in bids shall be dated and shall bear a seal/stamp of the bidder. In addition, all pages of the bids before submission of the bid shall be initiated at lower right hand corner by the Bidder or by a person holding a Power of Attorney or a letter of authorization authorizing him to sign on behalf of the bidder.

15. **TENDER SUBMISSION**

The bidders would be required to register on the e-procurement site https://balmerlawrie.eproc.in and submit their Tenders online.

For registration and online Tender submission bidder may contact the following officials at the HELP DESK of M/s C1 India on browsing to the website https://balmerlawrie.eproc.in during business hours (10:00 a.m. to 06:30 p.m.) from Monday to Friday (Excluding holidays of the Company):

Sl. No.	Name	e-mail ID	Contact No.
1.	Tuhin Ghosh	tuhin.ghosh@c1india.com	+91-8981165071
2.	Tirtha Das	tirtha.das@c1india.com	+91-9163254290
3.	Ravi Gaiwal	ravi.gaiwal@c1india.com	+91-022-66865633
4.	Ujjal Mitra	ujjal.mitra@c1india.com	+91-89866 78058
5.	Rajesh Kumar	Rajesh.kumar@c1india.com	+91-96504 65143

The bidder shall authenticate the Bid with his Digital Certificate for submitting the Tender electronically on e-procurement platform and the Tenders not authenticated by digital certificate of the bidder will not be accepted on the e-procurement platform.

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All the bidders who do not have digital certificates need to obtain Digital Certificate (with both Signing and Encryption Components). They may contact help desk of M/s C1 India.

The bidder shall invariably furnish the original DD towards Tender fee and DD/BG towards EMD to the tender inviting authority so as to reach on or before the due date and time of the Tender either personally or through courier or by post and the receipt of the same within the stipulated time shall be the responsibility of bidder. The Company shall not take any responsibility for any delay or non-receipt. If any of the documents furnished by the bidder is found to be false/fabricated/bogus, the bidder is liable for black listing, forfeiture of the EMD, cancellation of work and criminal prosecution.

The bidder has to keep track of any changes by viewing the Addendum / Corrigenda issued by the Tender Inviting Authority on time-to-time basis in the e-Procurement platform. Only at the time of inviting offers, there will be a paper ad. There will be no further paper advertisement on this. Interested parties have to keep referring to the website for further information. The Company calling for tenders shall not be responsible for any claims/problems arising out of this.

For Price Bid Submission, the bidders are required to download the Excel Sheet of Price Bid, fill the relevant details and upload the same after signing and stamping.

The bidder should complete all the processes and steps required for bid submission. The successful Tender submission can be ascertained once acknowledgement is given by the system through Tender submission number after completing all the process and steps. M/s C1 India or Balmer Lawrie will not be responsible for incomplete Tender submission by users. Bidders may also note that the incomplete Tenders will not be saved by the system and are not available for the Tender Inviting Authority for processing.

The Company (Balmer Lawrie & Co. Ltd.) nor the service provider (M/s C1 India) is responsible for any failure or non-submission of Tenders due to failure of internet or other connectivity problems or reasons thereof.

The hardcopies of the Bid Documents as explained above and also defined in clause no. 1. of NIT under sealed envelope superscibing with Name of the Tender and Reference No. of the Tender should reach the office on the below address on or before the due date of submission of tender. The Bidders who are submitting the Bids in person are requested to drop the same in our tender box located at the entrance of 2nd floor at the below address.

Kind Attention – Mr. Rakesh R. Choudhary,
Container Freight Station
Balmer Lawrie & Co. Ltd.
Plot No. 1, Sector- VII,
Dronagiri Node,
Navi Mumbai
Maharashtra - 400 707
Contact No. 9866400155

16. **SUPPLY OF MATERIAL**

All materials required for the work shall be supplied by the contractor.

17. **TAXES and Duties**

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Your quoted rates shall be as per the attached format in the Price Bid. Any other levies or taxes as applicable shall be included in the quoted basic value.

18. **NON-CONFORMANCE**

Tenders not conforming to the above mentioned requirements are liable to be rejected.

19. **SELECTION CRITERIA**

The price bids of those bidders qualifying in the Pre-Qualification Criteria will alone be opened. Bid selection will be based on who quotes over all L-1 for the tender as per the price bid format.

For any technical and / or other clarification / queries, you may please contact Mr. Rakesh Choudhary, Project Leader (Logistics Infrastructure), Mob – 9866400155, email – choudhary.rr@balmerlawrie.com.

For, Balmer Lawrie & Co. Ltd.

Rakesh R. Choudhary
(Project Leader – Cold Chain)

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GENERAL CONDITIONS OF CONTRACT

1 DEFINITIONS

1.00 GENERAL

The following expressions hereunder and elsewhere in the contract documents used shall have the following meanings hereunder respectively assigned to them except where the context otherwise requires:

1.01 The "Owner / "Employer" shall mean M/s Balmer Lawrie & Co. Ltd., a company incorporated in India and having its registered office at 21, Netaji Subhas Road, Kolkata - 700 001 and shall include its successors and assigns.

1.02 "Tenderers" or "Bidders" shall mean such parties who have been issued Tender Document by the Owner and those parties who have submitted these offers to the Owner in response to the Tender Document issued to them.

1.03 "Tender Document" shall mean the Tender Documents comprising Part I (Un-priced Bid) – Notice inviting tender, General Conditions of contract, Special Conditions of Contract, Technical Specification, Bill of Quantities, Drawings / Sketches, Data Sheets, Addenda / Corrigenda to the tender document issued by the Owner, Form of Tender and Part II (Priced Bid) – Un Price BOQ.

1.04 The "Contractor / Successful tenderer" shall mean the tenderer selected by the Owner for the performance of the work and shall include the successors and Owner permitted assigns of the Contractor.

1.05 The "Sub-contractor" shall mean any person or firm or company (other than the Contractor) to whom any part of work has been entrusted by the Contractor with the written consent of the Engineer-in-Charge, and the legal representatives, Successors and permitted assigns of such person, firm or company.

1.06 **The "Project" shall mean Design, Supply, Erection, Testing and Commissioning of Refrigeration System for Food Processing, Packaging and Temperature Controlled Warehouse at Patalganga, in Raigad District, Maharashtra.**

1.07 The "Project Manager" shall mean the Officer nominated by Owner to co-ordinate and supervise all the activities connected with the implementation of project on their behalf. "Project Manager" may at his discretion depute Owner's officers to co-ordinate / supervise the work of Contractor / Consultants at site.

1.08 The "Engineer-in-Charge" shall mean the Engineer/Agency authorized by the Owner for the purpose of the Contract for overall supervision and co-ordination of site activity and certification of billing.

1.09 "Site" shall mean all such land, waters and other places on, under, in or through which the works for the Project are to be performed under the Contract.

1.10 The "Site Engineer" shall mean the Engineer(s) for the time being deputed by the Engineer-in-Charge as Site Engineer for the work to be performed by the Contractor at any and/or all job sites and to coordinate all activities of all parties at site.

1.11 "Inspecting Authority" means Third Party Inspection Agency (TPIA) as specified by the Owner/Consultant or Owner's authorized representative or Consultant's representative.

1.12 The "Work" and "Scope of Work" shall mean the totality of the work by expression or implication envisaged in the contract and shall include all material, equipment and labour required for or relative or incidental to or in connection with the commencement, performance or completion of any work and/or for incorporation in the work.

1.13 The "Works" shall mean the product(s) of the work and shall include all extras, additions, alterations or substitution as required for the purpose of the contract.

1.14 The "Works Contract" or "Contract" shall mean the totality of the agreements between the parties as derived from the Contract Documents for the entire work.

1.15 The "Contract Documents" shall mean collectively Tender Documents and the Contract Documents as laid out in the Owner's Standard Contract Format which is based on the General & Special Conditions of Contract.

1.16 The "Specification(s)" shall mean the various specifications as set out in the specifications forming part of the tender documents and as referred to and derived from the contract and any order(s) or instruction(s) thereunder, and the absence of any specifications as aforesaid covering any particular work or part of portion thereof, shall mean the relevant Indian Standard Institution Specifications for or relative to the particular work or part thereof, and in the absence of any Indian Standard Institution Specifications covering the relative work or part or portion thereof, shall mean the standards or specifications of any other country applied in India as a matter of standard engineering practice and approved in writing by the Engineer-in-Charge or Site Engineer with or without modifications.

1.17 "Order" and "Instruction" shall respectively mean any written Order or Instruction given by the Engineer-in-Charge or Site Engineer within the scope of their respective powers in terms of the Contract and shall include alteration / variation order to effect additions to or deletion from and / or alteration in the work detailed in the contract.

1.18 "Plans" and "Drawings" shall mean maps, plans, drawings, sketches, tracings and prints forming part of the tender documents and any details or working drawings, amendments and/or modifications thereof approved in writing by the Engineer-in-Charge, Site Engineer or any agency notified by the Engineer-in-Charge to the Contractor for the purpose and shall include any other drawings or plans in connection with the work as may from time to time be furnished by or approved in writing by the Engineer-in-Charge or Site Engineer or any other agency nominated by the Engineer-in-Charge on his behalf in connection with the work.

1.19 "Temporary Work" / "Enabling Work" shall mean all such works which are required in or about the execution, completion or maintenance of the work and if not provided for specifically in the Bill of Quantities shall be deemed to be done by the Contractor at his own cost in fulfilment of the contract.

1.20 "Constructional Plant" shall mean all such Plant & Machineries, appliances, aids or things of whatsoever nature other than materials intended to form part of the permanent works which are required in or about the execution, completion for maintenance of temporary and permanent work.

1.21 "Completion Certificate" shall mean the Certificate to be issued by the Engineer-in-Charge after the work has been completed to his satisfaction.

1.22 "The Final Certificate" in relation to the work shall mean the certificate to be issued after the period of liability is over by the Owner regarding satisfactory compliance of various provisions of the contract by the contractor.

1.23 "Period of Liability" or "Defect Liability Period" refers to the Specified period from the date of completion of the entire work as indicated in the completion certificate up to the date of issue of Final Certificate during which the contractor is responsible for rectifying all defects "free of cost" to the satisfaction of Owner.

1.24 "Running Account Bill" shall mean a Bill for the payment of "On Account" to the Contractor.

1.26 "Agreed Variation" shall mean the statement of Agreed Variation annexed to the Acceptance of Tender or a further Amendment to the Contract forming part thereof.

1.27 "Acceptance of Tender" shall mean the Acceptance of Tender issued by the Owner to the Contractor.

1.28 The "Total Contract Value" means the value of original work order issued and duly accepted by the Contractor. The remuneration due to the Contractor in terms of the Contract on successful completion of the work shall mean the value of job actually executed by the Contractor within the original time schedule or within the approved extended time.

1.29 "Written Notice" or "Notice" in writing shall mean all hand written, typed / printed /email form sent (unless delivered personally) or proved to have been received by registered post to the last known address / private / business or registered office, of the contractor and shall be deemed to have been received in the ordinary course of post it would have been delivered.

1.30 "Letter of Intent" shall mean intimation by a letter to the successful tenderer that the tender has been accepted in accordance with the provisions contained therein.

1.31 "Progress Schedule" shall mean the time schedule of Progress of Work.

1.32 The "Alteration Order or Variation Order" means Order given in writing by the Owner to effect additions to or deletions from and alterations in the work.

1.33 "Measurement book(s) / Sheet(s)" shall mean the register preserved by the Engineer-in-Charge, where all measurements taken at site are neatly recorded by the Engineer-in-Charge or his authorized representative and signed in token of acceptance by the Contractor or his authorized representative.

2.00 **DISCREPANCY IN TENDER DOCUMENT**

Should there be any discrepancy, inconsistency, error or omission in the Tender Documents, the Tenderer shall bring it to the notice of the Owner / Engineer-in-Charge for necessary clarification / action. In the event such matters are referred to later the decision of the Owner / Engineer-in-Charge directing the manner in which the work is to be carried out shall be final & conclusive and the contractor shall carry out work in accordance with this decision.

3.00 NON-TRANSFERABILITY OF TENDER DOCUMENTS

Tender documents shall remain the property of the Owner and if obtained by one intending tenderer, shall not be utilizable by another without the consent of the Owner.

4.00 TENDERERS RESPONSIBILITY TO COLLECT ALL REQUIRED DATA

(i) The tenderer should study all tender documents, carefully, understand the condition / drawing
Specification etc. before quoting. If there are any doubts about tender conditions he should obtain clarification from **Rakesh R Choudhary** (mob no. 9866400155), e-mail: Choudhary.rr@balmerlawrie.com). This shall not be the justification for late submission or time extension for due date of submission of tender. All tender documents shall govern the contract, shall form part of the contract and shall be binding during the execution till completion of work.

(ii) The tenderer should visit the site and acquaint himself with the site conditions, all factors which are likely to be relevant for the works, availability and rates for various things including construction materials as per specification, shelter for staff etc. since these are to be provided / arranged by the tenderer (unless otherwise specified) at his own cost. In any case it will be deemed that tenderer has gone through the requirement and no claim whatsoever will be entertained on the plea of ignorance of factor or difficulties involved in fulfilling the tender conditions.

(iii) Under no circumstances, Tenders may be withdrawn or modified after its submission to the Owner. Negligence on the part of the Tenderer in preparing his tender confers no right for withdrawal or modification of his tender after the tender has been opened.

5.00 COMPLETE & COMPETITIVE OFFER

(i) Tenderers are required to make the lowest offer for the work as per the enclosed specification and details available therein. The estimated quantities given in the Bill of Quantities are approximate. As the work progresses, it is possible that there are variations & omission of items

(ii) The rates quoted should be inclusive of all materials, labour, incidental expenses, Equipment, Tools/Tackles, Transportation of materials and Labour and taxes as defined in clause no. 17 of Notice Inviting Tenders. All materials are to be supplied by the Tenderer unless otherwise stated.

(iii) Incomplete / Conditional tender quotation or tenders those received late and / or not conforming to the terms and conditions in the tender document will be liable to get rejected.

(iv) It is in the Tenderer's interest to adhere to the Owner's tender conditions, specifications and Tender Schedule. Should the tenderer however consider it unavoidable, deviations should be clearly spelt out with reference to tender conditions. Owner reserves the right to determine / evaluate financial implication of such deviations without any reference to the tenderer or at his discretion consider such tenders liable for disqualification.

(v) After "Unpriced" bids are evaluated, tenderers whose bids are found acceptable may be invited for discussions for exchange of clarifications, required, if any. At that stage, depending on the merits of the case, opportunity may be given to amend the "Priced" bids already received along with the un-priced bids, but not opened until then. Such amendments or revisions would need to be submitted online only as per the given time frame. Tenders indicating counter proposals or deviations are liable to be rejected.

(vi) Tenderers are expected to quote rate for each item after careful analysis of cost involved for the performance of the completed item considering all Specifications and Conditions of Contract. This will avoid loss of profit or gain in case of quantity variation or deletion of any item during the execution period. In case it is noticed that the rates quoted by the Tenderer for any item are unusually high or unusually low it will be sufficient cause for the rejection of the Tender unless the Owner is convinced about the reasonableness of the rates on scrutiny of the analysis for such rate to be furnished by the Tenderer on demand.

6.00 CONTRACT AGREEMENT

The successful tenderer shall within 10 days of the Owner's communication to him of the Acceptance of the Tender, execute formal agreement with the Owner in the pro-forma attached to the Tender Document.

In the event of failure on the part of the successful tenderer to sign the agreement within the stipulated time period, the Earnest Money Deposit will be forfeited and the Acceptance of the Tender shall be considered as cancelled.

7.00 EARNEST MONEY DEPOSIT

(i) Tenderer shall be required to submit an Earnest Money of **specified value as mentioned in NIT** along with the un-priced part of the tender and the same shall be returned to the unsuccessful tenderers after acceptance of order by the successful tenderer. Earnest money of successful bidder shall be released after submission of initial security deposit by them

The permissible forms of deposit are:

a) Bank draft drawn on a Kolkata branch of any Scheduled Bank in favour of Balmer Lawrie & Co. Ltd.

b) Bank Guarantee executed by any Schedule Bank as per proforma enclosed and shall be valid for a minimum period of 120 days after the due date of tender submission.

(ii) If the successful tenderer is unable to accept or execute orders when placed upon him or fails to deposit the Initial Security Deposit or withdraws / revises his quoted prices and quantities offered, within the validity period of his tender or after placement of the Order / Letter of Acceptance, his Earnest Money Deposit shall be forfeited.

(iii) No interest is payable against Earnest Money Deposit.

8.00 SECURITY DEPOSIT

(i) On acceptance of the Bid, Contractor shall within fifteen (15) days, deposit with Owner an Initial Security Deposit of 2% of the Contract value and the same shall be in any of the following form:

a) Bank draft drawn on a Kolkata Branch of any Scheduled Bank in favour of Balmer Lawrie & Co Ltd.

b) Bank Guarantee executed by any Scheduled Bank as per proforma enclosed and shall be valid at least sixty days after the completion of work.

(ii) If Contractor fails to provide the Security Deposit within the period specified, such failure will constitute a breach of the Contract and Owner shall be entitled to award the Work elsewhere at Contractor's risk and cost. The EMD of the bidder to whom Contract was awarded, shall be forfeited

(iii) No interest shall be payable against Security Deposit.

(iv) As and by way of additional security, from every progress bill of Contractor, Security Deposit in the form of Retention Money (interest free) at the rate of 10% of the Gross value of such bill as determined before payment shall be retained by the Owner. Owner can permit Contractor to replace the Security Deposit / Retention Money so retained by Bank Guarantee at his discretion after successful completion of the work.

(v) Wherever the Security Deposit / Retention Money is furnished by Contractor in any form other than
in cash or Demand Draft, Contractor shall be entirely responsible to keep such form of security deposit enforceable by extending the validity thereof before one month of date of expiry and keep them enforceable, until released by Owner after the Defect Liability Period.

(vi) The Security Deposit / Retention Money shall remain at the entire disposal of Owner as a security
for satisfactory execution and completion of the Work(s). Owner shall be at liberty to deduct and appropriate from the Security Deposit / Retention Money such damages (liquidated or otherwise) and other dues and recoveries from Contractor under this Contract and the amount by which Security Deposit / Retention Money is reduced by such appropriations, will be made by further deductions from Contractor's subsequent bills to that extent as to make up the Security Deposit / Retention Money.

(vii) Notwithstanding anything to contrary, in as much as the Security Deposit is to be in cash with Owner, Owner shall be entitled to enforce any of the approved forms of Security Deposit furnished by Contractor at any time and realise cash thereof irrespective of whether or not Contractor disputes such right. However, if Contractor obtains the extension of the time limit, if any, for the enforceability of such form of Security Deposit and intimates Owner of such extension within one month before expiry, Owner may not enforce such form of Security Deposit, unless it has otherwise become enforceable.

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(viii) On due and satisfactory performance of all the obligations of Contractor under this Contract including completion of work in all respects, carrying out the obligations of Contractor during Defect Liability Period, Retention Money shall be released by Owner subject to recoveries, deductions and retentions therefrom as provided under the Contract.

9.00 VALIDITY OF OFFER

The validity of the tender offer shall be 120 days from the date of opening of Un-priced tender or any date later than it that may be proposed by the Owner and agreed to by the tenderer. During this period, tenderer shall not be entitled to modify, revoke or cancel his tender without the consent of Owner in writing. In case of successful tenderer only, validity shall be until the work is completed to the satisfaction of the Owner and so certified in writing by the Owner or their accredited representative

10.00 TIME FOR COMPLETION OF WORK

Time is the essence of the contract. The tenderer shall submit their plan to complete the whole work according to the overall time allowed for the execution of work as given in the Tender Documents and NIT. **The allowed time for completion of the work as per the NIT includes contract agreement signing and Designing, Manufacturing, Supply and Site Mobilization of manpower and equipment for the purpose of erection and commissioning of the works as per the schedule of works.**

10. 1 The contractor shall complete in all respects in accordance with the Contract, the entire work within the specified time period.

10.2 It is the contractor's responsibility to prepare and submit to the Owner / EIC, a Progress Schedule the dates of progress as fixed by the Engineer-in-Charge being final and binding upon the contractor except as herein otherwise expressed provided and shall then be the Approved Progress Schedule.

10.3 The application for extension of time made by the Contractor to the Engineer-in-Charge should contain full details of-

a) The activity for the Progress Schedule affected.
b) The bottleneck(s) or obstruction(s) perceived/ experienced, and the reason(s) therefor,
c) Extension required/ necessitated on account of b) above
d) Extension required/ necessitated on account of reasons attributable to the Owner,
e) Extension required/ necessitated on account of force majeure reasons, and
f) The total extension of time (if any) required/ necessitated for completion, taking the above into account and after eliminating all overlaps.

10.4 The opinion/ decision of the Engineer-in-Charge in this behalf and as to the extension of time necessary shall.

10.5 The term "Force Majeure" as employed in this contract shall mean wars (declared or undeclared) or revolutions, civil wars, tidal waves, fires, major floods, earthquakes, epidemics, quarantine restrictions and freight embargoes and transporters strikes affecting the country as a whole.

11.00 SITE INFORMATION, CLIMATIC CONDITION ETC.

The tenderer shall be deemed to have satisfied themselves regarding site condition, access, communication facilities, local conditions, climatic conditions including wind, monsoon period, rainfall, temperatures etc. and shall be deemed to have included the impact of these factors within their quoted rates.

Contractor should visit the site and familiarize themselves thoroughly before submitting the tender. For the purpose the contractors are required to contact **Sri Rakesh R Choudhary (Project Leader – Cold Chain).**

12.00 CONSTRUCTION WATER

Water for construction shall not be made available to the contractor. Contractor has to arrange the construction water without any extra cost. The contractor at his own cost shall arrange distribution of pipe networks, storage and such distribution network arrangement shall have the prior approval of the Engineer-In-Charge so as not to interfere with the layout and progress of other jobs.

All temporary arrangements for distribution of construction water shall be removed forthwith after completion of the work or if there is any hindrance caused to the other works, the contractor will re-route or remove the temporary lines at his own cost in a manner so as to continue his (contractor's) work in an uninterrupted manner.

13.00 CONSTRUCTION POWER

Construction power shall not be made available to the contractor. The contractor has to arrange the same at his own cost. All temporary arrangements for distribution of construction power shall be removed forthwith after completion of the work or if there is any hindrance caused to the other works, the contractor will re-route or remove the temporary lines at his own cost in a manner so as to continue his (contractor's) work in an uninterrupted manner.

14.00 ACCOMMODATION FOR LABOUR & SUPERVISORY STAFF

The Contractor shall make his own arrangements for accommodation of his labour and supervisory personnel. No accommodation for labour & supervisory staff shall be provided or allowed within the site premises.

15.00 CONTRACTOR'S FIELD OFFICE, GODOWN AND WORKSHOP

Owner will at his own discretion and convenience and for the duration of the execution of the work make available near the Site, land for construction of Contractor's field office, godowns, stores, workshops and assembly yard required for the execution of the Contract. The Contractor shall at his own cost construct all temporary buildings and provide suitable water supply and sanitary arrangement approved by the Engineer-in-Charge.

16.00 EXECUTION OF WORK

All the work shall be executed in strict conformity with the provisions of the Contract Document and with such explanatory detailed Drawings, Specifications and Instructions as may be furnished from time to time to the Contractor by the Engineer-in-Charge, whether mentioned in the Contract or not. The Contractor shall be responsible for ensuring that Work throughout are executed in the most substantial proper and workmanlike manner

with the quality of material and workmanship in strict conformity with the Specifications and to the entire satisfaction of the Engineer-in-Charge.

17.00 CO-ORDINATION AND INSPECTION OF WORK

(i) The co-ordination and inspection of day-to-day Work under the Contract shall be the responsibility of the Engineer-in-Charge/ PMC under guidance of EIC but this will not detract the contractor's full responsibility. The written instructions regarding any particular work will normally be passed by the Engineer-in-Charge or his Authorized Representative.

(ii) The Engineer-in-Charge will have full power and authority to inspect the Work at any time wherever in progress either on the Site or at the Contractor's Premises / Workshops wherever situated, Premises / Workshops of any person, firm or corporation where work in connection with the Contract may be in hand or where materials are being or are to be supplied, and Contractor shall afford or procure for the Engineer-in-Charge, every facility and assistance to carry out such inspection.

18.00 GENERAL CONDITIONS FOR CONSTRUCTION

(i) The working time is forty eight (48) hours per week per person. Overtime of work is permitted in cases of need without any additional cost. If Shift working at two (2) or three shifts per day become necessary the contractor should take this aspect into consideration for formulating his rates for quotation. No extra claims will be entertained by the Owner on this account.

(ii) For carrying out work on Sundays, Holidays and extended hours the Contractor will approach the Engineer-in-Charge or representative at least two (2) days in advance and obtain prior permission in writing.

(iii) The Contractor must arrange for the placement of workers in such a way that the delayed completion of the Work or any part thereof for any reason whatsoever will not affect their proper employment. The Owner will not entertain any claim for idle labour payment whatsoever.

(v) The Contractor shall arrange for required number of competent Engineer Supervisor to be present at site at all times during the progress of the work, who shall be duly authorized to take instructions and execute them on his behalf.

19.00 WORK IN MONSOON

The completion of the work may entail working in the monsoon also. The Contractor must maintain a minimum labour force as may be required for the Work and plan and execute the construction according to the prescribed schedule. No extra payment will be considered for such work in monsoon.

During monsoon and other period, it shall be the responsibility of the Contractor to keep the construction work site free from water at his own cost.

20.00 DRAWING TO BE SUPPLIED BY THE OWNER

Where drawings are attached with Tender, these shall be for the general guidance of the Contractor to enable him to visualize the type of Work contemplated and Scope of Work involved. The Contractor will be deemed to have studied the Drawings and formed an idea about the work involved.

21.00 DRAWINGS TO BE SUPPLIED BY THE CONTRACTOR

Based on the discussions with our recommended consultant, the contractor has to prepare the drawings and submit to BL for approval from the consultants. The above should be strictly in line with our tender drawings. Any deviations from the tender stage details should be clearly marked and approval for the same should be obtained before commencing the manufacturing works.

22.00 SETTING OUT WORK

Contractor shall be responsible for the true and proper setting out of the works and for the correctness of the positions, levels, dimensions and alignments of all the parts of the works and for the provisions of all necessary instruments, appliances and labour in connection therewith. If at any time during the progress of the works, any error appears or arises in the position, levels, dimensions or alignments of any part of the works, Contractor, on being required to do so by Engineer-in-Charge, shall, at his own expense, rectify such error to the satisfaction of Engineer-in-Charge unless such error is based on incorrect data supplied in writing by Engineer-in-Charge / Owner. The checking of any setting out or any line or level by Engineer-in-Charge shall not in any way relieve Contractor of his responsibility for the correctness thereof and Contractor shall carefully protect and preserve all the bench marks, side rails, pegs and other things used in setting out of the work.

23.00 REPORTS AND RECORDS

Within fifteen (15) days of the Award, Contractor shall submit to Engineer-in-Charge the detailed programme, the content and form of which shall be satisfactory to Engineer-in-Charge showing the order to procedure and the time limit and sequence of carrying out the work and shall, whenever required by Engineer-in-Charge, furnish for his information particulars in writing of Contractor's arrangements for the carrying out of the work. The approval by Engineer-in-Charge of such programme or the furnishing of such particulars shall not relieve Contractor of any of his duties or responsibilities under this Contract.

24.00 ISSUE OF MATERIALS

(i) All materials required for the work shall be supplied by the contractor.

(ii) Contractor shall bear all incidental charges for the storage and safe custody of materials at Site.

(iii) It shall be responsibility of Contractor to arrange in time all materials required for Work. If, however, in the opinion of the Engineer-in-Charge the execution of Work is likely to be delayed due to Contractor's inability to make arrangements for supply of materials which normally he has to arrange for, the Engineer-in-Charge shall have the right at his own discretion to issue such materials if available with Owner or procure the materials from the market or elsewhere and Contractor will be bound to take such materials at the rates decided by the Engineer-in-Charge. This, however,

does not in any way absolve Contractor from his responsibility of making arrangements for the supply of such materials in part or in full should such a situation occur nor shall this constitute reason for the delay in the execution of Work.

(iv) In the event of Materials / Equipment supplied by Owner, the same shall not be utilized for other purpose(s) than issued for.

25.00 STORAGE

Contractor shall provide or cause to be provided all storage yards, transit sheds and warehouses necessary for the performance of his work at locations approved by Engineer-in-Charge.

26.00 AUDIT

(i) Contractor's accounts, related to the Project or any portion thereof, shall be available for audit by designated representatives of Owner at all reasonable times.

(ii) Such representatives shall at all times be afforded proper facilities for inspection of Contractor's accounts and shall have access to Contractor's premises, work and materials, records, ledgers and vouchers of every description pertaining to Contractor's performance of this Agreement.

27.00 DAMAGE TO PROPERTY

Contractor shall be responsible for making good to the satisfaction of Owner any loss of and any damage to all structures and properties belonging to Owner.

28.00 ARTICLES OF VALUE FOUND

All gold, silver and other minerals of any description and all precious stones, coin, treasure, relics-antiquities and other similar things which shall be found in, under or upon Site, shall be the property of Owner and Contractor shall duly preserve the same to the satisfaction of the Engineer-in-Charge and shall from time to time deliver the same to such person or persons indicated by Owner.

29.00 DISCREPANCIES BETWEEN INSTRUCTIONS

Should any discrepancy occur between the various instructions furnished to Contractor, his agents or staff or any doubt arise as to the meaning of any such instructions or should there be any misunderstanding between Contractor's staff and the Engineer-in-Charge's staff, Contractor shall refer the matter immediately in writing to the Engineer-in-Charge whose decision thereon shall be final and conclusive and no claim for losses alleged to have been caused by such discrepancies between instructions, doubts, or misunderstanding shall in any event be admissible.

30.00 LIQUIDATED DAMAGE

(i) If the contractor is unable to complete the jobs specified in the scope of work within the period specified in NIT, it may request owner for extension of the time with unconditionally

agreeing for payment of LD. Upon receipt of such a request, owner may at its discretion extend the period of completion and shall recover from the contractor's running account bill, as an ascertained and agreed Liquidated Damages, a sum equivalent to **0.5%** of contract value for each week of delay or part thereof. The LD shall be limited to **10%** of the total contract value.

The parties agree that the sum specified above is not a penalty but a genuine pre-estimate of the loss/ damage which will be suffered by the owner on account of delay/ breach on the part of the CONTRACTOR and the said amount will be payable without proof of actual loss or damage caused by such delay/breach.

(ii) Then the Engineer-in-Charge upon receiving necessary approval from competent Authority may in writing make a fair and reasonable extension of time for completion of the works, provided further that the Contractor shall constantly use his best endeavor to the satisfaction of the Engineer-in-Charge to proceed with the works. Nothing herein shall prejudice the rights of the Contractor under clause herein above.

The contractor may seek time extension for delay or anticipated delay for reasons not attributable to them and in such case time extension may be given without imposition of LD.

31.00 FORCE MAJEURE

Delivery schedule is subject to force majeure conditions as under: If at any time during the continuance of this contract, the performance in whole or part by either party of any obligation under this contract shall be prevented or delayed by reasons of any war, hostility, acts of public enemy, civil commotion sabotage, fire ,floods, explosions, epidemics, quarantine restrictions, strikes, lock outs or acts of God (hereinafter referred as "events") provided notice of the happening of any such events is given by either party to the other within twenty one days from the date of occurrence thereof, neither party shall by reasons of such event, be entitled to terminate this contract nor shall either party have any claim for damages against the other in respect of such non- performance or delay in performance. Deliveries under the contract shall be resumed as soon as practicable

32.00 PERIOD OF LIABILITY

Contractor shall maintain the installation Work for a period of Twenty (24) months from the date of issue of completion certificate without any extra cost. Any damage or defect that may arise or lie undiscovered at the time of issue of completion certificate, connected in any way with the Equipment or materials supplied by him or in the workmanship shall be rectified or replaced by Contractor at his own expense as deemed necessary by the Engineer-in-Charge or in default, the Engineer-in-Charge may cause the same to be made good by other workmen and deduct expenses (of which the certificate of Engineer-in-Charge shall be final) from any sums that may be then or at any time thereafter, become due to Contractor or from his Security Deposit, or the proceeds of sale thereof, or of a sufficient portion thereof.

33.00 RIGHT OF OWNER TO TERMINATE THE CONTRACT

(i) If the Contractor being an individual or a firm commits any 'Act of Insolvency' or shall be adjudged as insolvent or being an Incorporated Company shall have an order for compulsory winding up made against it, or pass an effective resolution for winding up voluntarily or

subject to the supervision of the Court or shall be unable to carry out and fulfil the contract and to give security therefore, is so required by the Engineer-in-Charge.

Or shall assign or charge, encumber or sublet this contract without the consent in writing of the Engineer-in-Charge first obtained.

Or if the Engineer-in-Charge shall certify in writing to the Owner that the Contractor -

a) has abandoned the Contract or

b) has failed to commence the works, or has without any lawful excuse under these conditions, suspended the progress of the works for 14 days after receiving from the Engineer-in-Charge written notice to proceed or

c) has failed to proceed with the works with such due diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon or

d) has failed to remove materials from the site or to pull down and replace work for seven days after receiving materials or work were condemned and rejected by the Engineer-in-Charge under these conditions or

e) has used sub-standard or inferior material or materials not conforming to the specifications or has employed inferior workmanship in carrying out the works or part thereof or has not exercised due diligence in execution of the said work, or

has neglected or failed persistently to observe and perform all or any of the acts, deeds, matters or things by this Contract to be observed and performed by the Contractor requiring the Contractor to observe or perform the same, or

f) has to the detriment of good workmanship or in defiance of the Engineer-in-Charge's instructions to the contrary, sub-let or sub-contracted any part of the contract, or

g) has failed to comply with the Engineer-in-Charge's instructions, or

h) has in the opinion of the Engineer-in-Charge committed any breach of this Contract, then and in any of the said cases the Owner with the written consent of the Engineer-in-Charge may notwithstanding any previous waiver, after giving seven day's notice in writing to the Contractor terminate the Contract, but without hereby affecting the right of the Owner of the powers of the Engineer-in-Charge or the obligations and liabilities of the Contractor in respect of work, the contract shall continue enforce as fully as if the contract has not been so determined and the obligations of the contractor in respect of work subsequently executed shall continue as if the works subsequently executed has been executed by or on behalf of the Contractor. And further, the Owner by its agents or servants shall been titled forthwith to enter upon and take possession of the works and all plants, tools, scaffoldings, sheds, machinery, steam and other power implements, machinery equipment and materials lying upon the site or the adjoining lands or roads and use the same as its own property and to employ the same by means of its own servants and workmen in carrying on and completing the work or by employing any other

contractor and the Contractor shall not in any way interrupt or do any act, matter or things to prevent, intimidate or hinder such other contractor or other person or persons employed for completing and finishing or using the materials and plant for the work. When the works shall be completed or as soon thereafter as convenient, the Engineer-in-Charge shall give a notice in writing to the Contractor to remove his surplus materials and plant and should the Contractor fail to do so within the period of 14 days after receipt thereof by him, the Owner shall sell the same either by public auction or a private sale and shall be given credit to the contractor for the amount realised. The Engineer-in-Charge shall thereafter ascertain and certify in writing under this hand what (if anything) shall be due or payable to or by the owner, the expense or loss which the owner shall have been put to in procuring the works to be completed and the amount, if any, owing to the contractor and the amount which shall be so certified, shall thereupon be paid by the owner to the Contractor or by the Contractor to the Owner, as the case may be and the Certificate of the Engineer-in-Charge shall be final and conclusive and binding on the parties hereto. In the event of termination under this Clause, the Owner shall not be bound by any provision of this Contract to make any further payment to the Contractor until the said works are completed.

(ii) Owner shall, at any time, be entitled to determine and terminate the Contract, if in the opinion of the Owner the cessation of the Work becomes necessary owing to paucity of funds or for any other cause whatsoever, in which case the cost of approved materials at the Site at current market rates as verified and approved by Engineer-in-Charge and of the value of the Work done to date by the Contractor shall be paid for in full at the specified in the Contract. A notice in writing from the Owner to the Contractor of such determination and termination and the reason therefore shall be the conclusive proof of the fact that the Contract has been so determined and terminated by the Owner.

(iii) Should the Contract be determined under sub-clause of this clause and the Contractor claims payment to compensate expenditure incurred by him in the expectation of completing the Work, the Owner shall consider and admit such claim as are deemed fair and reasonable and are supported by the vouchers to the satisfaction of the Engineer-in-Charge. The Owner's decision on the necessity and propriety of such expenditure shall be final and conclusive and binding on the Contractor.

34.00 SUB-LETTING OF WORK

(i) No part of the Contract nor any share or interest therein shall in any manner or degree be transferred, assigned or sublet by the Contractor directly or indirectly to any person, firm, or corporation whatsoever except as provided for in the succeeding sub-clause, without the consent in writing, of the Owner.

(ii) The Owner may give written consent to sub-contract for the execution of any part of the Work at the Site, being entered into by the Contractor provided each individual sub-contract is submitted to the Engineer-in-Charge before being entered into and is approved by him.

(iii) Notwithstanding any sub-letting with such approval as aforesaid and notwithstanding that the Engineer-in-Charge shall have received copies of any sub-contracts, the Contractor shall be and shall remain solely responsible for the quality and proper and expeditious execution of the WORK and the performance of all the conditions of the Contract in all respects as if

such sub-letting or sub-contracting had not taken place, and as if such Work had been done directly by the Contractor.

(iv) If any Sub-Contractor engaged upon the Work at the Site executes any Work which in the opinion of the Engineer-in-Charge is not in accordance with the Contract Document, the Owner may by written notice to the Contractor request him to terminate such contract and the Contractor upon the receipt of such notice shall terminate such sub-contract and dismiss the Sub-Contractors and the latter shall forthwith leave the Work failing which the Owner shall have the right to remove such sub-contractors from the Site.

(v) No action taken by the Owner under the clause shall relieve the Contractor of any of his liabilities under the Contract or give rise to any right to compensation, extension of time or otherwise.

35.00 PERFORMANCE GUARANTEE & WARRANTY

(i) Performance Guarantee:

a) The contractor shall guarantee that the material of construction and workmanship of work done and any fittings designed / manufactured / supplied by him are as specified in the tender schedule and wherever there is nothing specifically mentioned shall correspond to the best available grade and quality as required for the application.

b) The contractor shall also guarantee that the work done and any fittings designed, Manufactured, supplied, and erected shall be as per prevailing relevant standard, codes and statutory practices / stipulations.

(ii) Warranty:

The Contractor will repair and/or replace all defective parts, components / fittings, accessories etc. which shall be notified to him in writing within the Defect Liability Period provided that such defective parts, components, fittings, accessories etc. are promptly rectified and replaced by him free of cost. The contractor will provide similar warranty on the parts, components, fittings, accessories etc. repaired and/or replaced.

36.00 CONTRACTOR'S RESPONSIBILITY WITH OTHER AGENCIES

Without repugnance to any other condition, it shall be the responsibility of the Contractor to work in close co-operation and co-ordinate the other contractors and other Agencies or their authorized representatives if any working at the site in providing the necessary support for any job. For at the above said requirements, the Contractor before starting up the works shall in consultation with other contractors and other Agencies or their authorized representatives if any prepare and put up a joint scheme to the Engineer-in-Charge and get the approval. The Engineer-in-Charge, before communicating his approval to the scheme, with any required modifications, shall get the final agreement of all the Agencies, which shall be binding. No claim shall be entertained on account of the above.

37.00 ARBITRATION

Any dispute or difference arising under this Contract shall be referred under jurisdiction of Kolkata to a sole arbitrator to be appointed by the Chairman & Managing Director, Balmer Lawrie & Co. Limited and the provisions of Arbitration Act, 1996 including any statutory modifications or enactment thereof shall apply to the Arbitration proceedings. The fees of the arbitrator, if any, shall be shared equally by both the parties. The award shall be a speaking award stating reason therefor and is final & binding on the parties. The proceeding shall be conducted in English language and courts at Kolkata will have exclusive jurisdiction to settle any dispute arising out of this contract

38.00 INSPECTION & TESTING

(i) All materials required for the execution of the work should conform to the standard specification and approved by the Engineer-in-Charge before actually put to use. Commencement of work without prior approval shall be entirely at the risk and cost of the Contractor. No delay due to non-availability of the Materials, tools, equipment etc. will be entertained by the Owner. In the case of certain Machinery / Equipment, the Engineer-in-Charge may inspect the item for approval, before they are brought to site.

(ii) The Owner shall be entitled at all times at the risk of the Contractor to inspect and/or test by themselves or through any independent person(s) or agency (ies) appointed by the owner and/or to direct the contractor to inspect and/or test all material(s), items and components whatsoever supplied or proposed for supply, for incorporation in the work inclusive, during the course of manufacture or fabrication by the Contractor and/or at the Contractors work or otherwise, such materials or items or components. The inspection and/or test shall be conducted at the expense of the Contractor and if conducted by the Contractor may be directed by the Owner to be conducted by agency (ies) nominated by Owner and/or in the presence of witness(ess) nominated by the Owner.

(iii) The Contractor shall furnish to the Engineer-in-Charge for approval when requested or as required by the specification or other contract documents, adequate samples of material intended for incorporation in the works. Such sample to be submitted before the work is commenced permitting sufficient time for tests, examination(s) thereto by the Engineer-in-Charge. All materials furnished and incorporated in the work shall conform to the sample(s) in all respects.

39.00 NOTICE OF CLAIM FOR ADDITIONAL PAYMENT

Should Contractor consider that he is entitled to any extra payment or compensation or to make any claims whatsoever in respect of Work he shall forthwith give notice in writing to the Engineer-in-Charge that he claims extra payment and/or compensation. Such notice shall be given to the Engineer-in-Charge within ten (10) days from the ordering of any Work or happening of any event upon which Contractor bases such claims and such notice shall contain full particulars of the nature of such claim with full details and amount claimed. Failure on the part of Contractor to put forward any claim with necessary particulars as above within the time above specified shall be an absolute waiver thereof. No omission by Owner to reject any such claim and no delay in dealing therewith shall be waiver by Owner of any rights in respect thereof.

40.00 COMPLETION CERTIFICATE

When Contractor fulfils his obligation under clauses he shall be eligible to apply for Completion Certificate. Contractor may apply for separate Completion Certificate in respect of each such portion of Work by submitting the completion Documents along with such application for Completion Certificate.

The Engineer-in-Charge shall normally issue to Contractor the Completion Certificate within one(1) month after receiving an application therefore from Contractor after verifying from the completion documents and satisfying himself that work has been completed in accordance with and as set out in the construction and erection drawings, and the Contract Document.

Contractor, after obtaining the Completion Certificate, is eligible to present the Final Bill for Work executed by him under the terms of Contract.

Within one (1) month of completion of work in all respects, Contractor shall be furnished with a certificate by the Engineer-in-Charge, of such completion, but no certificate shall be given nor shall Work be deemed to have been executed until all scaffolding, surplus materials and rubbish is cleared off Site completely nor until work shall have been measured by the Engineer-in-Charge whose measurement shall be binding and conclusive. Work will not be considered as complete and taken over by Owner, until all the temporary works, constructed, are removed and the worksite cleaned to the satisfaction of the Engineer-in-Charge.

If Contractor shall fail to comply with the requirements of this clause on or before the date fixed for the completion of Work, Engineer-in-Charge may at the expenses of Contractor remove such scaffolding, surplus materials and rubbish and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and Contractor shall forthwith pay the amount of all expenses so incurred and shall have no claim in respect of any such scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

For the purpose of clause, the following Documents will be deemed to form the completion Documents:

a) The technical documents according to which Work was carried out.
b) Three (3) sets of As Built Construction Drawings showing therein the modification and corrections made during the course of execution signed by the Engineer-in-Charge comprising of the following documents,

I. System P&I
II. General layout of all equipment
III. Piping, cable tray rooting and supporting details.
IV. Standard Piping
V. Installation drawing of all equipment.
VI. Power wiring diagram, with recommended cable size.
VII. Control wiring diagram with scheme for communication.

Bidder Signature & Stamp

VIII. Field Wiring Diagram
IX. Electrical Panel Wiring Diagram.
X. GA Drawings for Control Panel

(c) Completion Certificate

41.00 FINAL CERTIFICATE

Upon expire of the period of liability and subject to the Engineer-in-Charge being satisfied that work have been duly maintained by Contractor, during such period as hereinbefore mentioned and that Contract has in all respect duly made up any subsidence and performed all his obligations under Contract, the Engineer-in-Charge shall (without prejudice to the rights of Owner to retain the provisions of relevant clause hereof) otherwise give a certificate herein referred to as the final certificate to that effect and Contractor shall not be considered to have fulfilled the whole of his obligations until Final Certificate shall have been given by the Engineer-in-Charge notwithstanding any previous entry upon Work and taking possession, working or using of the same or any part thereof by Owner. Contractor shall provide Owner with a certified satisfactory to both that all privileges, liens, claims, obligations and liabilities against or chargeable to the Owner have been fully paid, satisfied and released and that Contractor has no claim(s) against Owner.

42.00 CERTIFICATE AND PAYMENTS ON EVIDENCE OF COMPLETION

Except the final certificates no other certificate or payments against a certificate or on general account shall be taken to be an admission by Owner of the due performance of Contract or any part thereof or occupancy or validity of any claim by Contractor.

43.00 OBSERVANCE OF RULES/ACTS IN FORCE

(i) The successful tenderer and his man shall abide by all rules/regulations in force at a location and the laws, by-laws and statutes of Government / Semi-Government and other local authorities such as requirements / liability under enactments, Contract Labour Act etc. and the Company shall stand indemnified against by claims on these scores.

(ii) The Contractor shall conform to the provisions of Acts, rules, orders or notifications of any Governments, Municipal or local authority for the time being in force affecting the work undertaken by him and will give all necessary notices to and obtain requisite sanction and permits of and from the Municipal and any other authority in respect of the said work or the materials to be used there at and generally will comply with the building and other regulations of such authorities and will keep the Company indemnified against all claims, penalties and losses that may be incurred by it by reason of any breach by the Contractor of any statues by-laws, rules, regulations, notifications etc.

(iii) The Contractor and sub-contractor(s) of the Contractor shall obtain authority (ies) designated in this behalf under any applicable laws, rule or regulation (including) but

not limited to Contract Labour (in so far as applicable) any and all such license(s) consent(s), registration(s) and/or other authorization(s) as shall from time to time be or become necessary for or relative to the execution of the work or any part or portion thereof or the storage or supply or any material(s) or otherwise in connection with the performance of the contract and shall at all times observe and ensure due observance by the sub-contractors, servants and agents of all terms and conditions of the said license(s) consent(s) regulation(s) and other authorization(s) and laws, rules and regulations applicable thereto.

(iv) The Contractor undertakes to ensure due and complete compliance with all laws, regulations, rules, etc., applicable to the workmen employed or whose services are otherwise availed of by the Contractor, whether in connection with the construction work at the site or otherwise. The Owner shall have the right to inspect the records maintained by the contractor, Contractor shall whenever required by the Owner/Owner, produce such records and as and when the Owner/Owner may call upon the Contractor, ascertain whether or not the requirements of all such laws, regulations, rules etc. coming to light whether as a result of such inspection or otherwise, the Owner shall have the right to require the contractor to effect such compliance within such time, as the Owner may prescribe in that behalf and in the event of the Contractor failing to effect such compliance within the time prescribed by the Owner, then the Owner shall without prejudice to his other rights, be entitled to withhold from the amount payable to the workmen under any such laws, regulations or rules and to make payment thereof to the workmen. The Owner shall also have in that event the right to terminate the contract with immediate effect and to exercise powers reserved to the Owner under the contract as a result of termination.

44.00 TAXES, DUTIES, OCTROI & OTHER STATUTORY PAYMENTS

Contractor agrees to and does hereby accept full and exclusive liability for the payment of any and all taxes, duties, Excise, Octroi, CESS (building labour welfare), VAT, service tax etc. now or hereafter imposed, increased, or modified and all the sales taxes, duties, octroi, cess, VAT, service tax etc. now enforce and hereafter increased, imposed or modified from time to time in respect of Work and materials and all contributions and taxes for unemployment compensation insurance and old age pensions or annuities now or hereafter imposed by any Central or State Governmental Authorities which are imposed with respect to or covered by the wages, salaries, or other compensations paid to the persons employed by Contractor and Contractor shall be responsible for compliance with obligations and restrictions imposed by the Labour Law or another law affecting employer employee relationship and Contractor further agrees to comply, and to secure the compliance of all Sub-contractors, with applicable Central, State Municipal and local laws and regulations and requirements of any Central, State or Local Employment Agency or authority, Contractor further agrees to defend, indemnify and hold harmless from any liability or penalty which may be imposed by the Central, State or Local authorities by reason of any violation by contractor or Sub-contractor of such laws, regulations or requirements and also from all claims, suits or proceedings that may be brought against Owner arising under, growing out of, or by reason of work provided for by this Contract, by third parties, or by / central or State Government Authority or any administrative sub-division thereof.

45.00 LABOUR LAWS

(i) No Labour below the age of eighteen (18) years shall be employed on Work. In case female workers are engaged, requisite provisions shall be made as per the statute.

(ii) Contractor shall not pay less than what is provided under law to laborers engaged by him on Work.

(iii) Contractor shall at his expense comply with all labour laws and keep Owner indemnified in respect thereof.

(iv) In addition to above, rules and regulations as contained in Contract Labour (Regulation and Abolition) Act, 1970 will also be applicable for this contract. For the purpose of registration as per the above Act, Contractor may contact Owner for further details.

(v) Contractor shall secure full safety of the workers / employees engaged by him in the Site premises and shall take at his own cost, insurances and such other safety regulations for the said purpose.

46.00 IMPLEMENTATION OF APPRENTICES ACT 1964

Contractor shall comply with the provisions of the Apprentices Act, 1964 and the Rules and orders issued thereunder from time to time. If he fails to do so, his failure will be a breach of Contract and the Engineer-in-Charge may, at his discretion, cancel Contract. Contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provision of the Act.

47.00 INSURANCE

Contractor shall at his own expense carry out and maintain insurance with reputable companies to the satisfaction of the Owner as follows:

(i) **Employee's Compensation and Liability Insurance**:

Contractor shall obtain Workmen Compensation policy in his name in respect of contractor's employees to be engaged for the work towards compensations as admissible under the Employee's Compensation Act, 1923 and Rules framed thereunder upon death/ disablement and also medical treatment of a worker and the same has to be produced to the Engineer-in-Charge before start of the work. Owner should be mentioned as the Beneficiary.
If any of the work is sublet, after necessary approval by the Owner, the contractor shall require the Sub-contractor to provide Employee's Compensation and Liability Insurance for the Sub-contractor's employees, if such employees are not covered under the Contractor's Insurance.

(ii) **Contractors All Risk Insurance:**

Contractor shall take out an All Risk Insurance policy in the Joint names of the Owner and the Contractor (owner as the first beneficiary) including third party liability, against loss or damage from any cause covering the work executed to the estimated current contract value together with the material for incorporation in the work. Such

insurance shall be in such a manner that Owner and the Contractor are covered from the date of commencement of work.

The contractor shall indemnify the Owner against all losses and claims in respect of injuries or damage to any person, including any employee of the Owner, material or physical damage to any property whatsoever including that of the owner arising out of the execution of the works or in the carrying out of the contract, and shall insure against his liability with an insurer until the completion of this contract in terms approved by the owner. Whenever required, the contractor shall produce the insurance policy and the current premium receipts to the Owner.

In addition to what it is stipulated above the successful contractor shall execute Indemnity Bond to indemnify and hold harmless the Owner for complying with the provision of the following:

i) Provident Fund Act for P.F. Scheme for laborers engaged by the Contractor / Subcontractors.
ii) Interstate Migrant Workmen ("Regulation of Employment and Conditions of Services) Act - 1979.
iii) Minimum Wages Act - 1948.
iv) Equal Remuneration Act - 1976.
v) Employee's Compensation Act - 1923.
vi) Contract Labour (Regulation & Abolition) Act - 1970.

48.00 SAFETY CODES AND PRACTICES

48.01 GENERAL:

The Contractor shall adhere to safe construction practice and guard against hazardous and unsafe working conditions and shall comply with Owner's safety rules as set forth herein. Contractor also required to comply all the safety precautions mentioned in Appendix –A and B.

48.02 FIRST AID AND INDUSTRIAL INJURIES:

Contractor shall maintain first aid facilities for its employees and those of its sub-contractors-

(i) Contractor shall make outside arrangements for ambulance or suitable service and for the treatment of industrial injuries. Names of those providing these services shall be furnished to Engineer-in-Charge prior to start of construction, and their telephone numbers shall prominently be posted in Contractor's field office.

(ii) All critical industrial injuries shall be reported promptly to Engineer-in-Charge, and a copy of Contractor's report covering each personal injury requiring the attention of a physician shall be furnished to Owner.

48.03 GENERAL RULES

Carrying/Striking of matches, lighters and smokers inside the construction areas is strictly prohibited. Violations of "No SMOKING" rules will be discharged immediately.

48.04 CONTRACTORS BARRICADES:

(i) Contractor shall erect and maintain barricades required in connection with his operations to guard or protect:

a) Hoisting Areas
b) Areas adjudged by Contractor or Owner's inspectors.
c) Owner's existing property liable to damage by contractor's operations, in the opinion of Engineer-in-Charge.

(ii) Contractor's employees and those of its sub-contractors shall become acquainted with Owner's barricading practice and shall respect the provisions thereof.

(iii) Barricades and hazardous areas shall be marked by red falser lanterns at nights.

48.05 SAFETY EQUIPMENT:

(i) All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be made available for the use to the persons employed at the site and maintained in a condition suitable for immediate use, and the Contractor should take adequate steps to ensure proper use of equipment by those concerned.

(ii) Those engaged in welding and cutting works shall be provided with protective face & eye-shields, hand gloves etc.

(iv) The Contractor shall not employ men below the age of 18 years and women on the work of painting or products containing lead in any form. Wherever men above the age of 18 years are employed on the work of lead painting, the following precautions should be taken.

a) No paint containing lead product shall be used, except in the form of paste or ready-made paint.

b) Suitable facemasks shall be supplied for use by the workers when paint is applied in the form of spray on a surface having lead paint dry, rubbed and scrapped.

(vi) Hot work should be carried out only in the areas earmarked for the purpose after required safety precautions have been taken and only after obtaining written permission from the Engineer-in-Charge. Any provision required to be made e.g. windscreens of G.I sheets etc. to make the area safe for hot work, will be made by the successful tenderer at his own cost.

48.06 HOISTING EQUIPMENT:

(i) Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions.

a) These shall be of good mechanical construction, sound materials, adequate strength and free from patent defect and shall be kept in good condition and in good working order.

b) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding, winch or indicating signals to the operator.

(ii) In case of Owner's machine, the safe working load shall be notified by the Engineer-in-Charge. As regards Contractor's machines, the Contractor shall notify the safe working load of the machine to the Engineer-in-Charge, whenever he brings any machinery to site of work and get it verified by the Engineer-in-Charge, concerned.

ATTACHMENT 1
AGREEMENT

ARTICLES OF AGREEMENT FOR THE WORK OF

made this day of between Messers / Mr

hereinafter called the "Contractor" (which term shall unless excluded by or repugnant to the context include its successors and permitted assigns) of the one part and Balmer Lawrie & Co. Ltd; having its registered office at 21, Netaji Subhas Road, Kolkata - 700 001, India hereinafter called the "Owner" which term shall unless excluded by or repugnant to the context include its successors and permitted assigns) of the other part.

WHEREAS

(A) Owner being desirous of having provided and executed Work mentioned, enumerated or referred to in the Tender Document including anyone or all of the documents such as Notice Inviting Tender / Letter Inviting Tender, General Conditions of Contract, Special Conditions of Contract, Specifications, Safety codes, Drawings, Plans. Time Schedule, Letter of Acceptance of Tender, Agreed Variations, other documents has called for Tender.

(B) Contractor has inspected Site and surroundings of Work specified in the Tender Document and satisfied itself/himself by careful examination before submitting its/his tender as to the nature of the surface strata, soil, sub-soil and ground, the form and nature of Site and local conditions, the quantities, nature and magnitude of Work, availability of labour and materials necessary for the execution of Work, the means has of access to Site, the supply of power and water thereto and the accommodation it/he may require and has made local and independent enquiries and obtained complete information as to the matters and things referred to, or implied in the Tender Document or having any connection therewith, and has considered the nature and extent of all probable and possible situations, delays, hindrances or interferences to or with the execution and completion of Work, to be carried out under Contract, and has examined and considered all other matters, condition and things and probable and possible contingencies, and generally all matters incidental thereto and ancillary thereof affecting the execution and completion of Work and which might have influenced it/him in making its/his Tender.

(C) The Notice Inviting Tender / Letter Inviting Tender, Tender Document, General Conditions of Contract, Special Conditions of Contract, Specifications, Letter of Acceptance of Tender, Bill of Quantities and other documents which, together with this agreement, constitute the terms and conditions under which the Contractor shall perform the works, are listed in the Appendix to the Agreement and they shall form part of this Agreement. For purpose of this Agreement, the expression 'Contract' shall also include any modifications, alterations, variations in the specifications by way of additions and deletion thereto, written instructions, directions etc. issued by the Owner from time to time.

AND WHEREAS

Owner accepted the Tender of Contractor for the provision and the execution of Work at the rates stated in the Bill of Quantities and finally approved by Owner upon the terms and subject to the conditions of contract.

Bidder Signature & Stamp

Now this Agreement Witnessed and it is hereby agreed and declared as follows:

(1) In consideration of the payment to be made to Contractor for Work to be executed by him/it, Contractor hereby covenants with Owner that Contractor shall and will duly provide, execute and complete Work and shall do and perform all other acts and things in Contract mentioned or described or which are to be implied therefrom or may be reasonably necessary for completion of Work and at the said times and in the manner and subject to the terms and conditions or stipulations mentioned in Contract.

(2) In consideration of the due provision, execution and completion of work, Owner does hereby agree with Contractor that Owner will pay to Contractor the respective amounts for the work actually done by him and approved by Owner at the Scheduled Rate and such other sum payable to Contractor under provision of Contract such payment to be made at such time and in such manner as provided for in Contract.

AND

(3) In consideration of the award of the work, Contractor does hereby agree to pay such sums as may be due to Owner for the services rendered by Owner to Contractor such as power supply, water supply and others as set forth in Contract and such other sums as may become payable to Owner towards the controlled items of consumable materials or towards loss, damage to the Owner's Equipment, materials, construction plant and machinery, such payments to be made at such time and in such manner as is provided in Contract.

It is specifically and distinctly understood and agreed between Owner and Contractor that Contractor shall have no right, title or interest in the Site made available by Owner executed on Site by Contractor or in the goods, articles, materials, etc. brought on Site (Unless the same specifically belongs to Contractor) and Contractor shall not have or deemed to have any lien whatsoever charge for unpaid bills nor will be entitled to assume or retain possession or control of Site or structures and Owner shall have an absolute and unfettered right to take full possession of the Site and to remove the Contractor, their servants, agents and materials belonging to Contractor and lying on Site.

Contractor shall be allowed to enter upon Site for execution of work only as a licensee simpliciter and shall not have any claim, right, title or interest in Site or the structures erected thereon equipment, plant and machinery installed, and Owner shall be entitled to terminate such license at any time without assigning any reason.

The Equipment, plant and machinery, materials including sand, gravel, stone, loose, earth, rock etc., dug up or excavated from Site shall unless otherwise expressly agreed under this Contract, exclusively belong to Owner and Contractor shall have no right to claim over the same and such excavations and materials should be disposed of on account of owner according to the instructions in writing issued from time to time by the Engineer-in-Charge.

Contractor shall effect the payment of wages to its/his labours directly without the intervention of any intermediary and no amount by way of commission or otherwise shall be deducted or recovered from the wages of workmen.

The parties hereto hereby agree to submit to the jurisdiction of the courts situated at Kolkata for the purpose of actions and proceedings arising out of contract and the court at Kolkata only will have the jurisdiction to hear and decide such actions and proceedings.

Bidder Signature & Stamp

The contractor shall take adequate insurance cover at his/its properties etc. used in the work against all risks and the Owner shall not in any way be liable for the damages or loss caused to such properties etc., due to whatever causes.

Wrongful appropriation, or proven attempt of wrong appropriation, of materials belonging to the Owner or to any other Contractor working within the Site premises, or commission of any other criminal act by the Contractor, or his agents, or employees or workers shall be deemed to be a breach of contract on the part of the Contractor, and the Owner shall, in addition to the remedies available under the Agreement, be entitled to terminate the Contract forthwith at the risk and cost of the Contractor.

Terms and conditions, if any, stipulated by the Contractor while submitting his tender, or otherwise, shall be applicable only to the extent such terms and conditions are specifically accepted by the Owner in writing.

In witness whereof the parties have executed these presents on the day and the year first above written.

Signed and Delivered for and on behalf of OWNER	Signed and Delivered for and on behalf of CONTRACTOR

In presence of Two Witnesses

1.----------	1.----------
2.----------	2.----------

Appendix referred to in Clause 'C' of the Agreement

Dated:

Item No.	Description of Documents
1.	Tender Document for the work of " ---------- " marked: Attachment - I, which contains, inter alias a) Tender Notice dated ---------- for the work of " ---------- ", and b) Special Conditions of Contract.
2.	General Conditions of Contract, marked: ---------- Attachment - II: and ----------
3.	Letter of Acceptance vide No. ----------

Bidder Signature & Stamp

dated ---------- marked: Attachment - III,

along with Tender Schedule "----------

---------- " which is marked:

Annexure - I to Letter of Acceptance No.----------

---------- dated ----------

Bidder Signature & Stamp

ATTACHMENT - II

PROFORMA OF BANK GUARANTEE FOR EARNEST MONEY DEPOSIT

(ON NON-JUDICIAL PAPER OF APPROPRIATE VALUE)

To
Balmer Lawrie & Co. Ltd.
SBU- Logistics
21, Netaji Subhas Road
Kolkata – 700 001

Whereas …….. (Name of the bidder) (hereinafter called "the Bidder") has submitted its bid for the …….. (purpose) (hereinafter called "the Bid") against Tender reference No. …….. dated …….. M/S. BALMER LAWRIE & CO. LTD., 21 Netaji Subhas Road, Kolkata – 700 001.

The conditions of Tender provide that the Bidder shall pay a sum of Rs…….. (Rupees …….. only) (hereinafter called "the said amount") as full Earnest Money Deposit in the forms therein mentioned. The forms of payment of Earnest Money Deposit include guarantee to be executed by a Scheduled Bank.

The said …….. (name and address of the Bidder) have approached us and at their request and in consideration of the premises we, …….. (Name of the Bank) having our office at ……(address of the Bank) have agreed to give such guarantee as herein after mentioned.

Know All Men by these presents, we, ……..(name of the Bank) of ……(address of the Bank) having our office, inter alia, at …….. (hereinafter called "the Bank") are bound unto BALMER LAWRIE & CO. LTD……(address) (hereinafter called "the Purchaser") in the sum of Rs. …… (Rupees …… only) for which payment will truly be made to the Purchaser, the Bank binds itself, its successors and assigns by these presents this ……. day of ……..

THE CONDITIONS of this obligation are :

1. If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the bid form; or

2. If the Bidder, having been notified of the acceptance of its bid by the Purchaser during the period of bid validity;

   a) fails or refuses to execute the Contract Form if required; or

   b) fails or refuses to furnish the Performance Security, in accordance with the instructions to Bidders.

We undertake to pay the Purchaser up to the said amount upon receipt of its first written demand, without the Purchaser having to substantiate their demand, provided that in their demand the Purchaser shall mention that the amount claimed by them is due owing to the occurrence of one or both of the two conditions.

Bidder Signature & Stamp

This guarantee will remain in force upto …… (date of expiry) including the ….. days after the period of the bid validity, and any demand in respect thereof should reach the Bank not latter than the above date.

Notwithstanding anything contained herein :

i) Our liability under the Bank Guarantee shall not exceed Rs. …… (Rupees …….. only)

ii) This Bank Guarantee shall be valid upto …….

iii) We are liable to pay the guaranteed amount or pay part thereof under this Bank Guarantee only if you serve upon us a written claim or demand on or before …… (Last date of validity)

We, …… (name of the Bank) undertake not to revoke this guarantee during its currency except with your previous consent in writing.

We have power to issue this guarantee in your favour under our Memorandum and Articles of Association and the undersigned has full power to do and execute this Guarantee under the Power of Attorney dated …… day of …….. 2016 granted to him by the Bank.

Your faithfully,

(Specimen Signature)

ATTACHMENT - III

BANK GUARANTEE AGAINST PERFORMANCE
(ON NON-JUDICIAL PAPER OF APPROPRIATE VALUE)

Letter of Guarantee No.

Dated : the day of

THE GUARANTEE is executed at Kolkata on the day of ……by ……..(set out full name and address of the Bank) (hereinafter referred to as "the Bank" which expression shall unless expressly executed or repugnant to the context or meaning thereof mean and include its successors and assigns).

WHEREAS Balmer Lawrie & Co. Ltd. (local address), …….. an existing company within the meaning of the Companies Act, 1956 and having its Registered Office at 21, Netaji Subhas Road, Kolkata – 700 001 (hereinafter referred to as "the Company") issued a Tender being No. dated (hereinafter referred to as "the said Tender") for (set out purpose of the job) and pursuant thereto Messrs/ Mr. ……(set out full name and address of the Contractor) (hereinafter referred to as "the Contractor" which term or expression wherever the context so requires shall mean and include the partner or partners of the Contractor for the time being/his/its heirs, executors, administrators, successors and assigns) (delete which are not applicable) has accepted the said Tender and field its quotation.

AND WHEREAS the quotation of the Contractor had been accepted by the Company and in pursuance thereof an Order being No……. dated ……. (hereinafter referred to as "the said Order") has been placed by the Company on the Contractor for (set out purpose of the job).

AND WHEREAS under the terms of the said Order the Contractor is required to furnish the Company at their/his/its own costs and expenses a Bank Guarantee for Rs……(Rupees …….. only) as performance guarantee for the fulfilment of the terms and conditions of the said Tender and to do execute and perform the obligations of the Contractor under the Agreement dated the …….. day of …….. (hereinafter referred to as "the Agreement ") entered into by and between the Company of the one part and the Contractor of the other part, the terms of the said Tender and the terms contained in the said Order which expression shall include all amendments and/or modifications/or variation thereto.

AND WHEREAS the Contractor had agreed to provide to the Company a Bank Guarantee as security for the due performance of their/his/its obligations truly and faithfully as hereinbefore mentioned.

NOW THIS GUARANTEE WITNESSETH as follows :

1. In consideration of the aforesaid premises at the request of the Contractor, we …….. (set out the full name of the Bank) the Bankers of the Contractor shall perform fully and faithfully their/his/its contractual obligations under the Agreement dated the …….. day of …….. entered into by and between the Company of the one part and the Contractor of the other part, the terms and conditions of the said Tender and the said Order.

Bidder Signature & Stamp

2. We, …….. (set out full name of the Bank) do hereby undertake to pay to the Company without any deduction whatsoever a sum not exceeding Rs…… (Rupees …….. only) without any protest, demur or proof or condition on receipt of a written demand from the Company stating that the amount claimed is due by way of loss and damage caused to or would be caused to or suffered by the Company due to bad workmanship or by reason of breach of any of the terms and conditions of the Agreement, the said Tender and the said Order hereinbefore mentioned.

3. The Guarantee is issued as security against due performance of the obligations of the Contractor or under the Agreement aforesaid and the said Tender and the said Order hereinbefore mentioned and subject to the conditions that our liabilities under this Guarantee is limited to a maximum sum of Rs……. (Rupees …….. only) or the amount of loss or damage suffered or to be suffered by the Company in its opinion at any period of time, whichever is lower.

4. We, …….. (set out full name of the Bank) further agree that the undertaking herein contained shall remain in full force for a period of months from the date of the satisfactory execution of the Contract.

5. This Guarantee shall not be affected by any amendment or change in the Agreement or change in the constitution of the Bank and/or the Company and/or the Contractor.

6. We …….. (set out full name of the Bank) undertake not to revoke this Agreement during its currency except with the previous consent of the Company in writing.

7. All claim under this Guarantee must be presented to us within the time stipulated after which date the Company's claim/right under this Guarantee shall be forfeited and we, ……(set out full name of the Bank) shall be released and discharged from all liabilities hereunder.

8. This instrument shall be returned upon its expiry or settlement of claim(s) if any, thereunder.

9. Notwithstanding anything contained hereinbefore our total liabilities under this Guarantee shall not exceed a sum of Rs…….. (Rupees …… only) and unless a demand or claim in writing under this Guarantee reaches us on or before the date of …….. (last date of claim) and if no claim is received by us by that date all rights and claims of the Company under this Guarantee shall be forfeited and we, ……(set out full name of the Bank) shall be released and discharged of all our liabilities under this Guarantee thereafter.

10. We have power to issue this guarantee in your favour under our Memorandum and Articles of Association and the undersigned has full power to execute this Guarantee under Power of Attorney dated the …… day of …… granted to him by the Bank.

Place :

Date :

Bidder Signature & Stamp

Bidder Signature & Stamp

ATTACHMENT – IV

PROFORMA OF BANK GUARANTEE FOR SECURITY DEPOSIT

Balmer Lawrie & Co. Ltd.
SBU:- Logistics (Cold Chain - TCW)
21, Netaji Subhas Road
Kolkata – 700 001

Dear Sir,

That Messrs/Mr. ……..(set out full name and address and constitution of the Contractor) (hereinafter referred to as "the Contractor") filed their/his/its quotation against your Tender being Tender No. …….. dated …….. (hereinafter referred as "the said Tender") for the work …….. (set out the purpose of the job) and in pursuance thereto an Order being No. …….. dated ……. (hereinafter to as "the Order") was issued by you to the Contractor.

The conditions of the said Tender, inter alia, requires that the Contractor shall pay a sum of Rs…….. only) as full security deposit (hereinafter referred to as "the security deposit") in the form therein mentioned. The form of payment of security deposit includes a guarantee to be executed by a Scheduled Bank.

The said Messrs/Mr. …… (set out full name of the Contractor) have/has approached us and at their/his/its request and in consideration of the premises We …….. (set out full name of the Bank) having our office, inter alia at …… (state the address of the Bank) have agreed to give such guarantee in the manner following :

1. We, …… (set out full name of the Bank), hereby undertake with you if default is made by Messrs/Mr. …….. (set out full name of the Contractor) in performing any of the terms and conditions of the Tender and/or in payment of the security deposit or any other or in payment of money payable to you. We, …….. (set out full name of the Bank) shall merely on demand from you without demur or protest shall pay you the said amount of Rs…… (Rupees …….. only) or such portion thereof not exceeding the said sum as you may demand from time to time.

2. We, …….. (set out full name of the Bank), further agree with you that you hereunder to adopt any mode for realisation of your dues from the Contractor and/or to vary any of the Terms and Conditions of your Contract with the said Messrs/Mr. …… (set out full name of the Contractor), or to extend time of performance by Contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by you against Contractor and to forbear or enforce any of the terms and conditions relating to the Contract and we, …….. (set out full name of the Bank) shall not be relieved from our liability by reason of any such variation, or any indulgence to be given by you to the Contractor or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so releasing us.

3. Your right to recover the said sum of Rs…….. (Rupees …… only) from us in the manner aforesaid will not be affected or suspended by reason of the fact that any

Bidder Signature & Stamp

dispute or disputes is/are pending before any Officer, tribunal, court or any other authority or authorities.

4. The guarantee herein contained shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the said Messrs/Mr. …….. (set out the full name of the Contractors), but shall in all respect, and for all purposes be binding and operative until payment of all the money due to you in respect of such liabilities is paid,

5. Our liability under this guarantee is restricted to Rs. …….. (Rupees ……. only).

6. Our guarantee shall remain in force and effect until …….. (set out the date of expiry) and unless a claim or demand in writing is made against us under this guarantee before the expiry of six months from the aforesaid date i.e. ……. (set out last date of Claim period), the said Guarantee all your rights under this guarantee shall be forfeited and we, …… (set out full name of the Bank) shall be relieved and discharged from all liabilities thereunder.

7. We , …….. (set out full name of the Bank) undertake not to revoke this Guarantee during its currency except with your previous consent in writing.

8. We, …….. (set out full name of the Bank) have power to issue this Guarantee in your favour under our Memorandum and Articles of Association and the undersigned has full power to execute/sign this Guarantee under the Power of the Attorney dated the …….. day of Two Thousand and Sixteen granted by the Bank.

Yours faithfully,

Dated : …….. (Place)

……..(Date)

……
(Signature of Officer on behalf of ……)
(Set out name of the Bank)

SPECIAL CONDITIONS OF CONTRACT

1.00 GENERAL

1.01 Special conditions of contract shall be read in conjunction with the General Conditions of Contract, Specifications of work, Drawings and any other document forming part of this contract wherever the contract so requires.

1.02 Notwithstanding the sub-division of the document into three separate sections, every part of each shall be deemed to be supplementary of every other part and shall be read with and into the contract as far as it may be practicable to do so.

1.03 Where any portion of the General Conditions of Contract is repugnant to or at variance with any provision of the Special Conditions of Contract, then unless different intention appears, the provision of the Special Conditions of Contract shall be deemed to over-ride the provisions of the General Conditions of Contract only to the extent of such repugnancy or variations in the Special Conditions of Contract are not possible of being reconciled with the provisions of General Conditions of Contract.

1.04 Whenever it is mentioned in the specifications that the contractor shall perform certain work or provide certain facilities, it is understood that the contractor shall do so at his own cost.

1.05 The materials, design and workmanship shall satisfy the relevant Indian Standards, the job specifications contained herein and codes referred to. Where the job specifications stipulate requirements in addition to those contained in the standard codes and specifications, these additional requirements shall also be satisfied. In the absence of any standards/specifications / code(s) of practice for any part of the work covered in this tender, the instructions/directions of Engineer-in-Charge will be binding on the contractor.

1.06 In case of contradictions between Indian Standards, specifications, General Conditions of Contract, Special conditions of Contract, drawings, Bill of Quantities, the following shall be the order of precedence: -

a) Detailed Letter of Intent along with statement of agreed variations and its enclosures.

b) Fax no., e_mail address, mobile no. of Intent.

c) Special Conditions of Contract

d) Drawings

e) General Conditions of Contract & its Annexure.

f) Indian Standards / Technical Specifications.

g) Bill of quantities and rates.

Bidder Signature & Stamp

2.00 LOCATION OF SITE

The Location of the site is at Additional Patalganga, Maharashtra Industrial Development Corporation, Plot No. F9/5, Chawne Village, District Raigad.

3.00 DRAWINGS VIS-A-VIS Bill of Quantities

All drawings herein enclosed are for the purpose of furnishing basic information to the tenderers so as to enable them to quote their price. Upon receiving order, contractor shall design and prepare all working drawings and get approval from the Engineer. However, such approval does not relieve the contractor from his responsibility of correctness and safety of the work. Contractor shall remain responsible to submit the design and drawings for obtaining necessary approval from the statutory bodies.

4.00 SCRAP AND SERVICEABLE MATERIAL

Scrap materials and wastage will not be accepted back by the Owner and shall be considered as a property of the contractor. The Contractor shall be take away all such materials, wastage and remove them from the site to the satisfaction of the Engineer-in-Charge.

5.00 TESTS & TEST PROCEDURES FOR MATERIALS SUPPLIED BY CONTRACTOR

It is necessary to test the materials supplied by the Contractor to ensure that they conform to relevant clauses in the technical specification. All materials of Contractor shall be inspected and passed by the Engineer-in-Charge from time to time at the source of supplies, for which inspection facilities shall be provided by the Contractor.

Notwithstanding inspection at sources, the Engineer-in-Charge shall have the right to reject any material brought to Site, which does not conform to the specification, without being liable for any compensation whatsoever.

6.00 ON ACCOUNT PAYMENTS

6.01 All on account payments shall be subjected to deduction therefrom of all dues to the Owner, advance, retention money and other money deductible within the provisions of this contract and as per Section 194-C of Income Tax Act, or any other Law, Rule or Regulation for the time being in force along with the recovery towards the adjustment of secured advance if any.

6.02 For All lawful payments as provided under ESI Act, Workmen's Compensation Act, PF Act etc. not made by the Contractor / Sub-contractor, Owner reserves the right to deduct from the Contractor's bills and remit to the concerned Authority / Department or Body on Contractor's /Sub-contractor's behalf until sufficient proof is furnished by the Contractor / Sub-Contractor to the contrary.

6.03 All "On Account" Payments shall be regarded merely as an advance payment against the amounts due to the Contractor in terms of the contract and any such payments shall not be regarded as an acceptance or completion of any works paid for.

6.04 The payment shall be made within 15 days from the receipt of certified bills in the accounts department.

7.00 PAYMENT TERMS

- The contractor shall, within fifteen (15) days, submit to the Owner Initial Security Deposit equivalent to 5% of the total contract value. For Details refer 'General Condition of Contract'.
- Our payment terms shall be as follows,
- Towards Supply

Percentage Payment	Descriptions	Payment Condition
10%	Advance	Against Submission of Advance BG of Equivalent Amount, validity of which shall be till successful completion of the project.
10%	After Approval of Drawings	Against Submission of Advance BG of Equivalent Amount, validity of which shall be till successful completion of the project.
90%	On Prorate Basis, towards supply of Equipment and Materials etc.	Receiving of Equipment/Materials shall be in good condition and duly inspected and certified by the Consultants. Advance of 20% paid will be adjusted under this payment term.
10%	After Complete Installation and Successful commissioning	After Verification and certification by the Consultants.

- Towards Erection

100% after complete installation and successful commissioning of the complete refrigeration system.

Retention money will be withheld from each stage of payment which will be released after successful completion of the Defect Liability Period of 24 Months. The withheld retention amount can be paid by Balmer Lawrie in case the vendor (on whom order has been placed in accordance with this tender document) against submission of a Bank Guarantee of the same value by the vendor. Validity of the Bank Guarantee shall be till the Defect Liability Period.

8.00 Bill of Quantities

All the items of work mentioned in the Bill of Quantities and covered by the Contract shall be carried out as per the Drawings, Specifications and directions of Engineer-in-Charge and shall

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include all labour, materials, tools, plants, tackle, testing, if any, with Contractor's testing appliance etc. required to complete the work.

9.00 EXTRA ITEMS OF WORK

During the course of execution of the work, should the contractor come across items of work which are not covered under the Bill of Quantities or not included therein, the Contractor shall draw the attention of the Owner / Engineer-in-Charge to the same and such items of work shall be treated as extra only with the prior approval of Engineer-in-Charge in writing. Contractor shall submit a quotation along with the rate analysis for approval of EIC for such accepted extra items before he commences work or purchases the materials in connection with such items.

For extra items, rates shall be derived from similar item rates included in the Bill of Quantities. Where there is no such similar item available in the BOQ, rate shall be analyzed as follows:

Rate for extra item = Cost of material (a) + cost of labour inclusive of all necessary tools, tackles, equipment, machinery and consumable (b) required to carry out the work + 15% of (a+b) towards profit and overhead + taxes, duties etc. as applicable.

10.00 STRICT ADHERENCE TO SPECIFICATION & CTE INSPECTION

The entire work shall require to be carried out strictly as per specifications, quality assurance plan, drawing etc intended in the tender backed up with proper test report, manufacturers' test certificates etc. The Chief Technical Examiner of Central Vigilance Commission may inspect the work during the course of execution and also during the defect liability period. The contractor has to maintain all documents in acceptable form duly reviewed and approved by the Engineer-in-Charge for any such/ similar inspection.

11.00 PENALTIES IN CASE OF NON-COMPLIANCE OF SAFETY/HEALTH/ENVIRONMENT NORMS, RULES & REGULATIONS

The contractor has to follow all norms, rules and regulations related to safety, health and environment, In case of non-compliance of any one of these norms, rules and regulations by contractor's employee, the contractor shall be held responsible. If any violation or non-fulfilment of these norms, rules and regulation is observed by the Company's authority during checking at any time, a penalty of Rs 5000/- shall be imposed on the contractor for each occasion of non-compliance to these rules and regulations by him of his employees. The decision of the Company's authority shall be final and binding on to the contractor in this regard. The amount of penalties so imposed shall be recovered from the next RA Bill of the work or any other dues payable to the contractor by the authority.

ANNEXURE -1

TECHNICAL SPECIFICATIONS

Design, Supply, Erection, Testing and Commissioning of Refrigeration System

Tender No. BL / LI/TCW -MUM/ REFRIGERATION /16-17 / 16

The refrigeration system shall comprise the following –

i. The Temperature Control Warehouse is consists of the followings
   a. Frozen Chambers 1 to 5, all of equal size of 24.10 x 7.90 x 12.85 Mtr Height.
   b. Blast Freezer of 2 MT Capacity.
   c. Cold Room Chambers 6 to 10, all of equal size of 24.10 x 7.90 x 12.85 Mtr height. These Cold Rooms are designed in such a way that it can be used as Frozen Chambers if required and accordingly the system can be designed and installed.
   d. Ante Room of size 42.08 x 5.50 X 6.60 Mt Height.
   e. Provision of Blast Freezer of 51KW
   f. Sorting and Grading Chamber of size 19.52 x 10 x 5.10 Mtr Height.
   g. Staging Area of size 30 x 8.57 x 5.10 Mtr height.

ii. Compressor (Either Reciprocating or Screw), condenser and high pressure receiver, low pressure receiver, ammonia liquid pumps, Air Cooling units (ACU), Evaporative Condenser, Oil Separator and Suction accumulator.

iii. Other Accessories, Piping, Valves, pumps and Fittings and Electricals and controls and PLC automation with internet accessibility, Data loggers etc.

Design Brief:

The heatloads of different areas have been calculated and the same have been summarized as under. You can refer the detailed calculation of each and every area in the Heatloads attached herewith.

Freezing Chambers 1 to 5 and 9 & 10 (-25 Deg.C):

1. Frozen Store / Deep Freeze: Chamber No. 1 to 5 - Size 24.10 X 7.9 X 12.85 M Ht.

Assumptions: Insulation 150 mm PUR / PIR Panels, Partitions in 100mm PUR /PIR Panels, Floor Insulation of 150mm Thickness XPS/EPS finished with 150mm Trimix Flooring suitable for Fork Lift Operation and Load Carrying Capacity, Product loading 30 Mt/Day per chamber (Considered cold

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store will be full in 30 Days)., Product Inlet temp (-) 10^0C. Heat Load per chamber 39.9 KW say 40 kW, Total Heat load – 56.86 TR (200 KW), ACU 40 KW X 5 Nos.

2. Frozen Store: Chamber Nos. 9 & 10 Size 24.10 X 7.9 X 12.85 M Ht.

Assumptions: Insulation 150 mm PUR / PIR Panels, Partitions in 100mm PUR /PIR Panels, Floor Insulation of 150mm Thickness XPS/EPS finished with 150mm Trimix Flooring suitable for Fork Lift Operation and Load Carrying Capacity, Product loading 30 Mt/Day per chamber (Considered cold store will be full in 30 Days), Product Inlet temp (-) 10^0C. Heat Load per chamber 39.9 KW say 40 kW, Total Heat load – 22.75 TR (80 kW), ACU 92 KW X 2 Nos. (AS PER COLD STORE REQUIREMENT).**To cater to the above total requirements of 280 kW, we suggest to install 3 Nos. (2 Working + 1 Standby) Compressor Capacity: 140 kW each. Hence a total capacity of 280 kW.**

Cold Room Chambers 6 to 10 & Ante Room (0 Deg.C), Staging & Sorting Areas:

1. Cold Store: Chamber Nos. 6 to 10 Size 24.10 X 7.9 X 12.85 M Ht.

Assumptions: Insulation 150 mm PUR / PIR Panels, Partitions in 100mm PUR /PIR Panels, Floor Insulation of 150mm Thickness XPS/EPS finished with 150mm Trimix Flooring suitable for Fork Lift Operation and Load Carrying Capacity, Product loading 30 Mt/Day per chamber (Considered cold store will be full in 30 Days), Product Inlet temp 40^0C. Heat Load per chamber 91.7 KW say 92 kW, Total Heat load 460.0 KW, ACU 92 KW X 5 Nos.

2. Ante room Main Size 42.08 X 5.5 width x 6.6 M Ht.

Assumptions: Wall Insulation 150 mm PUR / PIR Panels. Ceiling 80 mm Panel, Floor Insulation of 150mm Thickness XPS/EPS finished with 150mm Trimix Flooring suitable for Fork Lift Operation and Load Carrying Capacity, Number of Person 12 Nos. Heat Load per chamber 17.9 KW, Total Heat load 17.9 KW, ACU 9 KW X 2 Nos.

3. Sorting & Grading - Size 19.52 X 10 X 5.1 M Ht.

Assumptions: Wall Insulation 100 mm PUR / PIR Panels, Ceiling 80 mm Panels, Floor Insulation of 150mm Thickness XPS/EPS finished with 150mm Trimix Flooring suitable for Fork Lift Operation and Load Carrying Capacity, Number of persons - 50 persons. Conveyors - 5 H.P. Heat Load per chamber 33.3 KW, Total Heat load 33.3 KW, ACU 17 KW X 2 Nos.

4. Staging Area - Size 30 X 8.57 X 5.1 M Ht.

Assumptions: Wall Insulation 100 mm PUR / PIR Panels, Ceiling 80 mm Panel, Floor Insulation of 150mm Thickness XPS/EPS finished with 150mm Trimix Flooring suitable for Fork Lift Operation and Load Carrying Capacity, Number of persons - 20 persons. Heat Load per chamber 18.1 KW, Total Heat load 18.1 KW, ACU 18.1 KW X 1 No.

To cater to the above total requirement of 530.0 kW, we suggest to install 3 Nos. (2 Working + 1 Standby) Compressor Capacity: 265 kW each. Hence a total capacity of 530 KW.

Blast Freezer 2 Metric Ton:

The Blast Freezer has been designed for "Poultry" as the Base Product, the required size will be 6 m x 4 m x 3.5 m Height for a 2 MT capacity per batch. Each batch will have a cycle time of 4 to 5 Hours considering "Product Infeed Temperature" as 10 Deg.C. **To cater to the same we would require additional Two Stage Compressor of 51 kW Capacity**. We are not proposing any standby for the same, as the Blast Freezers generally do not work all the time, and also to keep the costs in control, only one compressor is suggested, as discussed with yourself during the meeting held at our office on 10.12.2016. And air cooling units of 51 kW x 1 No. Floor Mounted is proposed. The ACU shall have 1.5 kW x 3 Nos. fans.

Sr. No.	Item Descriptions	Make	Make to be mentioned by the Bidder
1	Supply, Installation, Testing & Commissioning of 'Ammonia Reciprocating Compressor', complete with Capacity Control Solenoid Valves, Drive Set, Flywheel, Motor, Pulley, V-Belts, Stop Valves for Suction Discharge & Interstage Cooler for 2 stage compressor, HP/LP & OP Cut Outs & Gauges, Base Frame with Foundation Bolts & Nuts, Oil Separator with Float Valve (in case of 2 stage compressor 1st stage and 2nd stage to be provided with Independent Oil Separators), Tool Kit, Gasket Set, 2 sets of Oil Filters, Tubing's & Ferrules, Crank Case Heater. The Compressor should be suitable for Aircooled Jacket / Head Cooling. Witness Test for Standard Factory Testing / Pressure Testing by Client to be included, prior to dispatch.	Kirloskar / Grasso / Mycom / Bitzer / Frick / Equivalent	
1.1	Compressor Capacity - 140 kW each. (2 W + 1S)		
	Evaporating Temperature -29 Deg.C.		
	Saturated Condensing Temperature 40 Deg.C		
	Maximum Shaft Power - 64 kW		
1.2	Compressor Capacity - 265 kW each. (2 W + 1S)		
	Evaporating Temperature -5 Deg.C.		
	Saturated Condensing Temperature 40 Deg.C		
	Maximum Shaft Power - 66.92 kW		
1.3	Compressor Capacity - 51 kW each. (1 W)		
	Evaporating Temperature -40 Deg.C.		

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	Saturated Condensing Temperature 40 Deg.C		
	Maximum Shaft Power - 31.62 kW		
2	Supply, Installation, testing & commissioning of Drive Motors for the above Compressors. The Motor shall be Horizontal Foot Mounted, 4 Pole, VFD Compatible, IE3 Motor, TEFC.	Siemens / Kirloskar / Crompton / ABB / Equivalent	
2.1	75 kW - 415 V, 50 Hz, 3 Phase with Earthing.		
2.2	75 kW - 415 V, 50 Hz, 3 Phase with Earthing.		
2.3	45 kW - 415 V, 50 Hz, 3 Phase with Earthing.		
3	Ammonia Evaporative Condenser complete with SS304 Coil, SS304 Body, SS304 Sump, SS304 Supporting Structure, SS304 Header Piping, SS304 Nozzles, SS304 Fasteners / Nuts & Bolts etc., The Condenser shall have Fans complete with Drive Motors - Total not exceeding 6.6 kW. The Condenser shall have its own Water Pump with Standby Pump complete with Piping and supporting etc., The total operating Pump Load shall not exceed 4.4 kW. The Evaporative Condenser shall be capable of 700 kW Heat Rejection Capacity, for 28 Deg.C WB & 38 Deg.C Condensing Temperatures. The Refrigerant inside the tubes shall be Ammonia (NH3 / R717). Witness Test for Standard Factory Testing / Pressure Testing by Client to be included, prior to dispatch.	Star Coolers & Condensers / Baltimore / Uma Industries / Equivalent	
4	Horizontal High Pressure Receiver (HPR) 1600 mm Dia. X 6000 mm Long. (Weld to weld) with 16mm Thick Plate & 18mm Dish Ends. Material of Construction IS2002 BQ Plates. Nozzles SA106 Gr.B Sch 80/40 with Flanges SA 105 Tongue & Groove Type circular with High Tension (HT) Nuts & Bolts & Gaskets. Operating Pressure 15.55 Bar Absolute, Test Pressure 22.5 Bar, 10% Radiography, Pressure Testing by Nitrogen Only (No Hydraulic Testing). Painting Two Coates of epoxy paint. Colour Golden Yellow. Complete with Reflex Type Level Gauge. The Nozzles shall be as follows 80mm - 1 No, 50mm - 1 No., 40mm - 2 Nos., 15mm - 5 Nos. Please refer the P&I Diagram for details. The Receiver shall have suitable supporting Saddle / Structure. The HPR Shall be provided with Suitable Oil Well at the Bottom. Witness Test for Standard Factory Testing / Pressure Testing by Client to be included, prior to dispatch.		

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5	Closed Flash Vertical Interstage Cooler Suitable for 140 kW. Operating Pressure 4.5 Bar Absolute, Test Pressure 22.5 Bar, 10% Radiography, Pressure Testing by Nitrogen Only (No Hydraulic Testing), Material of Construction IS2002 Plates BQ, Nozzles & Coil - SA 106 GR.B Schedule 80/40, Coil Length Suitable to sub cooled liquid to 10 Deg.C or below. Complete with Reflex Type Level Gauge (frost Free). Painting Two Coates of epoxy primer paint. The Nozzles shall be suitable to 221.31 kW, Complete with Supporting Stand. The Cooler shall be insulted with 60 mm thick PUR finished with Aluminium Cladding of 22 Gauge. Please refer the P&I Diagram for details. Witness Test for Standard Factory Testing / Pressure Testing by Client to be included, prior to dispatch.		
6	Horizontal Low Pressure Receiver 1 (LPR1) 1600 mm Dia. X 4000 mm Long. (Weld to weld) with 16mm Thick Plate & 18mm Dish Ends. Material of Construction IS2002 BQ Plates. Nozzles SA106 Gr.B Sch 80/40 with Flanges SA 105 Tongue & Groove Type circular with High Tension (HT) Nuts & Bolts & Gaskets. Operating Pressure 1.5 Bar Absolute, Test Pressure 22.5 Bar, 10% Radiography, Pressure Testing by Nitrogen Only (No Hydraulic Testing). Complete with Reflex Type Level Gauge (Frost Free). Painting Two Coates of epoxy primer paint. The Cooler shall be insulted with 150 mm thick PUR finished with Aluminium Cladding of 22 Gauge. Please refer the P&I Diagram for details. The Nozzles shall be as follows 125mm - 2 No, 65mm - 1 No., 40mm - 2 Nos., 32mm - 1 Nos., 15mm - 5 Nos. Please refer the P&I Diagram for details. **The Receiver shall have suitable supporting Saddle / Elevated Structure with Legs so that the bottom of LPR 1 is 4.2 from FFL.** The LPR Shall be provided with Suitable Oil Well at the Bottom. Witness Test for Standard Factory Testing / Pressure Testing by Client to be included, prior to dispatch.		

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7	Horizontal Low Pressure Receiver 2 (LPR2) 1200 mm Dia. X 3000 mm Long. (Weld to weld) with 14mm Thick Plate & 16mm Dish Ends. Material of Construction IS2002 BQ Plates. Nozzles SA106 Gr.B Sch 80/40 with Flanges SA 105 Tongue & Groove Type circular with High Tension (HT) Nuts & Bolts & Gaskets. Operating Pressure 3.6 Bar Absolute, Test Pressure 22.5 Bar, 10% Radiography, Pressure Testing by Nitrogen Only (No Hydraulic Testing). Painting Two Coates of epoxy primer paint. The Cooler shall be insulted with 150 mm thick PUR finished with Aluminium Cladding of 22 Gauge. Please refer the P&I Diagram for details. The Nozzles shall be as follows 125mm - 2 No, 65mm - 1 No., 40mm - 2 Nos., 32mm - 1 Nos., 15mm - 5 Nos. Please refer the P&I Diagram for details. **The Receiver shall have suitable supporting Saddle / Elevated Structure with Legs so that the bottom of LPR 1 is 4.2 from FFL.** The LPR Shall be provided with Suitable Oil Well at the Bottom. Witness Test for Standard Factory Testing / Pressure Testing by Client to be included, prior to dispatch.		
8	Ammonia Air Cooling Units - Ceiling Suspended Type, with SS304 Tubes, Aluminium Fins, 4 FPI, Hot Gas Defrosting in Coil, Electric Heater in Tray & Fans, Suitable for 1:4 Pump Circulation, Aerofoil Fans Suitable for 26 M throw (High External Static Pressure), and capable of working of 415 V, 50 Hz, 3 Phase with Earthing. The Body, Tray, Fasteners etc., shall be in SS304. Air Cooling units with Tubes - 5/8" OD SS 304L, Wall thickness 0.55 mm (Imported tubes) shall be provided. The Following Capacities shall be provided. Witness Test for Standard Factory Testing / Pressure Testing by Client to be included, prior to dispatch.	Star Coolers & Condensers / Alfa Laval / Godheart / Guntner / Frick or Equivalent	
8.1	40 kW Capacity, (-29 Deg.C Evaporating & -25 Deg.C Room Temperature, Total Fan Motor Rating not to exceed 6.6 kW).		
8.2	92 kW Capacity, (-5 Deg.C Evaporating & 0 Deg.C Room Temperature, Total Fan Motor Rating not to exceed 6.6 kW). The same unit to be used for (-29 Deg.C Evaporating & -25 Deg.C Room Temperature for 40 kW Capacity).		

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8.3	9 kW Capacity, (-5 Deg.C Evaporating & 0 Deg.C Room Temperature, Total Fan Motor Rating not to exceed 0.37 kW).		
8.4	17kW Capacity, (-5 Deg.C Evaporating & 0 Deg.C Room Temperature, Total Fan Motor Rating not to exceed 0.37 kW). No Hot gas Defrosting System to be Considered.		
8.5	18 kW Capacity, (-5 Deg.C Evaporating & 0 Deg.C Room Temperature, Total Fan Motor Rating not to exceed 0.37 kW). The Fan shall be suitable for 30 M Throw. No Hot gas Defrosting System to be Considered.		
8.6	51 kW Capacity, (-40 Deg.C Evaporating & 0-35 Deg.C Room Temperature, Total Fan Motor Rating not to exceed 4.5 kW). The Fan shall be suitable for 10 M Throw. Water Defrost & Electric Defrosting System to be Considered for Fans. Suitable Accumulator for the unit to be provided. The ACU shall be Foot Mounted.		
9	Supply, Installation, Testing & Commissioning of Liquid Ammonia Canned Type Pumps, suitable for Liquid Ammonia Temperature of -30 Deg.C. Flow Rate 6.3 Cu.M/Hr, at 30 Meter Head. (1 Working + 1 Standby). The Pumps shall be in SS304 Construction with SS Body & SS Impeller.	Hydrodyne / Flowdyne / Kirloskar / Hermatic / Equivalent	
10	Supply, Installation, Testing & Commissioning of Liquid Ammonia Canned Type Pumps, suitable for Liquid Ammonia Temperature of -5 Deg.C. Flow Rate 9.2 Cu.M/Hr, at 30 Meter Head. (1 Working + 1 Standby). The Pumps shall be in SS304 Construction with SS Body & SS Impeller.	Hydrodyne / Flowdyne / Kirloskar / Hermatic / Equivalent	
11	Horizontal Oil POT 300mm Dia x 700 mm Long (Weld to Weld). Operating Pressure 1.5/3.6 Bar Absolute, Test Pressure 22.5 Bar, 10% Radiography, Pressure testing by Nitrogen Only (No Hydraulic Testing). Material of Construction IS2002 BQ Plate, Nozzles SA106 Grade B. Painting Two Coates of epoxy paint. Colour Golden Yellow. The Nozzles shall be as follows 25mm - 1 No, 15mm -41 No., Please refer the P&I Diagram for details. The Receiver shall have suitable supporting Saddle / Structure.		
12	Supply, installation, testing & commissioning of Ammonia Valves. The Valve shall be Socket Welded, Spindle & Seat in SS401, with Front & Back Replaceable Teflon Seat, Gland Packing Rope & 'O' Rings. Test Pressure 40	Dhiren / Vimal / Danfoss (SVA Series Only) / Equivalent	

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	Bar.		
13	Supply, installation, testing & commissioning of Ammonia Controls. The Controls shall be Socket Welded, Flanged, Material of Construction Stainless Steel for Internal Parts, Replaceable Teflon Seat, Gland Packing 'O' Rings. Test Pressure 22.5 Bar.	Danfoss / Manik / Equivalent	
13.1	Alarm Annunciator Microwatch-10000 8 Window		
13.2	Compressor Capacity Controller MPRCC-06		
13.3	Defrost Relief Regulator OFV20		
13.4	Defrost Relief Regulator OFV25		
13.5	Dual Manifold Type DSV2 with Safety Valve SFV15 18 bar		
13.6	Dual Manifold Type DSV2 with Safety Valve SFV15 21 bar		
13.7	Flow Regulating Valve FRV 20		
13.8	High Level Controller 39FH		
13.9	Hot Gas Defrost Controller FROST CONTROL		
13.10	Liquid Level Controller 39FI		
13.11	Low Level Controller 39FL		
13.12	Non Return Valve SNRVA 25		
13.13	Non Return Valve SNRVA32		
13.14	Non Return Valve SNRVA50		
13.15	Pressure Regulating Valve SPM1-20 with SCVPLP		
13.16	Pressure transmitter 0 to 6 Bars absolute ADZ-10		
13.17	Quick Oil Drain Valve QDV15		
13.18	Single Safety Valve SFV15		
13.19	Solenoid Valve SA17A3		
13.20	Solenoid Valve with strainer Type SA17A3		
13.21	Solenoid Valve with strainer Type SA32P3		
13.22	Solenoid Valve with strainer Type SA5A3		
13.23	SPMLX-40 with Flanges, SVM NC,SVM NO, coil		
13.24	SPMLX-65 with Flanges, SVM NC,SVM NO, coil		
13.25	Strainer with flanges Type TA17		
13.26	Strainer with flanges Type FA50		
13.27	Strainer with flanges Type FA80		
13.28	Temperature Indicator Controller with sensor TIC1R01 (PT100)		
13.29	Water Flow Switch FS80		

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13.30	Temperature Indicator with sensor TIC1R01 (PT100). For Indication Outside Chambers etc.,		
13.31	Temperature Indicator with sensor TIC1R01 (PT100). For Indication at Plant Room Central Location.		
14	Supply, Installation, Testing & Commissioning of Automatic Refrigerated Ammonia Air Purging System for the entire system. (4 Point)	Danfoss / Manik / Equivalent	
15	Supply, Installation, Testing & Commissioning of Ammonia Leakage Detector with 8 points ammonia sensors for the entire system in the Plant Room. Complete with Alarm, Hooters, Wiring etc.,	Danfoss / Manik / Equivalent	
16	Supply, Installation, Testing & Commissioning of First Charge of Unhydrous Ammonia (99.9% Pure Minimum)		
17	Supply, Installation, Testing & Commissioning of First Charge of Compressor Oil, as per manufacturer standard specifications, including first change of Oil.	HPCL / BPCL / IOL / Equivalent	
18	Supply, installation, testing & commissioning of Ammonia Piping in SA 106 Grade B, Uninsulated, complete with Piping Supports, Pressure Testing along with Complete System, Painting as per Colour Code in Epoxy Paint, Direction Arrows etc., Schedule 80 Piping as Under: SA 106 GRADE B to be used for Piping upto 50mm and below. Schedule 40 Piping as Under: SA 106 GRADE B to be used for Piping 65 mm and above. Root Run by TIG Welding, Filler Run by ARC Welding. As per P&I Diagram and Layout Drawing.	Jindal / SAIL / Equivalent	
19	Supply, installation, testing & commissioning of Ammonia Piping in SA 106 Grade B, Insulated with PUR Material and finished with 22 Gauge Aluminium Cladding as per P&I Diagram, complete with Piping Supports, Pressure Testing along with Complete System, Direction Arrows etc., Schedule 80 Piping as Under: SA 106 GRADE B to be used for Piping upto 50mm and below. Schedule 40 Piping as Under: SA 106 GRADE B to be used for Piping 65 mm and above. Root Run by TIG Welding, Filler Run by ARC Welding. As per P&I Diagram and Layout Drawing.	Pipes - Jindal / SAIL Insulation - Lloyd / Metacno / Jindal / Equivalent	

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20	Electrical Works for Refrigeration		
20.1	Design, fabrication, assembling, wiring, supply, testing and installation in the required configuration & location of PLC Based LT Panels of Electrical Control Panel complete with Central Monitoring System. Suitable for 415 V, 3 Phase, 4 Wire, 50 Hz AC supply fabricated in Compartmentalized, IP44 Protection complete with Incoming ACB of minimum rating 4P with DOL/Star Delta Starters (DOL Starter up to 5.5kW & above 5.5 kW Star Delta Starter), Power Contactor, Overload Relay, ON-OFF-Trip Indication Lamps, Push button, Control Fuses, Power & Control terminal, VFD's for the Compressors complete with By-Pass Starter for the same with internal control wiring with 1.5 sq.mm. etc. as specified on SLD, earth bus bar, flush type hinged door with neoprene gaskets complete as per specifications and single line diagram, design from CRCA sheet steel of 2mm thick for Doors and Box, 2.5mm thick for gland plates, dust and vermin proof finishing complete with 7 tank process for powder coating in approved shade (RAL7035), earth bus bar at the rear with earth stud, Mounting Bracket / Stands shall also be provided for all panels. Details as specified in -GA drawings, Single Line Diagram & control wiring diagram, as per technical specifications. (Switchgear Make: Siemens/Schneider Global Range) Main Panel for 1 Incoming Feeder and Outgoing Feeder 31 Nos. Details as under: Witness Test for Standard Factory Testing by Client to be included, prior to dispatch. The Panel shall be complete with PLC with Inbuilt Data Logger with Remote Access Facility with RS485 connectivity. The Panel shall be supplied along with a separate Central Monitoring System to enable control and monitoring of all operational parameters of the Refrigeration System.	Powergrid / Vidhyut Control / Smash Electricals / Equivalent PLC Make – Allen Bradley or Equivalent	
	Compressor 140 kW Capacity Two Stage / Equivalent - 75 kW With VFD and By-Pass Star Delta Starter - 3 Nos. Feeders. (2W + 1S)		
	Compressor 265 kW Capacity Single Stage / Equivalent - 90 kW With VFD and By-Pass Star Delta Starter - 3 Nos. Feeders. (2W + 1S)		
	Compressor 51 kW Capacity Two Stage / Equivalent - 45 kW With VFD and By-Pass Star		

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	Delta Starter - 3 Nos. Feeders. (2W + 1S)		
	Evaporative Condenser - 2.2 kW x 6 Nos. each (3 for Fan & 3 for Pump) - 2 Feeders.		
	Ammonia Pumps - 2.6 kW x 4 Nos. (2W + 2S) - 4 Feeders.		
	Air Cooling Units - 1.1 kW x 3 Nos. (3 Fans for each ACU with separate starters) - 5 Feeders.		
	Air Cooling Units - 2.2 kW x 3 Nos. (3 Fans for each ACU with separate starters) - 5 Feeders.		
	Air Cooling Units - 0.37 kW x 1 Nos. (1 Fans for each ACU with separate starters) - 5 Feeders.		
	Air Cooling Units - 1.5 kW x 1 Nos. (3 Fans for each ACU with separate starters) - 3 Feeders.		
	The Panel shall be IP - 44 Protection for indoor use. Panel Intelligent meter, R-Y-B indication Light, Control Fuses & Copper tinted Bus Bar. Evaporative Condenser, Ammonia Pumps & Air Cooling Units Feeders complete shall have Individual DOL / Star Delta Starters, MPCB for each Motor of Fans & Pumps, Start Stop Push Buttons, Indicating Lamps, ON/OFF & Trip lights etc. The entire panel shall be made in IP-44 Enclosure to be installed in the Plant Room. For 15kW & above motors, digital CT operated ammeter shall be provided. For Smaller Ratings Analogue Ammeter Shall be Used. Common Hooter shall be provided for all 6 Compressors in case of TRIP or Fault. The Panel shall be complete with PLC based control with Inbuilt Data Logger for various parameters like Temperature, RH etc., with remote access facility with RS485 connectivity etc.,		
20.2	Electrical Cabling work with PVC Armoured copper conductor cables and double run of suitable rating Copper Earthing wire / strip for each power cable, as required. Supply & laying of 1100V grade, XLPE insulated, PVC Extruded Inner Sheathed and FR PVC outer Sheathed Copper Conductor up to 16 sq.mm. Round wire Armoured cable and above flat Armoured, power cable.	Finolex / Polycab / CCI / Equivalent	
20.2.1	Compressor 140 kW Capacity Two Stage / Equivalent - 75 kW - 3C x 50 Sq.mm Copper		

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	Cable for Power. Double Run for all Start Delta Starters.		
20.2.2	Compressor 265 kW Capacity Single Stage / Equivalent - 75 kW - 3C x 50 Sq.mm Copper Cable for Power. Double Run for all Start Delta Starters.		
20.2.3	Compressor 51 kW Capacity Two Stage / Equivalent - 45 kW - 3C x 25 Sq.mm Copper Cable for Power. Double Run for all Start Delta Starters.		
20.2.4	Evaporative Condenser 2.2 kW - 3C x 2.5 Sq.mm Copper Cable for Power.		
20.2.5	Ammonia Pumps 2.6 kW - 3C x 2.5 Sq.mm Copper Cable for Power.		
20.2.6	Air Cooling Units (1 to 5) 1.1 kW - 3C x 2.5 Sq.mm Copper Cable for Power.		
20.2.7	Air Cooling Units (6 to 10) 2.2 kW - 3C x 2.5 Sq.mm Copper Cable for Power.		
20.2.8	Air Cooling Units (Ante Room, Grading Sorting & Staging Area) 0.37 kW - 3C x 2.5 Sq.mm Copper Cable for Power.		
20.2.9	Air Cooling Units (Blast Freezer) 1.5 kW - 3C x 2.5 Sq.mm Copper Cable for Power.		
20.2.10	25mm x 5 mm Copper Strip Earthing - Double Run for each Power Cable.		
20.2.11	12 SWG Copper Earthing Wire - Double Run for each Power Cable.		
20.2.12	Control Cable of 4C x 1.5 Sq.mm Copper.		
20.2.13	Control Cable of 3C x 1.5 Sq.mm Copper.		
20.2.14	Teflon Coated Shielded Cable for Sensors 3C suitable for sensors provided.		
21	Supply, installation of 14 G GI Perforated cable tray, duly hot dip galvanised with necessary supporting members for suspension to slab / wall supporting with final finishing.		
22	Cost of Operator for 2 Years operation of the plant 24 x 7 in 3 shifts with 3 persons & 1 reliever. All employed labour shall be covered under ESCI /PF etc., as per all government rules from time to time.		
23	Supply, Installation, Testing & Commissioning of Structural Steel works for suspension of all Air Cooling Units, including supports for Piping & Cable Trays. All supports shall be MS Painted for piping outside the Chambers, and SS316 Threaded Rods for Air Cooling Units.		
24	SITC of Kruger or equivalent make Cabinet type In-Line Fan for supply & exhaust complete with 20 Micron Filter, Fan, Motors,		

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	Drive Set etc., The fan shall be capable of delivering 14000 Cfm of air at 20 mm Static pressure. The Fans shall be supplied with related Ducting & Supply Air Grill with Dampers to completely cover the Plant Room, Starter Panel for the Fan, PVC Armoured Copper Conductor Electrical Cabling, Ammonia Sensors for Interlocking etc., The Fans shall be used for Plant Room Ventilation.		
25	SITC of Safety Gadgets for Plant Room like Ammonia Mask, Ammonia Leak Detector with Sound Alarm, Safety Gloves, Necessary Tool & Tackles etc.,		

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SCHEDULE OF WORKS

Design, Supply, Erection, Testing and Commissioning of Refrigeration System

Tender No. BL / LI/TCW -MUM/ REFRIGERATION /16-17 / 16.

NOTES:

1.0 Details of the items under this BOQ shall be read in conjunction with the corresponding Specifications, Drawings and other Tender Documents.

2.0 The work shall be carried out as per approved drawings, Specifications and the description of the items in this BOQ and/or Engineer's instructions. Drawings enclosed with these documents are only for providing some preliminary of the work involved.

3.0 Items of work provided in this BOQ but not covered in the Specifications shall be executed strictly as per instructions of the Engineer-In-Charge.

4.0 Unless specifically mentioned otherwise in the Contract, the Tenderer shall quote for the finished items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, Constructional Plant, Temporary Work, labour, materials, levies, taxes, transport, layout, re-pairs, rectification, maintenance till handing over, supervisions, colonies, shops, establishments, services, temporary roads, revenue expenses, contingencies, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the work according to the contract.

5.0 The Quantities of the various items mentioned in the BOQ are approximate and may vary or may be deleted altogether. The Contractor, in his own interest, should get an indication of the probable extent of the work to be executed under any particular item in this BOQ before undertaking any preliminary and enabling work or purchasing bought out components related to the work.

7.0 Engineer's decision shall be final and binding on the Contractor regarding clarification of items in this BOQ with respect to the other sections of the Contract.

Sr. No.	Description	Qty.	Unit	Rate In Rs.	Amount In Rs.	Unit Rate of Packing & Forwarding Rs.	Total Packing and Forwarding Charges Rs.	Excise Duty @ 12.5% Rs.	Basic + Excise+ Packing Charges Rs.	Value Added Tax/ CST Rs.	Total Freight Charges Rs.	Total Amount Supply in INR Rs.	Rate for Installation Rs.	Total Amount Installation Rs.	Service Tax on Installation 15% Rs.	Total Amount for Installation Including Tax. Rs.
1	Supply, Installation, Testing & Commissioning of 'Ammonia Reciprocating Compressor', **For Details Refer Detailed Technical Specifications.**															
1.1	Two Stage Compressor Capacity - 140 kW each. (2 W + 1S). Evaporating Temperature -29 Deg.C., Saturated Condensing Temperature 40 Deg.C., Maximum Shaft Power - 64 kW. **For Details Refer Detailed Technical Specifications.**	3	Nos.		-		-	-	-	-		-		-	-	-
1.2	Single Stage Compressor Capacity - 265 kW each. (2 W + 1S). Evaporating Temperature -5 Deg.C., Saturated Condensing Temperature 40 Deg.C., Maximum Shaft Power - 66.92 kW. **For Details Refer Detailed Technical Specifications.**	3	Nos.		-		-	-	-	-		-		-	-	-
1.3	Two Stage Compressor Capacity - 51 kW each. (1 W). Evaporating Temperature -40 Deg.C., Saturated Condensing Temperature 40	1	Nos.		-		-	-	-	-		-		-	-	-

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	Deg.C., Maximum Shaft Power - 31.62 kW. **For Details Refer Detailed Technical Specifications.**															
2	Supply, Installation, testing & commissioning of Drive Motors for the above Compressors. The Motor shall be Horizontal Foot Mounted, 4 Pole, VFD Compatible, IE3 Motor, TEFC.															
2.1	75 kW - 415 V, 50 Hz, 3 Phase with Earthing.	3	Nos.		-		-	-	-	-		-		-	-	-
2.2	75 kW - 415 V, 50 Hz, 3 Phase with Earthing.	3	Nos.		-		-	-	-	-		-		-	-	-
2.3	45 kW - 415 V, 50 Hz, 3 Phase with Earthing.	1	Nos.		-		-	-	-	-		-		-	-	-
3	Supply, Installation, Testing & Commissioning of SS304 Ammonia Evaporative Condenser. **For Details Refer Detailed Technical Specifications.**	2	No.		-		-	-	-	-		-		-	-	-
4	Supply, Installation, Testing & Commissioning of Horizontal High Pressure Receiver (HPR). **For Details Refer Detailed Technical Specifications.**	2	No.		-		-	-	-	-		-		-	-	-
5	Supply, Installation, Testing & Commissioning of Closed Flash Vertical Interstage Cooler. **For Details Refer Detailed Technical Specifications.**	4	No.		-		-	-	-	-		-		-	-	-
6	Supply, Installation, Testing & Commissioning of Horizontal Low Pressure Receiver 1 (LPR1). **For Details Refer Detailed Technical Specifications.**	1	No.		-		-	-	-	-		-		-	-	-

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7	Supply, Installation, Testing & Commissioning of Horizontal Low Pressure Receiver 2 (LPR2). **For Details Refer Detailed Technical Specifications.**	1	No.		-		-	-	-	-		-		-	-	-
8	Supply, Installation, Testing & Commissioning of Ammonia Air Cooling Units. **For Details Refer Detailed Technical Specifications.**															
8.1	40 kW Capacity, (-29 Deg.C Evaporating & -25 Deg.C Room Temperature, Total Fan Motor Rating not to exceed 6.6 kW).	5	Nos.		-		-	-	-	-		-		-	-	-
8.1.1	Spare Motors for 1 complete set for 1 No. ACU Supplied above - 40 kW Capacity, (-29 Deg.C Evaporating & -25 Deg.C Room Temperature, Total Fan Motor Rating not to exceed 6.6 kW).	1	Lot.		-		-	-	-	-		-		-	-	-
8.2	92 kW Capacity, (-5 Deg.C Evaporating & 0 Deg.C Room Temperature, Total Fan Motor Rating not to exceed 6.6 kW). The same unit to be used for (-29 Deg.C Evaporating & -25 Deg.C Room Temperature for 40 kW Capacity).	5	Nos.		-		-	-	-	-		-		-	-	-
8.2.1	Spare Motors for 1 complete set for 1 No. ACU Supplied above - 92 kW Capacity, (-5 Deg.C Evaporating & 0 Deg.C Room Temperature, Total Fan Motor Rating not to exceed 6.6 kW). The same unit to be used for (-29 Deg.C Evaporating & -25 Deg.C Room Temperature for 40 kW Capacity).	1	Lot.		-		-	-	-	-		-		-	-	-

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8.3	9 kW Capacity, (-5 Deg.C Evaporating & 0 Deg.C Room Temperature, Total Fan Motor Rating not to exceed 0.37 kW).	2	Nos.		-		-	-	-	-		-		-	-	-
8.4	17kW Capacity, (-5 Deg.C Evaporating & 0 Deg.C Room Temperature, Total Fan Motor Rating not to exceed 0.37 kW). No Hot gas Defrosting System to be Considered.	2	Nos.		-		-	-	-	-		-		-	-	-
8.5	18 kW Capacity, (-5 Deg.C Evaporating & 0 Deg.C Room Temperature, Total Fan Motor Rating not to exceed 0.37 kW). The Fan shall be suitable for 30 M Throw. No Hot gas Defrosting System to be Considered.	1	Nos.		-		-	-	-	-		-		-	-	-
8.6	51 kW Capacity, (-40 Deg.C Evaporating & 0-35 Deg.C Room Temperature, Total Fan Motor Rating not to exceed 4.5 kW). The Fan shall be suitable for 10 M Throw. Water Defrost & Electric Defrosting System to be Considered for Fans. Suitable Accumulator for the unit to be provided. The ACU Shal be Foot Mounted	1	Nos.		-		-	-	-	-		-		-	-	-
8.6.1	Spare Motor 1 No. for the above supplied ACU - 51 kW Capacity, (-40 Deg.C Evaporating & 0-35 Deg.C Room Temperature, Total Fan Motor Rating not to exceed 4.5	1	Nos.		-		-	-	-	-		-		-	-	-

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	kW). The Fan shall be suitable for 10 M Throw. Water Defrost & Electric Defrosting System to be Considered for Fans. Suitable Accumulator for the unit to be provided. The ACU Shal be Foot Mounted															
9	Supply, Installation, Testing & Commissioning of Liquid Ammonia Canned Type Pumps for two stage system, **For Details Refer Detailed Technical Specifications.**	2	Nos.		-		-	-	-	-		-		-	-	-
10	Supply, Installation, Testing & Commissioning of Liquid Ammonia Canned Type Pumps for single stage system. **For Details Refer Detailed Technical Specifications.**	2	Nos.		-		-	-	-	-		-		-	-	-
11	Supply, Installation, Testing & Commissioning of Horizontal Oil POT 300mm Dia x 700 mm Long. **For Details Refer Detailed Technical Specifications.**	2	No.		-		-	-	-	-		-		-	-	-
12	Supply, installation, testing & commissioning of Ammonia Valves. The Valve shall be Socket Welded, Spindle & Seat in SS401, with Front & Back Replacable Teflon Seat, Gland Packing Rope & 'O' Rings. Test Pressure 40 Bar.															
	Ammonia Valves															
12.1	**Angel / Y type Valves Size**															
	15 NB	126	Nos.		-		-	-	-	-		-		-	-	-
	20 NB	13	Nos.		-		-	-	-	-		-		-	-	-
	25 NB	85	Nos.		-		-	-	-	-		-		-	-	-

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	32 NB	23	Nos.		-		-	-	-	-		-		-	-	-
	40 NB	14	Nos.		-		-	-	-	-		-		-	-	-
	50 NB	51	Nos.		-		-	-	-	-		-		-	-	-
	65 NB	61	Nos.		-		-	-	-	-		-		-	-	-
	80 NB	11	Nos.		-		-	-	-	-		-		-	-	-
	100 NB	3	Nos.		-		-	-	-	-		-		-	-	-
	125 NB	4	Nos.		-		-	-	-	-		-		-	-	-
12.2	**Hand Expansion Valve**													-	-	-
	15 NB	4	Nos.		-		-	-	-	-		-		-	-	-
	20 NB	1	Nos.		-		-	-	-	-		-		-	-	-
	32 NB	2	Nos.		-		-	-	-	-		-		-	-	-
12.3	**Stop Cum Check**													-	-	-
	40 NB	3	Nos.		-		-	-	-	-		-		-	-	-
	65 NB	4	Nos.		-		-	-	-	-		-		-	-	-
	50 NB	3	Nos.		-		-	-	-	-		-		-	-	-
13	Supply, installation, testing & commissioning of Ammonia Controls. The Controls shall be Socket Welded, Flanged, Material of Construction Stainless Steel for Internal Parts, Replacable Teflon Seat, Gland Packing 'O' Rings. Test Pressure 22.5 Bar.															

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13.1	Alarm Annunciator Microwatch-10000 8 Window	7	Nos.		-		-	-	-	-		-		-	-	-
13.2	Compressor Capacity Controller MPRCC-06	7	Nos.		-		-	-	-	-		-		-	-	-
13.3	Defrost Relief Regulator OFV20	2	Nos.		-		-	-	-	-		-		-	-	-
13.4	Defrost Relief Regulator OFV25	10	Nos.		-		-	-	-	-		-		-	-	-
13.5	Dual Manifold Type DSV2 with Safety Valve SFV15 18 bar	2	Nos.		-		-	-	-	-		-		-	-	-
13.6	Dual Manifold Type DSV2 with Safety Valve SFV15 21 bar	6	Nos.		-		-	-	-	-		-		-	-	-
13.7	Flow Regulating Valve FRV 20	20	Nos.		-		-	-	-	-		-		-	-	-
13.8	High Level Controller 39FH	2	Nos.		-		-	-	-	-		-		-	-	-
13.9	Hot Gas Defrost Controller FROST CONTROL	12	Nos.		-		-	-	-	-		-		-	-	-
13.10	Liquid Level Controller 39FI	7	Nos.		-		-	-	-	-		-		-	-	-
13.11	Low Level Controller 39FL	2	Nos.		-		-	-	-	-		-		-	-	-
13.12	Non Return Valve SNRVA 25	2	Nos.		-		-	-	-	-		-		-	-	-
13.13	Non Return Valve SNRVA32	10	Nos.		-		-	-	-	-		-		-	-	-
13.14	Non Return Valve SNRVA50	4	Nos.		-		-	-	-	-		-		-	-	-
13.15	Pressure Regulating Valve SPM1-20 with SCVPLP	3	Nos.		-		-	-	-	-		-		-	-	-
13.16	Pressure transmitter 0 to 6 Bars absolute ADZ-10	7	Nos.		-		-	-	-	-		-		-	-	-
13.1	Quick Oil Drain Valve QDV15	9	Nos.													

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7					-		-	-	-	-		-		-	-	-
13.18	Single Safety Valve SFV15	5	Nos.		-		-	-	-	-		-		-	-	-
13.19	Solenoid Valve SA17A3	12	Nos.		-		-	-	-	-		-		-	-	-
13.20	Solenoid Valve with strainer Type SA17A3	20	Nos.		-		-	-	-	-		-		-	-	-
13.21	Solenoid Valve with strainer Type SA32P3	12	Nos.		-		-	-	-	-		-		-	-	-
13.22	Solenoid Valve with strainer Type SA5A3	5	Nos.		-		-	-	-	-		-		-	-	-
13.23	SPMLX-40 with Flanges,SVM NC,SVM NO,coil	7	Nos.		-		-	-	-	-		-		-	-	-
13.24	SPMLX-65 with Flanges,SVM NC,SVM NO,coil	10	Nos.		-		-	-	-	-		-		-	-	-
13.25	Strainer with flanges Type TA17	4	Nos.		-		-	-	-	-		-		-	-	-
13.26	Strainer with flanges Type FA50	3	Nos.		-		-	-	-	-		-		-	-	-
13.27	Strainer with flanges Type FA80	4	Nos.		-		-	-	-	-		-		-	-	-
13.28	Temperaure Indicator Controller with sensor TIC1R01 (PT100)	16	Nos.		-		-	-	-	-		-		-	-	-
13.29	Water Flow Switch FS80	4	Nos.		-		-	-	-	-		-		-	-	-
13.30	Temperaure Indicator with sensor TIC1R01 (PT100). For Indication Outside Chambers etc.,	17	Nos.		-		-	-	-	-		-		-	-	-
13.31	Temperaure Indicator with sensor TIC1R01 (PT100). For Indication at Plant Room Central Location.	17	Nos.		-		-	-	-	-		-		-	-	-
14	Supply, Installation, Testing & Commissioning of Automatic	1	Lot.		-		-	-	-	-		-		-	-	-

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	Refrigerated Ammonia Air Purging System for the entire system. (4 Point)														
15	Supply, Installation, Testing & Commissioning of Ammonia Leakage Detactor with 8 points ammonia sensors for the entire system in the Plant Room. Complete with Alarm, Hooters, Wiring etc.,	1	Lot.		-		-	-	-	-		-		-	-	-
16	Supply, Installation, Testing & Commissioning of First Charge of Unhydrous Ammonia (99.9% Pure Minimum) for the complete Single stage and two stage ammonia system.	1	Lot.		-		-	-	-	-		-		-	-	-
17	Supply, Installation, Testing & Commissioning Compressor Oil, one barrel of 210 Litre , as per manufacturer standard specifications.	1	Lot.		-		-	-	-	-		-		-	-	-
18	Supply, installation, testing & commissioning of Ammonia Piping in SA 106 Grade B, Uninsulated, complete with Piping Supports, Pressure Testing along with Complete System, Painting as per Colour Code in Epoxy Paint, Direction Arrows etc., Schedule 80 Piping as Under: SA 106 GRADE B to be used for Piping upto 50mm and below. Schedule 40 Piping as Under: SA 106 GRADE B to be used	1	Lot.		-		-	-	-	-		-		-	-	-

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	for Piping 65 mm and above. Root Run by TIG Welding, Filler Run by ARC Welding. As per P&I Daiagram and Layout Drawing.														
19	Supply, installation, testing & commissioning of Ammonia Piping in SA 106 Grade B, Insulated with PUR Material and finished with 22 Gauge Aluminium Cladding as per P&I Diagram, complete with Piping Supports, Pressure Testing along with Complete System, Direction Arrows etc., Schedule 80 Piping as Under: SA 106 GRADE B to be used for Piping upto 50mm and below. Schedule 40 Piping as Under: SA 106 GRADE B to be used for Piping 65 mm and above. Root Run by TIG Welding, Filler Run by ARC Welding. As per P&I Daiagram and Layout Drawing.	1	Lot.		-		-	-	-	-		-		-	-	-
20	Electrical Works for Refrigeration														
20.1	Design, Fabrication, Assembling, Wiring, Supply, Installation, Testing and Commissioning of PLC Based Electrical Control Panel with Central Monitoring System. **For Details Refer Detailed Technical Specifications.**	1	Nos.		-		-	-	-	-		-		-	-	-
20.2	Suply, Installation, Testing & Commissioning of Electrical Cabling. **For Details Refer Detailed Technical Specifications.**														

20.2.1	Compressor 140 kW Capacity Two Stage / Equivalent -75 kW - 3C x 50 Sq.mm Copper Cable for Power. Double Run for all Start Delta Starters.	1	Lot.		-		-	-	-	-		-		-	-	-
20.2.2	Compressor 265 kW Capacity Single Stage / Equivalent - 75 kW - 3C x 50 Sq.mm Copper Cable for Power. Double Run for all Start Delta Starters.	1	Lot.		-		-	-	-	-		-		-	-	-
20.2.3	Compressor 51 kW Capacity Two Stage / Equivalent - 45 kW - 3C x 25 Sq.mm Copper Cable for Power. Double Run for all Start Delta Starters.	1	Lot.													
20.2.4	Evaporative Condenser 2.2 kW - 3C x 2.5 Sq.mm Copper Cable for Power.	1	Lot.		-		-	-	-	-		-		-	-	-
20.2.5	Ammonia Pumps 2.6 kW - 3C x 2.5 Sq.mm Copper Cable for Power.	1	Lot.		-		-	-	-	-		-		-	-	-
20.2.6	Air Cooling Units (1 to 5) 1.1 kW - 3C x 2.5 Sq.mm Copper Cable for Power.	1	Lot.		-		-	-	-	-		-		-	-	-
20.2.7	Air Cooling Units (6 to 10) 2.2 kW - 3C x 2.5 Sq.mm Copper Cable for Power.	1	Lot.		-		-	-	-	-		-		-	-	-
20.2.8	Air Cooling Units (Ante Room, Grading Sorting & Staging Area) 0.37 kW - 3C x 2.5 Sq.mm Copper Cable for Power.	1	Lot.		-		-	-	-	-		-		-	-	-
20.2.9	Air Cooling Units (Blast Freezer Area) 1.5 kW - 3C x 2.5 Sq.mm Copper Cable for Power.	1	Lot.		-		-	-	-	-		-		-	-	-

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20.2.10	25mm x 5 mm Copper Strip Earthing - Double Run for each Power Cable.	1	Lot.		-		-	-	-	-		-		-	-	-
20.2.11	12 SWG Copper Earthing Wire - Double Run for each Power Cable.	1	Lot.		-		-	-	-	-		-		-	-	-
20.2.12	Control Cable of 4C x 1.5 Sq.mm Copper.	1	Lot.		-		-	-	-	-		-		-	-	-
20.2.13	Control Cable of 3C x 1.5 Sq.mm Copper.	1	Lot.		-		-	-	-	-		-		-	-	-
20.2.14	Teflon Coated Shielded Cable for Sensors 3C suitable for sensors provided.	1	Lot.		-		-	-	-	-		-		-	-	-
21	Supply, installation of 14 G GI Perforated cable tray, duly hot dip galvanised with necessary supporting members for suspension to slab / wall supporting with final finishing.	1	Lot.		-		-	-	-	-		-		-	-	-
22	Cost of Operator for 2 Years operation of the plant 24 x 7 in 3 shifts with 3 persons & 1 reliever. All employed labour shall be covered under ESCI /PF etc., as per all government rules from time to time.	1	Lot.		-		-	-	-	-		-		-	-	-
23	Supply, Fabrication & Erection o Structural Steel works for suspension of all Air Cooling Units, including supports for Piping & Cable Trays. All supports shall be MS Painted for piping outside the Chambers, and SS316 Threaded Rods for Air Cooling Units.	1	Lot.		-		-	-	-	-		-		-	-	-

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24	SITC of Kruger or equivalent make Cabinet type In-Line Fan for supply & exhaust complete with 20 Micron Filter, Fan, Motors, Drive Set etc., The fan shall be capable of delivering 14000 Cfm of air at 20 mm Static pressure. The Fans shall be supplied with related Ducting & Supply Air Grill with Dampers to completely cover the Plant Room, Starter Panel for the Fan, PVC Armoured Copper Conductor Electrical Cabling, Ammonia Sensors for Interlocking etc., The Fans shall be used for Plant Room Ventilation.	2	Lot.		-		-	-	-	-		-		-	-	-
25	SITC of Safety Gadgets for Plant Room consisting of Ammonia Mask - 2 Nos, Normal Masks - 10 Pairs, Safety Hand Gloves - 2 Pairs, All types of Tool & Tackles of standard company required for the maintenance of various equipments.	1	Lot.		-		-	-	-	-		-		-	-	-
	Grand Total in Rs.				**-**		**-**	**-**	**-**	**-**		**-**		**-**	**-**	**-**

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TENDER DRAWINGS

Design, Supply, Erection, Testing and Commissioning of Refrigeration System

Tender No. BL / LI/TCW -MUM/ REFRIGERATION /16-17 / 16.

The following Drawings are attached for reference which is a part of tender documents. Bidder are requested to go through the details mentioned in the tender document and the drawings before participating in the bid. For any queries bidders may contact the Tender Inviting Authority.

1. Electrical Panel & SLD
2. P & I Drawing
3. Plant Room Layout
4. Refrigeration Layout
5. Section & Terrace Layout
6. Heat Load Calculations for
    a. Chambers 1-5
    b. Chambers 6 to 10
    c. Staging Area
    d. Ante Room
    e. Sorting & Grading
    f. Blast Freezer