Eligibility Requirement

The bidder shall be considered eligible only if the bidder meets all the following minimum qualifying criteria.

Sr. No.	Clause Description	Supporting document to be submitted
1	The Bidder must be a manufacturer or authorized by manufacturer for supplying the quoted goods.	If manufacturer, please submit scanned copy of manufacturing licence / udyog Aadhar etc., If not, then manufacturer's authorization to be submitted.
2	The Bidder must not have been debarred/blacklisted by the State Government/ Govt. of India or MPCDF or by affiliated Milk Unions	Declaration by the bidder to be submitted in firm's letter head.
3	The bidder should be in existence for three years or more on the date of bid submission.	Proof of registration of the firm being three years old or more must be uploaded.
4	The Bidder's Financial Turnover in each of the last three financial years (FY 23-24, 24-25 & 25-26) ending 31st March shall be not less than Rs.20,00,000/-.	The bidder should submit the Turnover certificate from CA firm / audited financial statements.
5	The bidder shall be considered eligible only if the bidder possesses experience of supply of item of similar nature in any industry.	Copies of purchase order(s) or tax invoices, sealed and signed by competent authority should be enclosed submitted by the bidder.
6	The bidder shall be considered eligible only if the bidder has successfully executed contracts for the supply, installation, testing and commissioning of Evaporative Condenser(s) of the equivalent capacity or higher capacity in any industry during the last three years..	The bidder shall submit copies of relevant Purchase Order(s) and/or Tax Invoice(s), duly sealed and signed by the competent authority, along with a satisfactory Installation and Commissioning Report/Certificate issued by the concerned customer as documentary evidence of the above experience.
7	**Other documents to be submitted**	Submit scanned copy of GST Registration Certificate and PAN Card

NOTE: THIS IS AN TURNKEY JOB

GENERAL TERMS & CONDITIONS FOR PURCHASE OF Evaporative condenser unit with electrical panel FOR

BUNDELKHAND SAHKARI DUGDH SANGH MARYADIT SAGAR (BKDS).

EARNEST MONEY DEPOSIT & SECURITY DEPOSIT SCHEDULE:

1. EARNEST MONEY DEPOSIT (EMD)/ SECURITY DEPOSIT

1.1 Bidders need to be a member at NCDFI eMarket and deposit the requisite **Earnest Money Deposit (EMD) Rs 40,000 (TDS @ 0.1% of contract Value included in EMD)** of the bid value as per the terms of NCDFI eMarket for participation in the e-Auctions prior to the scheduled time of e-Auctions.

1.2 Any bidder without EMD shall not be able to participate in the e-Auctions.

1.3 EMD deposited by the un-successful bidders shall be refunded on real time basis to their Escrow Accounts maintained with NCDFI eMarket.

1.4 The EMD shall be liable for forfeiture if the L1 bidder does not execute the contract and fails to furnish the Security Deposit (SD), if asked, in specified time. On confirmation of completion of contract by BKDS, NCDFI eMarket will release the EMD within one working day, after adjusting the transaction charges of 0.40% which is exclusive of GST.

1.5 **Security Deposit (SD) (Performance Security) -** Within 30 days of receipt of the Purchase order, the successful bidder is required to deposit Security Deposit (SD) (Performance Security) @ **5%** of the contact value with BKDS, before start of the consignment/supply. Bidder may submit the SD through RTGS/NEFT/DD/PBG (as per purchaser's approved format, in the name of BKDS) to the BKDS. The proceeds of the SD/Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

The SD/performance security will be discharged by the Purchaser and returned to the Supplier not later than 30 days following the date of completion of Supplier's performance obligation, including any warranty obligations, under the Contract.

Failure of the successful Bidder to comply with above-mentioned requirement shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security (if any).

1.6 No interest shall be payable on the EMD/SD.

2. SUBMISSION OF BID

2.1 The Bidder is expected to study and understand all instructions, specifications, terms and conditions prior to participating in the eAuctions.

2.2 The rate should be quoted **per Nos/lot** for delivery at BKDS, Sironja, Sagar. M.P. The bidder shall bid for the entire quantity for the Goods.

2.3 The prices quoted should be on free delivery at site basis inclusive of all taxes and duties, packing and forwarding charges, freight, insurance etc. for delivery up to Delivery location (As mentioned Auction Notice) and free from any escalations.

2.4 The bid price quoted shall have to be valid **for 45 days**, from the date of e-Auction. A bid valid for a shorter period shall be rejected and treated as non-responsive.

2.5 Fixed Price: The Price quoted by the Bidder shall be fixed during the bidder's performance of the Contract/Supply and not subject to variation on any account. A bid submitted with an adjustable price quotation for such goods and services will be treated as non-responsive and rejected.

2.6 Payment of differential amount due to price variation on account of change in applicable taxes and duties on the invoiced items/ services shall be payable only if, the details of the taxes and duties included in the prices & HSN/ SAC code considered, is furnished in the bid. If any altogether new tax and duty is imposed on such contract after the bid opening date, the same shall be considered for payment/ reimbursement upon documentary evidence. Similarly, the differential amount shall be recovered, if the rates of taxes and duties are revised downward.

3. AWARD OF CONTRACT

3.1 The NCDFI eMarket shall inform the L1 rates discovered during the eAuction to BKDS. If the L1 rate(s) are acceptable to BKDS, they will award the Purchase Order to the L1 bidder within 30 working days after the rate approval.

3.2 **Signing of Contract** - Within 30 days from the receipt of the Purchase Order, the successful bidder shall return the duplicate copy of the PO, duly signed and sealed **along with Contract Agreement (**On the Non-judicial Stamp paper as per the **Stamp Act of Madhya Pradesh State Govt.)** (in the attached format of contract agreement) & Security Deposit, wherever applicable.

4 TRANSFER OF CONTRACT

4.1 The contract is not transferable on any account whatsoever.

4.2 Any request for transfer of contract shall be treated as non-performance or breach of Contract and the EMD or/and SD, as the case may be, shall be liable for forfeiture.

5 DELIVERY

5.1 The supplier will supply the items/materials against the purchase orders

issued on free delivery at site basis.

5.2 Supply, Installation Testing & Commissioning - Within **60 Days** from the date of issuance of Purchase Order. The IT&C should be carried out at BKDS, Sagar.

5.3 **BKDS shall have the right to purchase the number of items as per actual requirement. The quantity mentioned in the tender is indicative in nature and may increase or decrease at the discretion of BKDS.**

6 TAXES AND DUTIES

6.1 The rates shall be inclusive of GST (applicable GST in % to be indicated separately). In case of any variation in statutory levies, including GST on the finished product during the contract period, the same shall be applicable as per Government Notifications and shall be borne by the purchaser.

6.2 The item wise quoted price shall be on FOR site basis and shall include the charges for packing and forwarding, transportation, transit insurance, unloading and all other local costs incidental for delivery to their final destination, storage insurance (if asked for) and safe custody at recipient's place (If asked for), including GST.

6.3 All applicable cess, levies shall be included in the price quoted and shall be borne by the Contractor/ Supplier.

6.4 Any claim of contractor / supplier for revision in Taxes should be supported by relevant Government notification.

6.5 Any statutory recoveries, if any, shall be effected as per the prevailing rules and regulations.

7 INSPECTION, TESTS & REJECTION

7.1 **Inspection** - On placement of order, the goods/equipment under the purview of supply should be inspected by the supplier's own technical experts at the supplier's works and such inspection report should be forwarded to BKDS in triplicate. However, BKDS reserves its right to inspect at any stage of fabrication/manufacture of the equipment/material. The supplier should intimate the BKDS without fail, when the goods/equipment is ready for inspection including the stage wise inspection. The supplier should not proceed with further manufacture and/or despatch of goods/equipment, without obtaining a clearance certificate from BKDS. The supplier should forward to BKDS the Test Certificates, wherever applicable, obtained from concerned authorities/ principal manufacturers either regarding quality or any other details of the items utilised in the process of manufacture/fabrication

7.2 **Rejection :** BKDS reserves the right to reject the goods either in full or in

part, if at the time of delivery, it is noticed that the goods supplied do not conform to the specifications/ description given in the purchase order.

7.3 The rejections, if any, will be intimated to the supplier in writing within a reasonable time. The supplier will be liable and responsible to repair/ replace the rejected goods within the original delivery period. No extra payment shall be made for such replacement to the supplier/ contractor for freight, unloading and insurance etc. Till the repair/ replacement is made, the rejected goods shall be lying at supplier's risk, cost and responsibility.

7.4 If the supplier does not arrange to repair/ replace the rejected goods within the original delivery period, BKDS may dispose off such goods at supplier's risk and in the manner BKDS thinks fit.

7.5 BKDS shall be at liberty to purchase the quantity of items rejected from other parties without giving any notice and at supplier's risk & cost and recover the additional expenditure, if any, from any of the outstanding dues of the supplier/ contractor. BKDS shall be entitled to recover the expenses made by BKDS on storage and handling of such rejected goods till the goods are removed from BKDS premises/ stores.

7.6 Any loss/ damages / Insurance for the material during Transit will be to the account of supplier only.

8 WARRANTY

8.1 The supplier/ contractor must provide a warranty for a minimum period of minimum 12 calendar months from the date of commissioning of equipment for the satisfactory performance of the supplied equipment according to the designed/ rated/ installed capacity or any other norms fixed by BKDS. If the equipment remains out of order during this period, the warranty will be accordingly extended by period the equipment was out of order due to non-repair by the supplier/ contractor.

9 SUBMISSION OF BILLS & PAYMENT

9.1 Bills in triplicate stating therein the purchase order reference along with necessary copies of despatch documents are to be submitted as per instructions given in the purchase order. Unless otherwise stated, the payment shall be made by Crossed Account Payee cheque/ RTGS / NEFT according to the terms of payment mentioned in the purchase order.

9.2 **Terms of Payment:**

For supply, installation, testing & commissioning:

a. 95% payment shall be released within 30 days against safe receipt, acceptance of goods at site, successful completion of installation, testing & commissioning and against submission of original invoice.
b. Balance 5% of the total contract value shall be released within 30 days after completion of warranty period (1 year) **OR** against the submission of Bank Guarantee of the same amount valid till warranty period plus 30 days (BG to be submitted as per format approved by MPCDF/Purchaser).

NOTE: All the bank guarantees should be in the pro-forma prescribed and from a Scheduled Public Sector Bank(s) or Scheduled Private Sector Bank(s) or Scheduled Foreign Bank(s) as notified by RBI. The performance and retention bank guarantees should be ***valid till warranty period*** *plus 1 month claim period.*

The payment shall be released after receipt of **duplicate copy of PO** duly accepted.

10 INSURANCE:

10.1 In case where the purchase order is placed on "free delivery at site" basis, no insurance premium will be paid by the Purchaser. In such a case, all required insurance policies (Transit risk insurance policy, storage insurance policy, All risk policy, Workmen Compensation policy, Third Party insurance etc.) may be obtained by the supplier/ contractor to safeguard their own interests and to protect the material against transit hazards, storage (at Site) for damage/ loss.

11 LIQUIDATED DAMAGES

11.1 If the supplier/bidder fails to deliver any or all the goods or perform the services within the time period(s) specified in the purchase order/contract, Purchaser shall, without prejudice to its other remedies under the purchase order/contract, deduct from the purchase order/contract price, as liquidated damages, a sum equivalent to:

Sl. No.	Delay Period	Liquidated Damages
01	Upto 15 days	1% of the cost of delayed Goods (Set)/ Services
02	Between 16 to 30 days	2% of cost of delayed Goods (Set)/ Services
03	After 30 days	5% of cost of delayed Goods (Set)/ Services

The Purchaser may without prejudice to any other method of recovery, deduct the amount of such damages from any payment in its hands, due or which may become due to the Contractor/supplier. The payment or deduction of such damages shall not relieve the Contractor from his obligation to complete the Works, or from any other of his obligations and liabilities under the Contract.

The total amount so deducted shall not exceed 5% of the purchase order value. Once the maximum is reached, Purchaser may consider cancellation / termination of purchase order/ contract, and forfeiture of performance security and/or Retention amount.

The amount of Liquidated damages will not be adjusted or set-off against any sum payable to the successful tenderer under this or any other contract with Purchaser.

Any incremental, duty /tax levied on account of delay in performance of contract by the supplier, shall be to supplier's account.

12 Termination of Contract:

12.1 Termination for Default

(a) The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate the Contract in whole or in part:

(i) if the Supplier fails to deliver any or all of the Goods/Services within the period specified in the Contract, or within any extension thereof granted by the Purchaser;

(ii) if the Supplier fails to perform any other obligation under the Contract; or

(iii) if the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption in competing for or in executing the Contract.

(b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to Clause 13.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

BKDS shall be free to cancel the order either in full or in part, in the case of non-delivery of material/ non completion of installation/ services within the stipulated delivery period or breach of any of the clauses mentioned herein. In the event of cancellation of order, the supplier/ contractor will be liable to refund the advance, if paid. The supplier/ contractor has no right to forfeit the advance amount received by him.

12.2 Termination for Convenience

(a) The Purchaser, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.

(b) The Goods that are complete and ready for shipment within twenty-eight (28) days after the date of issuance of the termination notice, shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:

(i) to have any portion completed and delivered at the Contract terms and prices; and/or

(ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier

13 DISPUTE

In case of any disagreement or dispute arising between Purchaser & Supplier in connection with the performance of contract, purchaser and the supplier shall make every effort to resolve amicably by direct informal discussion. However, the decision of Purchaser shall be final & binding on the supplier.

14 FORCE MAJEURE:

The terms and conditions mutually agreed upon shall be subject to Force Majeure Clause. Neither the supplier/ contractor nor BKDS shall be considered in default in performance of his/their obligations hereunder if such performance is prevented or delayed because of war, hostilities, revolution, civil commotion, strike, epidemic, accident, fire, wind, flood, earthquake or because of any law, order, proclamation, regulation or ordinance of any Government or of any act of God or any other cause whether of similar or dissimilar nature, beyond the reasonable control of the party affected. Should one or both the parties be prevented from fulfilling his/their contractual obligations by a state at Force Majeure lasting continuously for a period of six months, the two parties should consult each other regarding the future implementation of the contract/purchase order.

15 ARBITRATION:

In the event of any dispute in the interpretation of the terms of this agreement/ purchase order or difference of opinion between the parties on any point in the purchase order arising out of or in connection with the agreement/ accepted purchase order or with regard to performance of any obligation hereunder by either party, the parties hereto shall use their best efforts to settle such disputes or difference of opinion amicably by mutual negotiations. In case no agreement is reached, either party may forthwith give to the other, a notice in writing of the existence of such question, dispute or difference of opinion and the same shall be referred to the adjudication of sole arbitrator to the appointed by mutual consent of both the parties, whose decision in the matter shall be final and binding on the parties. The arbitration proceedings shall be governed under the provisions of the Indian Arbitration & Conciliation Act, 1996 and the rules thereunder or any statutory modification thereof for the time being in force. In this agreement/purchase order, venue of such arbitration shall be at registered business place of Purchase.

16 JURISDICTION:

Court at Sagar, MP, alone shall have jurisdiction regarding any matter arising out of this contract/agreement.

17 OTHER TERMS:

17.1 BKDS reserves the right to reject any or all Bid without assigning any reasons. The decision of BKDS in this regard shall be final and binding on all suppliers.

Format for Contract Agreement

(On the Non-judicial Stamp paper as per the **Stamp Act of Local State Govt.)**

THIS AGREEMENT is made at _____ on the_____day of ___, 2025 between *[name and address of the Purchaser],* (hereinafter called Principal") of the one part and _____(hereinafter called "the Contractor") of the other part:

WHEREAS Bundlekhand Sahkari Dugdh Sangh Maryadit Sagar. being desirous of getting the tendered work done and accordingly the Supplier/Contractor has accepted a bid in response to the BKDS's Bidding Document Reference _____ with regards to executing the _____(description of the WO/PO), for a sum of Rs. _____ (Rupees ……) (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSTH AS FOLLOWS:

1. In this agreement words and expressions shall have the same meaning as in the Terms and Conditions as per the above referred Bidding Document.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz :
    a. the offer and price schedule submitted by the Contractor:
    b. the schedule of requirement/list of items and the technical specifications mentioned in the above referred Bidding Document:
    c. The terms and conditions mentioned in the above referred Bidding Document:
    d. The Principal's PO/Work Order No. _____dated _____

3. In consideration of the payments to be made by the Principal to the Contractor, the Contractor hereby covenants with the Principal to undertake the work (as per the tender) and to remedy defects therein in conformity in all respects with the provisions of the ARC given by the Principal and Bidding Document.

4. The BKDS hereby covenants to pay the Contractor, in consideration of undertaking the work / Mechanical and Electrical work and the remedying of defects therein, the contract Price or such other sum as may become payable under the provisions of the Work Order at the times and in the manner prescribed in the Work Order and Bidding Document.

5. Arbitration: In the event of any dispute in the interpretation of the terms of this agreement/ purchase order or difference of opinion between the parties on any point in the purchase order arising out of or in connection with the agreement/ accepted purchase order or with regard to performance of any obligation hereunder by either party, the parties hereto shall use their best efforts to settle such disputes or difference of opinion amicably by mutual negotiations. In case no agreement is reached, either party may forthwith give to the other, a notice in writing of the existence of such question, dispute or difference of opinion and the same shall be referred to the adjudication of sole arbitrator to the appointed by mutual consent of both the parties, whose decision in the matter shall be final and binding on the parties. The arbitration proceedings shall be governed under the provisions of the Indian Arbitration & Conciliation Act, 1996 and the rules thereunder or any statutory modification thereof for the time being in force. In this agreement/purchase order, venue of such arbitration shall be Sagar (M.P.).

6. Jurisdiction: Courts at Sagar, MP, alone shall have jurisdiction regarding any matter arising out of this agreement.

IN WITNESS whereof the parties hereto have caused this agreement to be executed in accordance with their respective laws the day and year first above written.

Signed, Sealed and Delivered by the said	Signed, Sealed and Delivered by the said
Authorized Signatory BKDS	Authorized Signatory (For the Contractor)
In the presence of: Witness	In the presence of: Witness
1) Signature	1) Signature
Name Address	Name Address
2) Signature	2) Signature
Name Address	Name Address

(Form of Performance Bank Guarantee - Security Deposit)

(On the Non-judicial Stamp paper as per the Stamp Act of Local State Govt.)

Performance Guarantee No.....*[insert guarantee reference number]*

Date .....*[insert date of issue of the guarantee]*

To: *[insert the name of the Purchaser/ MPCDF]*

WHEREAS _____ *[name and address of Supplier]* (hereinafter called "the Applicant") has undertaken, in pursuance of Contract No. ____ dated _____ to execute _____ *[name of Contract and brief description of Goods and related Services]* (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Applicant shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Applicant such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Applicant, up to a total of _____ *[amount of guarantee11]* _____ *[in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ *[amount of guarantee]* as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Applicant before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Goods and related Services to be supplied thereunder or of any of the Contract documents which may be made between you and the Applicant shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until.....(i.e.) 90 days following the Completion date of the Contract including any warranty obligations, and any demand for payment under it must be received by us at this office on or before that date.

Signature and seal of the guarantor _____

Name of Bank _____

Address _____

Date

_____

TECHNICAL SPECIFICATION FOR EVAPORATIVE CONDENSER WITH ELECTRICAL PANEL

1. General Description

Supply, installation, testing and commissioning of **Evaporative Condenser with electrical panel** for the refrigeration system of Bundelkhand Sahkari Dugdh Sangh Maryadit, Sagar, complete with all required accessories, equipment, fittings, piping connections and associated works on **turnkey basis**.

2. Technical Specifications

Product Type : Evaporative Condenser
Type : Induced Draft
No. of Units : 01 No.'s

Wet Bulb : 28°C

THR : Required : 468 kW ; Actual : 486 kW

Refrigerant : NH3
Condensing : 38°C

Air Volume : 45,000 CMH

Fans : 3 × 800 mm, Axial Fan, 900 rpm; Motor = 1.1 kW; 415V/3ph./50Hz

Water Flow : 36 CMH

Pumps : 1 N with 1.5 kW motor mono-block type

Coil Data : 5/8" OD 1 MM Thick SS 304L tubes

M.O.C. : Casework: SS304
Water tank : SS 304

Fans : PAG Aerofoil type

Dimensions : 3100 mm Long × 1692 mm Wide × 3621 mm High (approx.)- Foundation is already available

Electrical panel: Panel Location will be near of existing panel, electrical panel With **motor protection relay**, **Suitable starter** , With **pressure gauge and safety (2 Nos.) valves at gas inlet** *(Extension from existing NH_3 header),* **Main inlet valves, valves at pressure gauge**

Warranty: 12 months from date of commissioning

3. Scope of Supply and Work

The bidder's scope shall include the following:

1. **Supply, installation, testing and commissioning** of the complete Evaporative Condenser.
2. Supply of the condenser complete with **condenser coil, axial fans, fan motors, Electrical panel, water pump, water distribution system, water tank, supporting structure and all standard accessories, electrical cables & other** required for satisfactory operation. Electrical panel should be with suitable soft starter included cable and electrical connection etc.
3. **Unloading, lifting, shifting and placing** of the equipment at the designated installation location.
4. **Ammonia line, water line connection** (required material will have to be provided by supplier including safety relief valve and pressure gauge and any other miscellaneous items required while work)
5. Required **joining, connecting, fabrication and associated mechanical works** for complete installation.
6. Supply and installation of all necessary **valves, fittings, supports, fasteners and other accessories** required for proper functioning of the system.
7. Connection of the condenser with the available **feed-water line**, ammonia header/lines with safety and necessary equipments (with safety relief valve, pressure gauge etc)
8. Required **NH_3/Ammonia line connection** with the existing refrigeration system with necessary valves, header, safety valves and gauge.
9. All necessary minor fabrication and modification works required for proper installation and commissioning shall be included in the bidder's scope.
10. Testing and commissioning of the complete system under operating conditions.
11. The complete work shall be executed on a **Turnkey Basis** and the bidder shall be responsible for making the system fully operational.

4. Performance Requirements

The Evaporative Condenser shall be designed and supplied to achieve the required performance under the specified conditions:

- **Refrigerant:** NH_3

- **Required THR:** 486 kW
- **Design Wet Bulb:** 28°C
- **Condensing Temperature:** 38°C
- **Air Quantity:** 45,000 CMH
- **Water Circulation:** 36 m^3/hr

The bidder shall ensure that the offered equipment is suitably designed for the above operating conditions and is capable of continuous and reliable operation in the dairy plant environment.

5. Design, Construction & Quality

- All materials shall be **new and unused** and of suitable industrial quality.
- SS 304L components shall be of appropriate thickness and grade suitable for the intended refrigeration/condenser application.
- Fans, motors and pumps shall be suitable for continuous-duty industrial operation.
- All rotating equipment shall be properly balanced and aligned.
- The equipment shall be supplied complete with all necessary safety guards and standard accessories.
- The equipment shall be suitable for installation in the existing refrigeration system and compatible with **NH_3 refrigerant**.
- The bidder shall submit **technical datasheet/catalogue and GA drawing** of the offered condenser along with the technical bid.

6. Installation & Commissioning

The bidder shall be responsible for:

- Complete erection and installation.
- Mechanical connections.
- Electrical wiring and connections with necessary material
- Water connections.
- NH_3 line connections as included in the scope with required material.
- Electrical connections required for the supplied equipment, to the extent specified in the tender.
- Trial run and performance testing.

- Rectification of any defects observed during commissioning.
- Handing over of the complete operational system to BKDS.

7. Documentation

The successful bidder shall provide:

1. Technical datasheet.
2. General Arrangement (GA) drawing.
3. Operation & Maintenance manual.
4. Equipment test certificates, wherever applicable.
5. Motor/pump/fan details.
6. Warranty certificate.
7. Recommended spare parts list.
8. Installation and commissioning report.

8. Warranty

The supplier shall provide a **minimum 12 months warranty from the date of successful commissioning/handing over** against manufacturing defects and defects arising from faulty workmanship/material, unless a higher warranty period is offered by the bidder.

Note: The bidder shall quote a **complete turnkey price** covering supply, transportation, unloading, lifting, installation, testing, commissioning, connections, fabrication, fittings and all other works/items necessary for satisfactory operation of the Evaporative Condenser, unless specifically excluded in the tender.

9. **Advisory:** Visit the Site before quoting rates

Additional Points:

1. PERFORMANCE REQUIREMENTS

• Performance shall be demonstrated during commissioning/trial operation to the extent practicable under prevailing site conditions. Where actual ambient

conditions differ from design conditions, the bidder shall submit the manufacturer's correction/performance calculation.

2. COIL AND REFRIGERANT CIRCUIT

- The condensing coil shall be SS 304L and suitable for NH■/R717 service. Tubes shall be 5/8 inch OD with minimum 1.0 mm wall thickness, unless the manufacturer's standard design requires equal or higher construction.
- The coil shall be designed for the applicable NH■ operating pressure, temperature and service conditions. The bidder shall declare the design/working pressure and applicable design standard in the technical datasheet.
- Coil headers, connections, supports and joints shall be suitable for ammonia refrigeration service. The bidder shall provide pressure/leak testing of the refrigerant circuit as applicable before charging/commissioning.
- All refrigerant-side materials shall be compatible with NH■ and shall be supplied with appropriate valves, fittings and accessories within the bidder's scope where required for complete installation.
- All refrigerant lines to be jointless without any welded joints or flanges in view potential occupational hazard (Leakage prevention is sole purpose).

3. FAN AND AIR-SIDE REQUIREMENTS

• Three (3) axial-flow fans of approximately 800 mm diameter each shall be provided. Each fan shall be complete with suitable motor, hub/blades, guard and mounting arrangement.

• Fan motors shall be suitable for 415 V, 3 Phase, 50 Hz electrical supply and continuous industrial operation. Individual motor rating shall be 1.1 kW or higher if required by the approved manufacturer's design to achieve the specified performance.

• Fans shall be dynamically balanced and properly aligned. Guards shall be provided for all exposed rotating parts.

• Total air quantity shall be minimum 45,000 m^3/hr at the specified operating condition. The bidder shall submit fan performance curves/data with the technical offer.

4. WATER CIRCULATION SYSTEM

• One (01) recirculating water pump shall be provided. Required recirculating spray water flow shall be 36 m^3/hr minimum, with pump head selected by the bidder based on the approved hydraulic design.

• The pump shall be suitable for continuous operation and shall include all required suction/discharge fittings, isolation valve, strainer, non-return valve and other standard accessories necessary for proper operation.

• Pump motor shall be 1.5 kW or as required by the approved manufacturer's hydraulic selection to achieve the specified flow and head. Motor shall be 415 V, 3 Phase, 50 Hz unless otherwise approved.

• Water distribution system shall provide uniform spray over the condenser coil. Nozzle/orifice arrangement shall be accessible for inspection and cleaning.

• Water basin/tank shall be SS 304 and shall include drain, overflow, make-up-water connection, level arrangement and other standard fittings necessary for operation.

• Make-up water requirement shall be stated separately by the bidder; the specified 36 m^3/hr is the recirculating water flow and shall not be interpreted as make-up water consumption.

5. MATERIAL OF CONSTRUCTION AND FABRICATION

• All materials shall be new and unused and of suitable industrial quality.

• Casing/casework and water basin shall be SS 304. Condenser coil shall be SS 304L.

• All structural members, supports and fasteners shall be corrosion-resistant and suitable for the installed environment. Where dissimilar metals are used, suitable measures shall be taken to prevent galvanic corrosion.

• Fabrication shall be neat, rigid and free from sharp edges, distortion and workmanship defects. All rotating equipment shall be properly balanced and aligned.

• All exposed rotating parts shall have suitable safety guards.

6. DIMENSIONS AND INSTALLATION

• Approximate dimensions are 3100 mm (L) × 1692 mm (W) × 3621 mm (H). Final dimensions shall be as per the manufacturer's approved GA drawing.

• **The bidder shall verify the available site space, access route, lifting arrangement, foundation/support requirements and connection points before finalizing the equipment.**

• Any deviation from the stated dimensional envelope that affects installation shall be clearly identified in the technical bid and shall require purchaser approval.

• All unloading, lifting, shifting, positioning, erection, alignment and placement at the designated location shall be in the bidder's scope.

7. ELECTRICAL AND CONTROL REQUIREMENTS

- All motors shall be suitable for 415 V, 3 Phase, 50 Hz supply and continuous-duty operation.
- Motor protection, isolation and starting/control arrangements shall be provided as required by the approved electrical design and tender scope.
- All supplied electrical equipment shall be properly earthed. Cable termination, glands, lugs, local isolators and control wiring within bidder's scope shall be complete and safe.
- Fan and pump operation shall be arranged so that the equipment can be safely started, stopped and maintained. Required interlocks/protection shall be included as applicable.
- The bidder shall clearly state all electrical load requirements and recommended upstream protection in the technical offer.

8. INSTALLATION, TESTING AND COMMISSIONING

•The bidder shall be responsible for complete erection and installation of the supplied equipment.

• All mechanical, water and NH■ connections included in the scope shall be completed and tested.

• Pressure/leak testing of refrigerant-side connections shall be carried out in accordance with the applicable approved procedure before putting the system into service.

• Water circulation shall be checked for correct flow, distribution and absence of leakage.

• Fans and pump shall be checked for rotation, vibration, noise, current draw, alignment and safe operation.

• A trial run shall be carried out under operating conditions. Any defect observed during commissioning shall be rectified by the bidder at no additional cost.

• After successful commissioning, the complete operational system shall be handed over to BKDS.

• Protection – Provision for Protection of unit with sturdy foundation and covering of unit against heavy rain or storm/high speed wind conditions.

9. QUALITY STANDARD OF EQUIPMENT/PARTS

All components of the Evaporative Condenser, including fan, motor, tubes, electrical panel, control panel and other associated components, shall conform to the applicable relevant Indian Standards (IS) and shall have the required IP rating as per the applicable standards.

10. PERFORMANCE ACCEPTANCE

- The offered condenser shall have a manufacturer's rated minimum THR of 486 kW at 28°C design wet-bulb temperature and 38°C condensing temperature.
- The bidder shall provide the manufacturer's certified performance selection/rating sheet for the offered model.
- Final acceptance shall be based on satisfactory installation, safe operation, required water/air circulation, absence of leakage/abnormal vibration and demonstration of the specified performance to the extent that site conditions permit.
- If the trial conditions differ materially from the design wet-bulb temperature or other specified parameters, performance shall be evaluated using the manufacturer's approved correction methodology.

11. DOCUMENTS TO BE SUBMITTED BY SUCCESSFUL BIDDER

1. Manufacturer's technical data-sheet and detailed equipment selection/rating sheet.
2. General Arrangement (GA) drawing showing overall dimensions, weights, connection sizes and maintenance clearances.
3. Fan data including fan curve/air quantity, speed and motor details.
4. Pump data including flow, head, motor rating and performance curve.
5. Coil construction details, MOC, tube size/thickness and declared design/working pressure.
6. Electrical load schedule and motor details.
7. List of deviations from this specification, if any. If no deviation is stated, the offer shall be deemed compliant.
8. Relevant quality/test certificates wherever applicable.
9. Operation and Maintenance (O&M;) manual.
10. Equipment/factory test certificates wherever applicable.
11. Motor, pump and fan details

12. . Warranty certificate.

13. Recommended spare parts list with quantities.

14. Installation and commissioning report.

15. Performance/trial run report.

12. SAFETY AND COMPLIANCE

- All equipment shall be designed and supplied for safe industrial operation.
- All exposed rotating equipment shall be guarded.
- All NH■-side components and connections shall be suitable for ammonia service.
- The bidder shall comply with applicable statutory safety requirements, relevant Indian/IEC standards and good engineering practice applicable to the supplied equipment.
- Any pressure-relief or safety device required by the applicable design/code for the offered equipment shall be provided as part of the manufacturer's standard safe design.

13. TURNKEY RESPONSIBILITY

The complete work shall be executed on a turnkey basis. The bidder shall be responsible for supplying all equipment, accessories, fittings, supports, consumables, minor fabrication, connections, installation, testing and commissioning necessary to make the evaporative condenser fully operational, except items expressly identified in the tender as being in the purchaser's scope. No additional claim shall be entertained for items reasonably necessary for satisfactory operation but omitted from the bidder's offer, where such items are part of the normal complete system design.