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भारत सरकार, रक्षा मंत्रालय, रक्षा अनुसंधान एवं विकास संगठन
Govt of India, Ministry of Defence, Defence R&D Organisation
मुख्य निर्माण अभियंता (अनुसंधान एवं विकास) सम्पदा, उत्तर, चंडीगढ़
Chief Construction Engineer (R&D) Estates, North, Chandigarh
एम्-1026, सेक्टर 29A, चंडीगढ़ - 160030
M-1026, Sector 29A, Chandigarh - 160030

REF NO.: CCE(R&D)EN/PMG-II/DEL/AC PLANT-AGRA/1032/26-27

Dated: 13 MAY 2026

NOTICE INVITING e-TENDER/ TENDER ENQUIRY

**“REPLACEMENT OF WORN OUT 2X50 TR CENTRAL AC PLANT AND 1X50 TR STAND BY CENTRAL AC PLANT
INSTALLED AT TECHNICAL AREA AT ADRDE AGRA”**

Dear Sir(s),

1. On behalf of President of India, e-Tenders are invited for the subject work as per the scope of works and terms & conditions given in the tender enquiry. e-tenders are to be submitted online on the Central Public Procurement Portal web site <https://eprocure.gov.in> as per the dates mentioned in the tender inquiry. The Scope of Work is attached at Appendix 'B'

a)	Name of Work	Replacement of Worn Out 2x50 TR Central AC Plant and 1x50 TR Stand by Central AC Plant Installed at Technical Area at ADRDE Agra
b)	Tender Enquiry No.	CCE(R&D)EN/PMG-II/DEL/AC PLANT-AGRA/1032/26-27
c)	Estimated cost put to Tender	₹ 1,28,51,159.00 (Rupees One Crore Twenty Eight Lakhs Fifty One Thousand and One Hundred Fifty Nine Only)
d)	Type of Contract / work order:	Open Tender Enquiry (OTE) amongst the enlisted agencies.
e)	Type of Contract:	Percentage Rate Contract
f)	Cost of tender documents	NIL
g)	Amount of Earnest Money Deposit (EMD)	Rs. 2,57,023.00/- (i.e., @ 2% of the estimated cost put to tender in the form of Bank Guarantee / Insurance Surety Bond/ FDR / TDR from the Scheduled bank in favour of “CCE (R&D) Estates, North Chandigarh” payable at Chandigarh. The legible scanned copy of EMD to be uploaded online on CPP Portal in Cover No.1 and original to be forwarded offline to this office before the due date i.e. before closing date of submission of hard copies for technical bid (Cover-1), otherwise the tender will be treated as non-Bonafide and will not be considered for Technical Evaluation. Note: i) A part of earnest money is acceptable in the form of bank guarantee, Insurance Surety Bond. In such cases 50% of the earnest money or Rs. 20 Lakhs whichever is less, will have to be deposited in the form prescribed above and balance can be accepted in the form of Bank Guarantee issued by a scheduled bank. ii) EMD in the form of Demand Draft / Banker's Cheque shall not be accepted as its validity is not upto 120 Days as asked. (PI Ref: Para 1 (j))

CRITICAL DATE		
h)	Date and time of publishing of e-tender documents	13 MAY 2026 (Wednesday) at 1800 hrs
	Date & time of downloading of e-tender documents	13 MAY 2026 (Wednesday) at 1830 hrs
	Pre-Bid Meeting at the office of CCE (R&D) Estates, North at Chandigarh	18 MAY 2026 (Monday) at 1500 hrs
	Starting date and time of bid submission	21 MAY 2026 (Thursday) at 1800 hrs
	Closing date and time of bid submission	01 JUNE 2026 (Monday) at 1500 hrs
	Closing date of submission of hard Copies of Cover-1 (Technical bid including all eligibility criteria documents)	03 JUNE 2026 (Wednesday) at 1730 hrs
i)	Date and time of opening of technical bid (Cover-1)	04 JUNE 2026 (Thursday) at 1100 hrs
j)	Date and time of opening of price bid (Cover-2)	Will be made available online to the eligible bidders after completion of evaluation of Technical Bid.
k)	Validity of Tender/ Bids	120 Days from date of submission of bid
l)	Accepting Authority	CCE (R&D) Estates, North, Chandigarh
m)	Next Higher Engineer Authority	DCW&E HQ, New Delhi
n)	Completion Period	Six (06) Months
o)	Procedure for submitting Tender	<p>(a)The bidder will upload the tender in two covers on CPP Portal in ONLINE mode.</p> <p>i) <u>Cover-1</u> – Technical bid consisting of Eligibility criteria documents as per Table-A to Appendix-'A' (as applicable)</p> <p>ii) <u>Cover-2</u> – Financial bid/ Price bid.</p> <p>iii) On the due date & time of bid opening of the Cover-1, Technical Bid 'Eligibility Criteria Documents' submitted in Cover-1 will be opened and processed.</p> <p><u>Notes:</u> -</p> <p>aa) Technical Bid documents of COVER-1 to be received / submitted in HARD COPY at the office of CCE (R&D) Estates, North, Chandigarh before the prescribed due date and time. (Ref: Para 1 (h) above)</p> <p>ab) No documents pertaining to Cover-2 (Price Bid) shall be submitted in hard copy. Bids with hard copy of price bid will be Rejected.</p>

2. Eligibility Criteria:

- a) All agencies enlisted with **DCW&E under Composite Class-III / Class-II / Class-I / Class-I(A) / Class-I(AA) / Class-I(AAA) / Class-I(Super) & Enlistment Estate Management and Maintenance (DRDO-2024) under BIM-I, BIM-II, BIM-III categories** are eligible for participation in the tender. Copy of mandatory documents required as per Table-A to be submitted & uploaded in Cover-I.

- b) Tenderers are advised to note the following: -
- i. Application not accompanied by any of the requisite documents given in Table – A of Appendix A are liable to be rejected. **Conditional offers will also be rejected.**
 - ii. In any case, hard copy of **price bids** shall not be submitted, or else, tender bid will be liable for rejection.
 - iii. **Hard copies of technical bid documents shall be forwarded by due date.**
 - iv. **Submission of EMD as applicable as per NIT Clause No. 1(g) in original (Hard Copy) is mandatory by due date and time, failing which the tender will be rejected.**
 - v. Acceptance of Terms & Conditions of Tender (**Annexure – I to NIT**).
 - vi. Copies of Enlistment letters with DCW&E in appropriate category & class.
 - vii. **Bidding Capacity as per Form ‘A’.**

3. **Earnest Money Deposit (EMD):**

- (a) 02 %(Two) of the estimated value of Tender specified shall be submitted as EMD in the form of Bank Guarantee / Insurance Surety Bond / FDR / TDR from the Schedule / Nationalized bank in favour of “**Accepting authority as defined and payable at his office location i.e. Chief Construction Engineer, CCE(R&D) Estates, North, Chandigarh.** Copy to be uploaded online in Cover No.1 and original to be forwarded offline to this office before the due date i.e., before closing date of submission of hard copies of Technical Evaluation Bid (Cover No. 1) otherwise the tender will be treated as non - bonafide and will not be opened. A part of earnest money is acceptable in the form of bank guarantee also. In such cases 50% of earnest money or Rs. 20.00 lakhs whichever is less, will have to be deposited in the shape of FDR and balance can be accepted in form of bank guarantee issued by a scheduled bank. **The EMD submitted as a part of Earnest Money shall be valid for a period of Bid Validity i.e. 120 (one hundred and twenty) days or more from the closing date of submission of the tender.**

- (b) **Forfeiture of Earnest Money:** - If any Bidder withdraws his Tender before the expiry of the validity period of tender, or before the issue of letter of acceptance, whichever is earlier, or makes any modification in the terms and conditions of the Tender which are not acceptable to the department, then the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the Earnest Money absolutely. If contractor fails to furnish the prescribed Security Deposit within the prescribed period, the earnest money is absolutely forfeited to the President automatically without any notice. In case of forfeiture of Earnest Money as prescribed above, the Bidder shall not be allowed to participate in the e-tendering process of the work. In case the contractor fails to commence the work specified in the tender documents on the 15th day of such time period as mentioned in letter of award, after the date on which the engineer-in-charge issues written orders to commence the work, or from the date of handing over of the site, whichever is later, the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit whole of the earnest money absolutely. If only a part of the work as shown in the tender is awarded, and the contractor does not commence the work, the amount of the earnest money to be forfeited to the Government should be worked out with reference to the estimated cost of the work so awarded. **Tender not accompanied with required Earnest Money shall be liable to rejection.**

- (c) **Refund of Earnest Money:** - The earnest money given by all the bidders except the lowest bidder should be refunded immediately after the expiry of stipulated bid validity period or immediately after acceptance of the successful bidder, whichever is earlier. However, in case of two/three Bid system, the earnest money deposit of bidders unsuccessful during technical evaluation should be returned within 30 days of declaration of result of technical bid evaluation etc. Earnest money Deposit shall be refunded on receipt of Performance Guarantee submitted on award of work. Earnest Money Deposit (EMD) provided by bidders in a tender process will not accrue any interest while held by the procuring entity.

4. **Bidding Capacity**

Bidding Capacity (applicable to enlisted bidder in DCW&E) The bidder should possess the bidding capacity as calculated by the specified formula.

Available bid capacity = $(A \times N \times 2) - B$, where

A = Maximum value of Civil Works (civil works as relevant to work being procured) works executed in any one

year during the last Seven years (updated at the current price level), taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of the work in question.

B = Value (updated at the current price level) of the existing commitments and ongoing works to be completed in the next 'N' years.

Note: -

- i. The bidding capacity of the bidder obtained from above formula should be equal to or more than the estimated cost of the work put to tender.
- ii. In case the tenderer is lowest, the tendered amount will be considered as his workload for the purpose of calculating the bidding capacity in subsequent tenders issued by CCE(R&D) / EMUs. The subsequent tenders will be considered if he meets the bidding capacity criteria.
- iii. The bidder shall submit the Bidding Capacity as per the formula above along with supporting documents i.e., copies of LOI / Work Order for all work specified as per formula for bidding capacity.
- iv. All bidders must follow the terms and conditions of the ORDER No. P-45021/2/2017-PP (BE-II) dated: 16 Sep 2020, issued by Ministry of Commerce and Industry, Department for Promotion of Industry and Internal trade for apply of bid. The bidder shall also submit the certificate as per the Clause No. 9 of the referred order.
- v. **The Bidder shall submit the calculation of bidding capacity and also submit the value of existing commitments and ongoing works to be completed during the period of completion of this work duly certified by the Chartered Account (Form-A)**

(Scanned Copy of Documents from original shall be uploaded online and original to be submitted offline before due date of opening of Cover – I (Technical Bid).

***Un-enlisted bidders will not be considered.** Uploading of bid doesn't constitute any guarantee for the opening of the Technical / Financial Bid. The opening of bids will be decided by the competent authority based on the fulfilling of eligibility criteria. Accepting officer is the sole authority for the purpose of this tender.

5. Value of Tender /Work:

- (a) The Estimated Cost as mentioned in 1 (c) Estimated Cost Put to Tender includes Contractor Profit and Over Heads and Taxes levied along with man and material costs.
- (b) The value of work will be quoted bid price on the BOQ which includes Contractor Profit, Over Head, Taxes etc. as applicable.

6. General Guidelines:

All bids (Technical and Financial) should be uploaded in the Central Public Procurement Portal (e-procurement) (<https://eprocure.gov.in>) only. No manual price bids will be accepted. Corrigendum and addendum (if any) will be uploaded on Central Public Procurement Portal (e-procurement) (<https://eprocure.gov.in>). Bidders are advised to visit web page and update themselves. All revisions, clarifications, Corrigendum/addendum are the part of tender documents and bidders are supposed to upload the same, duly digitally signed by the legal owner of the Firm or the person authorised by him to do so as per the guidelines given in the tender enquiry.

7. Bid Submission at Office of the Accepting Authority:

- (a) Any agency enlisted with DCW&E in appropriate Class & Category willing to take part in the process of e-Tendering will have to be enrolled & registered with the Government e-Procurement portal [.https://eprocure.gov.in](https://eprocure.gov.in).
- (b) Bidders to obtain **Digital Signature Certificate**, from the approved service provider of the **National Information's Centre (NIC)** on payment of requisite details and available at the Web Site.
- (c) **Bids shall be submitted online only at CPP Portal web site:** <https://eprocure.gov.in> by the time specified in the tender enquiry. Prospective Contractors are advised to start uploading process well in time and not leave it to the last minute as same may take time because of the data involved. If the date

of opening of tenders happens to be a public holiday, then the tenders will be opened on next working day at the same time and place. Bidder / Contractors are advised to follow the instructions provided in the “**Instructions to Bidder**” for the e-submission of the bids online through the Central Public Procurement Portal for e-Procurement at <https://eprocure.gov.in> before proceeding with the tender.

- (d) **Bidders should quote as per the Price Bid format in excel sheet and in the allotted space only. In no case, price Bids shall be submitted in Hard Copy.**
- (e) **Submission of Hard Copy Documents:**
- i) **In order to consider e-bids for the subject work, the following documents are to be submitted in hard copy by bidders in the office of Accepting Authority by due date and time positively, failing which the firm can be rendered ineligible for the opening of financial bid.**
 - ii) **Submission of EMD as applicable as per NIT Clause No. 1(g) in original (Hard Copy) is mandatory by due date and time, failing which the tender will be rejected.**
 - iii) **Proof of enlistment in appropriate Class & Category in DCW&E, New Delhi.**
 - iv) **All requisite applicable documents pertaining to Eligibility Criteria and Technical Evaluation as required for eligibility as stated in Respective clauses of this tender enquiry. (Refer Appendix-A)**
 - v) **The hard copy of eligibility criteria & Technical bid shall be submitted in one sealed envelope Cover-1 and should reach the following address on or before the expiry of the prescribed time limit.**
 - vi) **The office of Accepting Authority takes no responsibility for delay, loss or non-receipt of bid / documents sent by post / courier. EMD sent through Fax or Email shall not be accepted.**

Address for Correspondences
CCE (R&D) Estates, North, Chandigarh,
M-1026, Sector 29-A
Chandigarh – 160030
Email: - cceestn.estates@gov.in

8. Expenses for Tender Preparation:

For the preparation and submission of tender, bidder shall Not be entitled to any cost expenses or other claims whether the tender is accepted or rejected or invitation to tender withdrawn or cancelled.

9. Incomplete Tenders:

The scope of work, terms and conditions and other details have been specified in the tender documents. Bidder shall prepare and submit his tender keeping in mind the completeness of works indicated in the tender documents. Any tender Not quoting for the complete work as per tender documents or is otherwise incomplete or is Not in compliance with the tender documents shall be liable to rejection.

10. Tenderer Not to Resile:

- i) Bidder shall not resile from this technical, commercial and price offer. Should the bidder resile from his tender in any manner whatsoever the tender submitted by him shall be liable to rejection. Bidder shall be allowed to revise his offer only if specifically, so requested by the owner.
- ii) If any discrepancy is noticed between the Eligibility documents as uploaded at the time of submission of Bid and hard copies as submitted physically in the office of Tender Inviting Authority by due date and time, the evaluation will be done on the basis of uploaded documents only. However, if any requisite document is not found in hard copy, **the same may be referred from the uploaded document in the Portal.**
- iii) Clarifications, if any required to be sought on the submitted documents may be obtained through email or through portal regarding eligibility of agencies.

- iv) Bidder / Bidders should submit / upload in the Portal, the entire Tender Enquiry document, digitally signed along with all corrigendum / addendums, if any published later on, as it is downloaded from the Portal, as a token of acceptance, in the appropriate given cover only.
- v) Tender document in which the Tender is submitted by a Bidder shall become the property of the Employer and the Employer shall have no obligation to return the same to the Bidder.

11. Details of Work:

Agencies are requested to clearly understand the scope of work, location and details of manpower to be positioned and nature of duty, etc., before participating in the tender. Agencies are advised to inspect their own option, and site of work and acquaint themselves with the working conditions including constraints and collect all necessary information for carrying out the work. The works are to be executed at **ADRDE, Agra** and Police verification has to be obtained for all staff / persons deployed under the contract prior to physical deployment at the site.

12. Site Inspection/ Clarifications:

a) Clarifications on all aspects of the tender including specifications etc., shall be got done during the pre-bid meeting which will be held as per details given in Para 1 (h) above and any reply for the clarifications shall be uploaded by the Dept. before start of Bid Submission.

b) Bidders are advised to visit the site and understand the site conditions and security restrictions and requirements for the manpower to be engaged for the work and acquaint themselves with the working conditions including constraints, if any, and collect all necessary information for estimating the exact quantum/ nature of work involved for carrying out the work satisfactorily **before quoting their rates**. The bidders shall submit their intention in writing along with Nos of persons, their details and proposed dates of visit (minimum two such dates to be given). It is intimated that organising such site visit by the bidders may take a few days for the department. The bidders may contact the tender issuing authority, whose contact details; e-mail, address and contact numbers are given below for any clarifications:

For Site Visit	For Clarification regarding tender and Pre-Bid Meeting
Name: Ms. Neha Choudha, Deputy CCE, Estate Manager, EMU (R&D), Delhi Phone Office: 011-23932633 Email Id: emurnd.delhi@gov.in	Sh. UVP Siva Rama Krishna, Deputy CCE, Phone Office: 0172-2672000/ 2672050 Email id: cceestn.estates@gov.in

13. Modification and Withdrawal of Bids: -

- a) A bidder may modify or withdraw his bid online till deadline prescribed for submission of bids. **Withdrawal of a bid after last date of submission and physical receipt of the EMD will call of forfeiture of the EMD as per respective clauses.**
- b) No request for transfer of any previous deposit of earnest money or security deposit or payment of any pending bill held by the Office of Chief Construction Engineer (R&D) Estates, North, Chandigarh, in respect of any previous work will be entertained.
- c) Bidder shall not be permitted to withdraw his offer or modify the terms and conditions thereof. In case the bidder fails to observe and comply with the stipulations made herein or backs out after quoting the rates, the aforesaid bank guarantee will be forfeited and bidder may be declared as defaulter and liable for blacklisting / ban.

14. Rejection of Bids: Canvassing by the Bidder in any form, unsolicited letter and post-Tender correction may invoke summary rejection with forfeiture of EMD. Conditional Tenders will be rejected.

15. Bidders may note that they are liable to be disqualified at any time during tendering process in case any of the information furnished by them is not found to be true. EMD of such bidder shall be forfeited. The decision of Chief Construction Engineer (R&D) Estates, North, Chandigarh in this regard shall be final and binding.

16. All entries in the tender forms / annexures should be legible and filled clearly. If the space for furnishing information is insufficient, a separate sheet duly signed by the authorized signatory may be attached. Minor

correction, if any, made in the form will be allowed only if the same is endorsed by the bidder with his signature.

17. No modification or substitution of the submitted bids shall be allowed. The Office of Accepting Authority reserves the right to retain bids once submitted. It is clarified that bids once submitted will not be returned to the bidder.
18. A bid (Price bid) submitted without the cost and incomplete or conditional bids shall also be not considered and will be out rightly rejected in the very first instance.
19. **If any bidder is found to have business or family relationship with any employee DCW&E (CCE's / EMUs included), his bid will be rejected. A declaration to this effect shall be provided by the bidder along with Prequalification Bid.**
20. The Bids shall be opened on the Central Procurement Portal (e-procurement) on the scheduled date and time as specified. No separate intimation shall be sent to bidders for the same.

21. **Validity of Offer:**

The validity of the offer shall be **120 days** from the date of submission of bid. If any bidder withdraws his tender within the validity period or makes any modifications in terms and conditions of the tender and / or rates after submission of tender does not start the work within stipulated period from the date of issue of letter of acceptance, then Chief Construction Engineer (R&D) Estates, North, Chandigarh, shall without prejudice to any other right or remedy, be at liberty to forfeit the earnest money deposited (EMD) by the bidder. In case of forfeiture of EMD, the bidder shall be debarred from bidding in case of re-invitation of the tender.

Note: The L-1 tenderer is bound to accept the tender and execute / perform the work as envisaged in the tender documents. In case of unwillingness to perform / execute the work or withdraws his L-1 offer due to any reason including incorrect / wrong quoting, the firm will be debarred to participate in any future tender for a minimum duration of one year or as per decided by the accepting authority.

22. **Period of Completion:**

The entire Scope of work under this contract / Job Work Order is to be completed within **Six (06) Months** from the date of commencement as given in Contract Agreement / Job Work Order. However, extension period if any beyond the original PDC will be considered on recommendation of Project Manager / Engineer in Charge on situation beyond control of contractor.

The work is required to be completed within a period as specified in the **NIT** from the date of issue of letter of acceptance and the contractor shall not be allowed any extension of completion time except in force majeure as given in GCC.

23. **Amount to be quoted & acceptance of tender:**

- (a) The bidder shall quote only in percentage over Total Amount of BOQ of tender uploaded in excel format. Any other obligatory charges which are not considered in estimated cost of tender to be considered by bidder in the percentage quoted.
- (b) In the Bill of Quantities (BOQ), while quoting, the bidders shall select the 'Excess (+) or Less (-)' button and after entering their quoted percentage value ensure that the value in the "Total Amount" column is increased / decreased from the estimated value of the tender. Entry up to ONLY two decimal points in the quoted percentage is desirable & restricted as the lower percentage value is automatically rounded off to two decimal points in display by the system while preparation of CST. In case of any discrepancy between the displayed values of "Quoted Percentage" and "Quoted Rate" in the CST prepared by the system, the value of quoted percentage, as displayed in the excel sheet uploaded by the bidders will be treated as final and binding.
- (c) In case, the quoted amount of two or more tenderers are same and also the lowest, then L1 will be decided after obtaining revised offer in sealed covers from such tenderers by the Board of Officers. The revised offer shall not be more than the original quoted amount.
- (d) If in the above case, it is found by the board of officers that the amount as per the revised offer is again equal, then the lowest tender will be decided by draw of lots by the same board of officers. The tenderer or their authorised representatives may attend the Draw of Lots, the date and time of which will be communicated through e-mail.

24. Financial Commitment

This Tender Enquiry is being issued with no financial commitment and the Accepting Authority reserves the right to change or vary any part thereof at any stage including withdrawal of the Tender Enquiry, if it becomes necessary at any stage.

25. Execution of Work

The work will be executed in accordance with the provisions of this Tender Enquiry and relevant clauses of “**General Conditions of Contract (GCC) 2023 as applicable to R&D Construction Establishment (RDCE 2024)**” and **Special Terms and Conditions as attached**. In case of any ambiguity, the terms and conditions the GCC-2023 will take precedence over other conditions and shall be governed by Article No 1.26 of GCC-2023. CCE (R&D) Estates, North, Chandigarh reserves the right to amend / cancel or modify any terms / conditions of contract, partially / fully during the currency of the contract due to any reason.

26. Clarifications/ Interpretations:

(a) The bidder shall carefully study the complete quotation/ tender documents and other connected documents including general and special conditions etc. and completely acquaint themselves with all documents and their contents therein. Clarifications required, if any shall be obtained from the Department before submitting the bid, so as to avoid misinterpretation of facts by the contractor. Ambiguity, if any, shall be got clarified from the Chief Construction Engineer(R&D) Estates North, Chandigarh, Accepting Authority, well in advance. In case of any query / clarification, the same may please be got clarified well before quoting for the tender. No presumption/ assumption / misinterpretation shall be accepted if contrary to the tender condition. **No representation/ explanation will be entertained in this regard at later stage. Bidders are advised to seek clarifications if required, well before submission of the bid.**

Please note that conditional quotations will be rejected, and no representation will be entertained. The decision of the Chief Construction Engineer (R&D) Estates, North, Chandigarh, Accepting Authority will be final and binding in this regard.

(b) **Accepting Authority**, shall have the right to amend, delete / add to the various provisions in the Tender documents or withdraw / cancel the invitation to tender without assigning any reason. The amendments / errata issued by the **Accepting Authority** shall be read carefully in conjunction with the Tender documents and shall be submitted along with Tender documents as a part thereof. The contract price / rate / amount shall be deemed to have been worked out considering amendment / errata also.

27. Acceptance of Tender by Owner/ Accepting Authority

(a) OWNER shall Not be bound to accept the lowest or any tender or to assign reasons for Non acceptance of any Tender. OWNER also reserves the right to accept a tender either in whole or in part. Breakup of prices/ items rates shall be binding on the tenderer even in the case of acceptance of a tender in part.

(b) The CA shall be accepted by the CEA after approval of the appropriate Tender Committee. The running bills of the CA shall be audited and passed for payment by AO/AO of DAD. The final bill of the CA shall be audited and passed for payment by CDA/PCDA.

28. Notice to Local Authorities during Execution

The contractor shall be responsible for giving all necessary notices to the local authorities while the work is in progress. He shall also be responsible for the adequate lighting at any place and clear any heap of materials or other obstacles which may be dangerous or nuisance to the public.

29. Contract Agreement

As per Para 92 of RDCE WP 2024 in respect of works with estimated value more than Rupees 50 Lakhs, a contract agreement shall be executed on stamp paper with the contract document having all necessary clauses including GCC, scope of work, specifications, other conditions of the tender, Letter of Acceptance etc to make it a self-contained contract. Contract Agreement will be signed between the successful bidder and the CCE (R&D) Estates, North, Chandigarh. As per Article 1, Para 1.35 of the General condition of the contract all the clauses of these tender documents and amendments issued subsequently will for a part of this Agreement. Format of the Contract agreement is attached as **Appendix- 'H'** to this section.

30. Security Deposit (GCC Article 6.2)

- (a) The contractor shall submit an initial security deposit of **2.5% (Two-point five percent)** of the initial contract price in the form of a bank Guarantee bond, fixed deposit receipt (FDR), Insurance Surety Bond etc. of any scheduled commercial bank within 21 days of letter of Intent (LOI) with initial validity up to 90 days beyond the completion of defect liability period (DLP) of the contract. However, in case the date of completion of DLP gets extended or date of issue of "Final acceptance certificate" is 90 days beyond original DLP, the Bank Guarantee for Security Deposit shall be released after completion of extended DLP, issue of "Final Acceptance Certificate" and submission of "No Demand Certificate" by the Contract.
- (b) In case of increase in contract sum, the additional 2.5% of the increased contract sum shall be deposited in the form of bank Guarantee Bond/FDR/Insurance Surety Bond towards Security Deposit with validity up to 90 days beyond the completion of Defect Liability Period (DLP).

31. Performance Bank Guarantee (PBG) refer GCC Article 6.12.

32. Additional Performance Security Deposit:

L1 bidder whose bid price is below 10% of the Project cost put to tender will be required to submit additional security deposit as under: -

- (a) Where the bid price is below 10% but not below 20% of the project cost put to bid. The additional performance guarantee/security percentage shall be incremented by 0.1% for every percentage of bid price below 10% of the project cost put to bid starting of 11% with additional bid performance guarantee being 0.1% and this additional performance guarantee percentage shall be applied on the bid price.
- (b) Where the bid price is below 20% but not below 20% of the project cost put to bid. The additional performance guarantee/security percentage shall be incremented by 0.2% for every percentage of bid price below 20% of the project cost put to bid in additional to 1% of the bid price and this additional performance guarantee percentage shall be applied on the bid price.
- (c) The additional performance guarantee percentage shall be rounded off to the next lower percentage based on whether the decimal point of the percentage of bid price is below 0.5% or next higher percentage based on whether the decimal point of the percentage of bid price is 0.5% or more.
- (d) The additional performance security shall be treated as part of the performance security.

33. Opening of Tender

Tender shall be opened as per the dates published and amended in the e-Tender please. Refer e-Procurement Portal for the same.

34. Acceptance of Terms & Conditions of Contract

The vendor has to *accept all terms & conditions of the contract* and issue a certificate to the effect as per Annexure - I of the tender. Non submission of the tender this certificate with Cover – I of tender will lead to rejection of Bid.

35. Failure of L1 Tenderer to Accept Contract

- (i) The L1 tenderer is bound to accept the tender and execute / perform the work as envisaged in the tender documents. In case of unwilling to perform / execute the work or withdraw his L1 offer due to any reason including incorrect / wrong quoting. The Firm will be debarred to participate in any future tender for a minimum duration of one year or period as decided by accepting authority.
- (ii) Apart from the above, the complete EMD amount will be forfeited and the same will be deposited into Government treasury accordingly. No representation will be entertained in this regard. The decision of the accepting authority is final and binding.

36. Justification / Rate Analysis:

Where the overall bid price is below 10% of the cost put to tender the lowest bidder may be required to submit detailed justification / rate analysis of Major Components, Labour, Materials and profit margin consideration including Assurance of Quality Control measures to maintain specified and quality standards and timelines without compromising on safety, specifications and contractual obligations.

37. **General Conditions of Contract: General Conditions of Contract (GCC-2023) applicable to R&D Construction Establishment shall be applicable to this tender.**

38. Quoting of rates and Taxes & Duties

- (i) All the rates quoted in the Bill of Quantities shall be deemed to be inclusive of all Central / State / Local body taxes & duties including GST as applicable.

- (ii) All taxes on works contract, GST, duties, fees, levies, octroi, excise or other charges levied on the CONTRACTOR as applicable in connection with the contract work shall be borne and paid by the CONTRACTOR. No increase/ decrease in taxes / duties, statutory or otherwise, after submission of tenders and during the execution of the works, shall be adjusted.
- (iii) All bank charges, taxes, dues and all other charges in connection with payment to be made to the CONTRACTOR and in connection with Bank Guarantee shall be born and paid by the CONTRACTOR.
- (iv) Income tax at the rate of 2% (Two percent) of the gross value of the contract including labour welfare cess@ 1% and GST @ 2% thereon as applicable, shall be progressively deducted from the CONTRACTOR's bill by the CCE (R&D) Estates, North, Chandigarh for depositing the same with the Income Tax Authorities.
- (v) Where required by the State Government(s), Taxes on works contract shall be recovered at the prescribed rates from the CONTRACTOR's running bills by the CCE (R&D) Estates, North for depositing the same with the State Government.
- (vi) Proof of payment of GST as applicable shall be submitted along with running payment for record purposes.
- (vii) The Contractor shall pay the GST as per periodicity and rate as laid down by the Government and as amended from time to time. The amount quoted by the contractor is all inclusive and as such no separate payment/ re-imburement will be made in this regard. The CCE (R&D) Estates, North, Chandigarh reserves the right to cancel the work order without any notice and also blacklist the Firm for such default.
39. **Issue of Notices:** All notices to be given or taken hereunder on behalf of the Govt. will be served by the Chief Construction Engineer or by an Officer who is entrusted with the functions, duties and responsibilities of the said Chief Construction Engineer.
40. **Labour:** The contractor shall employ labour in sufficient numbers regularly or seasonally to maintain the required rate of progress and quality to ensure workmanship of the degree required by the specifications and to the satisfaction of the Engineer-in-Charge/CCE. Only Indian Nationals shall be employed by the Contractor. Contractor shall abide by all labour laws/acts in force.
41. **Fair Wages:** The following acts as amend from time to time shall be complied with by the contractor. Payment of Wages Act 1936, Minimum Wages Act 1948, Employer's liability Act 1938 and Workman's Compensation Act 1923. The contractor shall pay not less than the "Fair Wage" to labourers engaged by him on the work as per Central Govt. wages published by Government of India, Ministry of Labour & Employment, Office of the Chief Labour Commissioner (C), New Delhi notified at the time of inviting quotations for the station at which the work is done.
42. **Deductions from Job Work Order Price:** Owner reserve the right to carry out post payment audit and Technical Examination of the works and final bill and enforce recovery when detected. If, as a result of such audit and Technical Examination, any over payment is discovered in respect of work done under this job work order, the contractor on written demand make payment of a sum equal to the amount of over payments or agree to effect necessary adjustment from any amount due to him by owner.
43. **Registration with Labour Commissioner:** The contractor shall obtain license, from Labour Commissioner under the Contract Labour (R&A) Act 1970 and Rules framed there under before commencement of the work and continue to hold it till completion of the contract period. The contractor shall comply with the provisions of the payment of Wages Act 1936, Minimum Wages Act 1748, Employment Liability Act 1938, Workmen Compensation Act 1923, Industrial Disputes Act 1947, and the Contract Labour (R&A) Act 1970 or the modifications thereof and the rules made there under from time to time. The contractor shall maintain the following registers as Contract Labour (R&A) Act 1970: -
- (a) Register of workmen as per Form XIII of Rule 75.
- (b) Employment cards as per Form XIV of Rule 76.
- (c) Muster Roll Register as per Form XIV of Rule 78.
- (d) Register of wages as per Form XVI of Rule 78.
- (e) Any other Register / Record required by Labour Commissioner from time to time.

Sd/-
(UVP Siva Rama Krishna)
Deputy CCE
for CCE(R&D Estates North

Enclosures: -

- | | | | |
|-------|--------------|---|--|
| i. | Appendix 'A' | - | Eligibility Criteria for Bidders |
| ii. | Appendix 'B' | - | Scope of Work & Technical Specification |
| iii. | Appendix 'C' | - | Terms & Conditions and Special Conditions of Contract |
| iv. | Appendix 'D' | - | Bill of Quantity (BOQ) |
| v. | Appendix 'E' | - | General Condition of Contract-2023 (GCC-2023) |
| vi. | Appendix 'F' | - | Format for BG |
| vii. | Appendix 'G' | - | Format for Agreement |
| viii. | Appendix 'H' | - | Format of Certificate For GCC |
| ix. | Appendix 'J' | - | List of Approved Make of Materials |
| x. | Appendix 'K' | - | Employee Profile Form |
| xi. | Annexure-I | | Acceptance of Terms & Conditions |
| xii. | Annexure-II | - | Details of Similar Works for Prequalification Criteria |
| xiii. | Annexure-III | - | Proforma for Performance Certificate |
| xiv. | Annexure-IV | - | Annual Financial Turnover |
| xv. | Form-A | - | Bidding Capacity (Form-A) |

Copy following offices for wide publicity

- | | | |
|-----|--|--------------------------|
| 1. | Director (CW&E), New Delhi | - (Fax No.011-23011547) |
| 2. | CCE (R&D) North, Delhi | - (Fax No.011-26767225) |
| 3. | CCE (R&D) Central, Delhi | - (Fax No.011-26152757) |
| 4. | CCE (R&D) Delhi, Delhi | - (Fax No.011-23814902) |
| 5. | CCE (R&D) West, Pune | - (Fax No.020-25865061) |
| 6. | CCE (R&D) East, Kolkata | - (Fax No.033-22420170) |
| 7. | CCE (R&D) Estates North, Chandigarh | - (Fax No.0172-2651100) |
| 8. | CCE (R&D) South, Secunderabad | - (Fax No.040-27751405) |
| 9. | CCE (R&D) Special Maintenance, Nagpur | - (Fax No.040-27751405) |
| 10. | EMU (R&D), Bangalore | - (Fax No.080-25348127) |
| 11. | EMU (R&D), Balasore | - (Fax No.06782-272149) |
| 12. | EMU (R&D), Chandigarh | - (Fax No.0172-2639038) |
| 13. | EMU (R&D), Chennai | - (Fax No.044-26375919) |
| 14. | EMU (R&D), Delhi | - (Fax No.011-23960738) |
| 15. | EMU (R&D), Dehradun | - (Fax No.0135-2780379) |
| 16. | EMU (R&D), DRDO Bhawan, New Delhi | - (Fax No.011-23007934) |
| 17. | EMU (R&D), Hyderabad | - (Fax No.040-24346246) |
| 18. | EMU (R&D), Jagdalpur | - (Fax No.07782-227167) |
| 19. | EMU (R&D), Nagpur | - (Fax No.0712-2520286) |
| 20. | EMU (R&D), Nasik | - (Fax No.0255-7279001) |
| 21. | EMU (R&D), Pune | - (Fax No.020-25865105) |
| 22. | EMU (R&D), Tezpur | - (Fax No. 03712-258534) |
| 23. | Admin Section, O/o CCE (R&D) Estates North | |

ELIGIBILITY CRITERIA FOR BIDDERS1. **Eligibility Criteria:**

a) All agencies enlisted with DCW&E under Composite Class-III / Class-II / Class-I / Class-I(A) / Class-I(AA) / Class-I(AAA) / Class-I(Super) & Estate Management and Maintenance (DRDO - 2024) under BIM-I, BIM-II, BIM-III categories are eligible for participation in the tender. Copy of mandatory documents required as per Table-A to be submitted & uploaded in Cover-I.

TABLE-A to Appx 'A'

LIST OF ELIGIBILITY DOCUMENTS TO BE SUBMITTED

Sl. No	Description of Documents	Bidders as per Para 1 of Appx 'A'	Enclosures
1.	Copies of Enlistment letters with DCW&E in required category & class	√	Copies of Enlistment Letters
2.	Undertaking for Accepting terms & conditions of the Tender Enquiry	√	Annexure-I
3.	Submission of EMD in form of Original BG / FDR / TDR towards earnest money is mandatory.	√	Original BG / FDR / TDR
4.	Bidding Capacity duly verified by CA	√	Form-A attached
5.	Similar works completed and required to meet eligibility criteria	√	Annexure-II
6.	Performance certificate of similar works required to meet eligibility criteria	√	Annexure-III
7.	Average Annual Financial turnover of the firm for last Five years duly audited and certified by the statutory auditors with profit and loss statement/details	√	Annexure-IV (By Statutory Auditor)

2. **Pre-Qualification Criteria: -****(I) Qualifying Works: -**

(a) Should have experience of having successfully completed similar works during last 7 years ending last day of month previous to the one in which applications are invited fulfilling either of the following: -

i. Three similar completed works each costing to ₹ 51,40,464.00 or above in the past 7 years, i.e., 40% of estimated cost of ₹ 1,28,51,159.00.

OR

ii. Two similar completed works each costing to ₹ 64,25,580.00 or above in the past 7 years, i.e., 50% of estimated cost of ₹ 1,28,51,159.00.

OR

iii. One similar completed work costing to ₹ 1,02,80,927.00 or above in the past 7 years, i.e., 80% of estimated cost of ₹ 1,28,51,159.00.

AND

- iv) The bidder shall furnish the details of completed works as per **Annexure-II & Annexure-III**. The bidder shall also furnish Contract Agreement award letters of all the works. Completed works in which compensation / penalty is levied by the competent authority for delay in completion of the work / unsatisfactory performance of work are not eligible for participation in the tender.
- (v) **For meeting eligibility criteria, out of the eligible works, as per Para 2 (I), (a), (i) to (iii) it is mandatory that at least 01 similar work value not less than 40% respectively should have been successfully completed with some Central Government Department / State Government Department / Central Autonomous Body / State Autonomous Body / Central Public Sector Undertaking / State Public Sector Undertaking / City Development Authority / Municipal Corporation of City formed under any Act by Central / State Government and published in Central / State Gazette, which can either be a part of or other than the work being submitted for Para 2, (I), (a), Sub-Parts (i), (ii) and (iii).**

Note : -

(a) "In case, any of the Pre-qualification criteria given in the above para 2(I) are not fulfilled due to the effect of COVID Pandemic during the **FY 2020-21 and FY 2021-22**, the period of two additional preceding years may be taken into account.

(b) Definition of Similar Work is Execution of New Work / O&M Works / Augmentation / Modification / Special Repair to E/M Assets will be considered as Similar Work.

(c) Agency not fulfilling the criteria shall not be considered eligible even though they may have done other works elsewhere. Also, ongoing work in any establishment will not be considered for eligibility.

(d) It is mandatory to submit completion certificates or performance certificate (Refer Annexure – III and copy of work order/ contract of similar works (Annexure-II) meeting the PQ criteria as per para 2(a) above or else the tender is liable to be rejected and will not be considered for opening of price bid. The completion certificate/ performance certificate shall invariably contain the duration of the work including extended period, if any, and value of work done (year wise/ part thereof).

(e) Value of executed similar work(s) (for the original job work order / CA period) shall be brought to current costing level by enhancing the actual value of the work at simple rate of 7% per annum, calculated from the date of completion to previous day of last date of submission of bid, which will be applicable for both Eligibility Criteria and Technical Bid Evaluation.

(f) The bidder shall submit a Certificate for Acceptance of terms and conditions of tender. It shall be uploaded online (As per Annexure- 'I').

(g) The bidder should also submit a declaration that no litigation is pending against them with any department/ organisation.

(h) The works which are executed by the firm having poor performance / completed with levy of compensation for delay in completion shall not be qualified in the PQ Criteria.

3. Financial Soundness:

i) Average annual financial turnover during the last 05 years ending 31 Mar of the previous financial years (i.e. up to 31 Mar 2025) should be at least 30% of the estimated cost, i.e., **Rs. 38,55,348.00**. Copies of the balance sheets duly certified by the Statutory Auditors shall be attached. The value of the Annual Turnover figures shall be brought to the current value by enhancing the actual turnover figures at simple rate of 7% per annum.

ii) The applicants / firm should not have incurred any loss (i.e., profit after tax should be positive) in more than three years during the last 05 (Five) consecutive years ending up to previous financial year i.e., 31 Mar 2025. Profit & loss accounts duly verified by the Chartered Accountant shall be attached as per **Annexure – IV (already attached)**.

SCOPE OF WORK

1. **Scope of Work:** The scope of work to be executed by bidder shall be replacement of Central AC plant, Chilling unit, MS pipe Cables and Panels at ADRDE, Agra as per details in BOQ: -

- a. Supply, Installation, Testing and Commissioning of: -
 - i. 2X50TR Central AC plant capacity.
 - ii. 01X Chiller unit for stand by for Central AC plant capacity 1x50 TR complete.
 - iii. External Electrification (PVC / XLPE Power cables).
 - iv. Earthing Complete.
 - v. Supply and installation of LT Panel, items consisting as per BOQ.

The scope of work as mentioned above should also be read in conjunction with respective clause of **GCC-2023 and SCC** and the scopes mentioned in BOQ. Any other works necessary for the completion of the work as per direction of Engineer- in-Charge may also to be added and payment shall be made as per respective clause of SCC.

Note:

- (i) The Indian Standard codes published by the Bureau of Indian standards (BIS) under Engineering Division of respective works which are revised time to time to be followed.
- (ii) the equipment shall also confirm to the provisions of Indian Electricity rules and other statutory regulations currently in force.
- (iii) In case Indian standards are not available for ay equipment, standards issued by IEC / BS / VDE / IEEE / NEMA / ASHRAE or equivalent agency shall be applicable.

2. General information for scope of work

- (i) Preparation and access to site is contractor's responsibility only.
- (ii) BOQ is based on Percentage Rate. Bidders to quote accordingly and percentage quoted will be inclusive of CP, OH / Levied Taxes.
- (iii) All items of work under BOQ shall be read in conjunction with drawings, Particular Specifications, Technical Specifications and list of preferred makes of material/equivalent. Wherever details are not available standard engineering practices, BIS code in practice and any other relevant specifications for HVAC required will be applicable and shall be executed only after obtaining the prior approval of CEA. The items of work shall be measured net ass executed and paid as per percentage rate quoted. A detailed schedule of work with date shall be submitted and got approved from Engineer-in-Charge before commencement of work.

TECHNICAL SPECIFICATIONS FOR CIVIL WORKS**1. Material**

Material and workmanship shall be all as per CPWD Specifications VOL-I & II with latest amendment or as specified elsewhere in the tender documents. An approved list of make of materials is attached as **Appx-J**. All materials shall be contractor's supply and shall be of Best Quality available. All materials shall generally conform to the relevant specifications given in the tender documents. The samples of all such materials shall be Got Approved from the Engineer-in-Charge in Writing before these materials are brought to site in bulk.

2. Fine Aggregate

Fine aggregate for all cement concrete/ other works including RCC shall be naturally occurring river sand & shall meet the requirements of grading III all as specified in IS 383.

3. Royalty for Filling Material

- i) The contractor will pay applicable royalty for material to the State Govt., The cost of which should be included in the quote. Royalty bills will have to be submitted with RAR against quantities included in the bill.
- ii) All manufactured materials/articles other than those manufactured in contractor's workshop at site of work shall bear IS Certification marks. In case any such article is not available with the IS Certification mark and item conforming to relevant specifications is proposed to be incorporated in the works, sample of the same shall be got approved in writing from the Engineer-in-Charge before their incorporation in the works. The contractor shall submit sufficient evidence to Engineer-in-Charge to show that such articles conform to the relevant specifications.
- iii) In case no make is mentioned in the description of items of BOQ, make shall be got Approved from Engineer-in-Charge on production of samples by the Contractor.

4. Excavation and Earth Work

- i) Excavation and earth work shall be carried out all as per description of items in BOQ.
- ii) Excavation & earth work shall be in any type of soil and the contractor is deemed to survey the nature of soil before tendering & quote his rate accordingly. No claim whatsoever on this account shall be entertained. Tenderer shall ascertain himself the level of sub-soil water at site of work to allow in his Tender for any bailing or pumping out water etc, required as per site conditions. In the event of deviation, no adjustment shall be made for cost of bailing, pumping & de-watering arising out. Similarly, no adjustment will be made if no sub-soil water is met with at site.

5. Procurement of Cement

The cement to be incorporated in the works shall be OPC or PPC as per site condition and as approved by Engineer-in-Charge. OPC is not allowed in coastal area. Mixing of PPC / PSC / OPC shall not be allowed. However, different buildings can have different types of cement with the approval of the Engineer-in-Charge. The cement should be used within 4-6 weeks from its date of manufacture and be procured from the main producers.

6. Testing of Cement

- i. The manufacturer is to carry out inspections and testing of cement in accordance with the relevant BIS provisions. The contractor shall submit the manufacturers test certificate in original along with the test sheet giving the result of each physical test as applicable & chemical composition of the cement and authenticated copy thereof, duly signed by the manufacturer with each consignment. The test results must conform to the provisions of relevant IS. The Engineer-in-Charge shall maintain records for these details.
- ii. The Engineer-in-Charge shall also organize independent physical & chemical test of random sample of cement from approved Lab / Govt. Engineering College / Govt. Lab & as approved by CCE.
- iii. Expenditure involved in collection, packing, carrying & testing of sample shall be borne by the contractor.

7. Concrete**Coarse Aggregate**

Coarse aggregate for all concrete shall be graded crushed as per IS: 383, hard granite, trap or basalt stone as Approved by Engineer-in-Charge. No hand broken stone aggregate shall be permitted for use in the work.

Fine Aggregate

Fine aggregate for all concrete / other works shall be naturally occurring river sand.

Nominal Mix Concrete

Nominal mix concrete shall be proportioned as per Table-9 of IS: 456.

Compaction of Concrete

All reinforced cement concrete shall be compacted by mechanical vibrators. Compaction by tampering may be resorted to with the prior permission of Engineer-in-Charge in writing in location where it is not practicable in the opinion of the Engineer-in-Charge to operate the vibrator or where quantity of concrete is small. Care shall be taken to ensure that concrete is not over vibrated so as to cause segregation.

8. Batching & Mixing

Concrete for all PCC and RCC design mix and nominal mix shall be mixed in automatic weight batching plant. The batching plant shall have digital display weighing gauge. Where requirement of concrete is less than one cum in a day, the same can be mixed using normal weigh batcher and hopper type mixer.

9. Placing of Concrete

Concrete shall be transferred immediately after mixing without delay & incorporated in works at the position of laying within 20 minutes from the time of discharge from the mixer & accordingly shall be compacted & finished.

10. Sampling and Testing of Concrete

Blank

11. Form work

Blank

12. Striking off Form Work

The minimum period before striking off from work shall be considered as per IS 456 while using OPC. While using PPC/ PSC the minimum period of striking off of shuttering shall be increased suitably as approved by the Engineer-in-Charge. Contractor shall note that no extra cost whatsoever for such increased time of striking off from work shall be admissible.

- 13. Reinforcement Steel: For** reinforcement of concrete the TMT steel bars of required strength as per design drawing shall be used and procured directly from primary producers of TMT bar, viz. SAIL, TISCO (TATA), JSW TMT and RINL. In case any reinforcement bars of specific diameter is not available with the main producer and the main producer is interested to supply that diameter of reinforcement through their conversion agent, same may be accepted with condition that the original order is placed by the contractor to the main producer & the original purchase voucher and test certificate are issued by the main producer. For every lot of steel, the particulars of the manufacturer / supplier shall be submitted by the contractor to the Engineer-in-Charge prior to physical procurement for every lot separately.

Reinforcement should be stacked above ground and covered on the top for protection against rainwater. Loose rust should be cleaned with wire brush before laying reinforcement and concreting.

Testing of Reinforcement Steel: The contractor shall submit the manufacturers test certificate & purchase voucher in original along with the test sheet giving the result of each mechanical, chemical & metallurgical composition of the steel duly signed by the manufacturer with each consignment. However, nominal mass test, tensile test, bend & re-bend test shall be carried out at the discretion of the Engineer-in-Charge. The cost for the tests will be borne by the contractor. Test shall be carried out from any Govt. Laboratory or any NABL approved laboratory as directed by the Engineer-in-Charge.

14. Curing

The minimum period before striking off form work while using PPC shall be increased as directed by the Engineer-in-Charge without extra cost to the Department.

15. Site Clearance

The contractor shall remove all unused stores and materials also tools, plants, equipment, scaffolding, temporary building, and the like belonging to the contractor away from the site area on or before the date of completion. Nothing extra whatsoever shall be paid to the contractor for such clearance of Site. If the contractor is not able to clear the site at his own expenses, the engineer-in-charge shall make proposal for removal of contractor's waste for deduction from the contractor bill.

16. Contractors Representative at Site

Details of Contractor's Engineer at site shall be duly approved by Estate Manager, EMU(R&D) or CCE (R&D) Estates, North Chandigarh before commencement of the work. Copy of certificate of engineering degree or diploma shall also be furnished along with experience certificate.

In addition to the above, the contractor shall himself supervise the execution of the work and other conditions as laid down in General Conditions of Contract shall also be adhered to.

17. Inspection and Approval

All works embracing more than one process shall be subject to examination and approval at each stage thereof or one stage as per instruction of Engineer-in-Charge. The Contractor shall give due notice to the Engineer-in-Charge or his authorized representative when each stage is ready. In default of such notice, the Engineer-in-Charge shall be entitled to appraise the quality by such measures as considered appropriate at the cost of the Contractor.

No work shall be covered up or put out of view without the approval of the Engineer-in-Charge or his authorized representative and the Contractor shall afford full opportunity and facility for examination and measurement of any work which is about to be covered up or put out of view, this applies to examination of foundation also before permanent work is placed thereon. The Contractor shall give due notice in writing to the Engineer-in-Charge or his authorized representative whenever any such work or stage of work including foundation work is ready for examination prior to start of concreting or covering up of the foundation and the Engineer-in-Charge or his representative shall without reasonably delay, unless he considers it necessary and advises the Contractor in writing accordingly, attend for the purpose of examining and measuring such work or of examining such foundations. In the event of the failure of the Contractor to give such notice in writing, he shall if required by the Engineer-in-Charge, uncover and dismantle such work at the Contractor's expense.

The Engineer-in-Charge or his representative and the Consultant of the Project shall have powers at any time to inspect and examine any part of the work and the Contractor shall give such facilities as may be required for such inspection and examination.

20. Deployment of Manpower at Site

The contractor shall deploy the sufficient technical and non-technical manpower for smooth progress of work. For this work the following minimum manpower has been projected to deploy at site:

REQUIREMENT OF TECHNICAL REPRESENTATIVE(S) AND RECOVERY RATE

Sl. No.	Minimum Qualification of Technical representative	Discipline	Designation (Principal Technical/ Technical representative)	Minimum experience	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling the provision of this clause.	
						Figures	Words
1.	Diploma / Graduate Engineer	Electrical	Site Engineer	04 years	1	Rs. 40,000/- per month per person	Rs. Forty Thousand per month per person

Note:

- (i) Assistant Engineers retired from Government services that are holding Diploma will be treated at par with Graduate Engineers.
- (ii) Diploma holder with minimum 10 years relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.
- (iii) The non-technical manpower for the supervision of non-technical works could be deployed by contractor as per his requirement.
- (iv) Non-deployment of technical manpower as per above shall attract the recovery of amount per month as stated above.

TECHNICAL SPECIFICATIONS FOR E&M WORKS**EQUIPMENTS: -**

1. **MATERIAL:** - The work shall be carried out strictly in accordance with the CPWD General Specification for Electrical works Part-I Internal 2025, Part II 2025 (External) as amended up to date. All installations shall also comply with the requirements of Indian Electricity Rules 1956 and Indian Electricity Act, 2003 as amended up to date. In case of items not covered by the above specifications, the work shall be carried out as per the instructions of the Engineer -in- Charge.
2. **CHILLER PACKAGE UNIT:** Each chiller package unit shall comprise of scroll type compressor hermetically sealed with built in suitable electric motor and shell and tube type water cooled condenser and direct expansion type chiller. The unit shall be mounted on a factory assemble structural steel base with necessary vibrations isolator, fixing bolts and closely inter connected refrigerant piping etc., the rating and size of all the component/parts of the units shall be properly coordinated to ensure balanced, efficient and trouble free operations under practical service conditions and they shall comply with requirement specified therein as per relevant IS Code.
3. **COMPRESSOR:** The compressor shall be of scroll hermetically sealed type. The compressor shall be equipped with suction and discharge stop valves, suction, strainer, oil pump with oil strainer, high pressure switch and safety valves. Gauges for measuring the suction and discharge pressures and the oil pressure shall be provided and neatly installed on panel near the condensing unit. The compressor shall be provided as per relevant IS Code and as approved/ directed by Engr-in-Charge/ Project Manager.
4. **CONDENSER AND CHILLER:**
 - a) The condenser and chiller shall be shell and tube type, factory made, horizontal multi pass water cooled, welded construction and of sound design. The condenser shall have removable end covers for periodical cleaning of tubes. The tubes shall be seamless copper and shall be easily replaceable. Tubes shall be of copper as per manufacturers' standard integrally finned, expanded into tube sheets.
 - b) The condenser shall be fabricated and tested to test pressure 15 KG / Sq.cm, comply with the requirements of IS – 34053, IS –2825 and IS – 660. The water tubes shall be designed for a fouling factor of 0.044 evaporator 0.0176, chiller 0.0176 [As per ARI standards]. Thermometers shall be provided at inlet and outlet of water circuits.
5. **CHILLER:** Chiller shall be shell & tube direct expansion type with MS shell and plain copper tube. Suitable refrigerant and chilled water inlet and outlet connections shall be provided. The chiller shall be fabricated and tested to test pressure 15 KG/Sq.cm and shall comply with relevant IS Standards as approved/ directed by Engr-in-Charge/ Project Manager.
6. **AIR HANDLING UNIT:**
 - a) The Air handling unit shall be of 100% capacity floor mounted factory made, type of sectionalized construction consisting of fan section, cooling coil section, air filter section. Pre-heater, re-heater section and shall be complete with insulated drain pan, direct drainer, non-sparking flame proof motor starter, face and bypass dampers, control devices, gauge and instruments. The weather making unit shall be connected to air plenum through flexible couplings with provision to have inspection slit.
 - b) The cooling coil consists of copper tubes ½" dia X 24 gauge or as per manufacturers improved standard with hydraulically expanded aluminium fins to provide efficient heat transfer between the tube and the fins 6 to 8 Nos. per inch. The cooling coil shall be of suitable capacity of that particular AHU and suitable for Chilled water system. The cooling coil shall be complete with necessary control valves and shall with stand pneumatic test pressure of 15 KG/Sq.cm. The Air Handling Unit shall be fabricated as per IS Code- 14755 as approved/ directed by Engr-in- Charge/ Project Manager.
 - c) **PUMP SETS FOR COOLING TOWER AND CHILLERS:** Pump sets each to take 100% of the full load shall be provided for cooling tower of the Air conditioning systems along with Suitable electrostatic scale preventer with control panel individual for each condenser.

7. COOLING TOWER:

- a) The cooling tower shall be FRP induced draft type suitable for installation on the PCC platform near the plant room and so designed to handle the total cooling water required for 100% load system.
- b) Cooling tower shall be of fiber glass reinforced plastic [FRP] body counter flow forced draft with suitable casting cold water basin, air inlet louvers, electric motor to drive axial fan, with fan guard, sprinklers, over flow of suitable size, ladder and suitable masonry foundation platform. The construction and details of tower shall be in accordance with BS, 4485 Part I,II & III with salient features as relevant IS Code.

PIPE VALVES FITTINGS AND ACCESSORIES:

- a) **COOLING WATER PIPING AND ACCESSORIES:** The Pipes of sizes 150mm & below shall be M.S. 'C' class as per IS : 1239 and pipes size above 150mm shall be welded black steel pipe heavy class as per IS: 3589, from minimum 6.35mm thick M.S. Sheet for pipes upto 350 mm dia. and from minimum 7mm thick MS sheet for pipes of 400 mm dia and above.
- b) Pipes shall be given suitable drain plugs in points wherever necessary and the pipes shall be sloping towards drain points.
- c) All drain pipes from the drain connections on the plant room and other areas shall be provided.

8. REFRIGERANT PIPING AND ACCESSORIES:

- a) The refrigerant piping shall be heavy class black steel MS Class "C". The refrigerant piping shall be designed and laid in accordance with nest standards and shall be completed with necessary valves, strainers and solenoid valves etc. Pipes shall have adequate supports and shall be free from noise and vibration. The pipes on the suction side shall be suitably insulated with TF EPS 50mm pipe treated with sand cement plaster. The refrigerant piping shall be designed for minimum pressure drop and as per standard practice.
- b) **INITIAL CHARGE OF REFRIGERANT:** The refrigerant system after installation shall be washed with suitable nitrogen gas and then subjected to leakage test of all joints and connections as per standard norms and practice. After successful leakage test first charge of gas and oil shall be charged to ensure designed suction discharge pressure and oil pressure in system.

9. PIPE INSTALLATION: The details of pipe sizes and lengths shall be furnished by the tenderer in his offer and got approved subsequently by the Project Manager, EMU(R&D) Delhi. The layout and alignment of the pipe lines shall be such that the pipes and valves shall not foul or interfere with any of the equipment's, buildings or other facilities during operation and maintenance. It is the responsibility of the successful tenderer to prepare the layout and alignment of pipe lines and check for any interference with equipment's, buildings or other facilities at site and shall furnish detailed working drawings of piping showing the cross sections, longitudinal sections, details of fittings locations of isolating, air valves etc. before installation of the piping, the piping shall be properly supported or suspended from stands, clamps, hangers, brackets, sidewalls etc. of approved design. All steel works additional to the building steel work necessary to support the pipe work The pipe hanger shall be fixed in wall/roof by means of grouting angle iron holdfasts.**10. STRAINERS:**

- a) **WATER PIPING STRAINERS:** The strainers for water pipe system shall be of approved type with removable bronze screen. They shall be designed suitable for blowing out the dirt and shall load themselves for easy replacement or repair without disconnecting and draining for the main pipe. Strainers shall be Y – type and installed in the section Leader of each Pump set.
- b) **REFRIGERANT PIPING STRAINERS:** The strainers for refrigerant piping shall be installed up – stream of all high – pressure size solenoid, thermostatic valves and as here necessary.
- c) **CHILLED WATER PIPING SYSTEM:** The piping for chilled water system shall be steel tubes, medium grades ISI marked of adequate size to minimize the frictional head loss. The chilled water piping shall be efficiently insulated to avoid heat transmission, radiation. The size of pipe and thickness shall be clearly indicated in the drawing including route layout system.

11. DUCTS:

- a) All ducts shall be made of galvanized iron and shall conform to IS – 655. The duct shall be compact simple design and air tight to minimum air losses. The GSS Sheets for duct work shall conform to Class – VIII with zinc coating as per IS – 277. The ducts shall be of adequate capacity, reduce velocity of air and also to minimize the noise level to be compatible with human comfort. Frames and dampers for ducts shall be provided of rigid construction and properly based. The duct shall have adequate self-extinguishing insulation when these are run outside the conditioned rooms.

- b) Ducts shall be supported on suitable MS section which may be fixed horizontally and cement grouted on the either side of the wall or supported from the roof.
- c) All ducts shall be adequately insulated with self extinguishing insulation conforming to IS – 4671. The contractor shall indicate the description of insulation material provided for and the thickness thereof.
- d) The contractor shall design his own air distribution scheme and submit for approval before commencement of work. Acoustic insulation to the duct should be with self extinguishing materials. Starting Velocity and Air Velocity shall be as per relevant IS Code. The aspect ratio shall not exceed 1:3. The noise criterion is NC 40 curve.
- e) The tenderer shall give the layout drawing showing sizes of the ducting system, grills, dampers and specify the quantity of the conditioned air to be delivered in cubic feet per minute and velocity of air in feet per minute in each section of the system. The sizes of the duct opening walls of the bldg for conditioned and returned air will be clearly indicated in drawings. One copy of detailed Heat load calculations, design calculations and drawing of duct layout be submitted after acceptance of contract within 1 month for approval of the accepting officer.
- f) Longitudinal and transverse joints shall be flat and smooth inside the duct.
- g) All rectangular ducts shall be flat on face and Pittsburgh type on corner of duct. The duct shall be grouted suitable Nuts, Bolts and washers.
- h) Wherever duct passes through a wall, all holes in the walls must be made good with grout and the annular holes tightly plugged with fiberglass or similar material.
- i) **DUCT SUPPORTS:** The ducts with larger side be supported by 15mm dia GI rods and GSS formed channels at smaller side shall be supported by 10mm GI rods and GSS formed channels. The GI rods shall be hung from correctly sized anchor fasteners fixed to the ceiling slab. The GI rods should be threaded with one end screwed into the anchor fastener and the other end to facilitate fastening of the nuts to hold the GSS formed channel. Lock nuts along with washers should be provided. Welding of bolts to support rods is not permitted. The duct between AHU room and building to be air conditioned shall be mounted over suitably designed steel structure and necessary supports be provided at an interval of 1.00 m.
- j) **FLEXIBLE CONNECTIONS:** Where the sheet metal duct connects to the intake or discharge of fan units a flexible connection of at least 150mm width shall be provided. The material of the flexible connection shall be fire retardant type and of double layer. The materials shall be attached to angle iron frames on equipment and to similar frames on duct or casing by means of a steel band or collar fitting over the end of the flexible connection and bolted through angle iron frame so as to clamp securely between the band and the angle frame.
- k) **DAMPERS:** Duct mounted dampers shall be constructed from Aluminium extrusions with blades assembled on non-ferrous bearings and controlled by fully concealed opposed blade link system as per IS code- 16471. Dampers shall be provided with a blade position indicator and manually operated knob.
- l) **FIRE DAMPERS:** Fire dampers shall be made out of galvanized steel sheet blades and frames. The damper shall be fabricated out of 16 G GSS. Dampers shall be equipped with fail safe fusible links rated at 45°C. All fire dampers shall be of minimum 1½ hour fire rating.
- m) **GRILLS AND DIFFUSERS:**
 - i. All grilles shall be constructed from aluminium alloy extrusions with welded frames or cleated frames. Vanes shall be individually adjustable.
 - ii. All diffusers shall be constructed from aluminium alloy extrusions and of removable core type.
 - iii. All Grills / Diffuser dampers shall be opposed blade aluminium construction black anodized.
 - iv. The Grills / Diffusers shall be selected to match the interior layout in consultation with the Engineer-in-Charge. The necessary supports / frame work for fixing the Grills / Diffusers shall be provided by the contractor.
- n) **FRESH AIR INTAKE AND EXHAUST LOUVERS:** All Louvers shall be constructed from aluminium extrusions and shall be factory fabricated. Frames shall be welded and blades screw fixed through the side frames. All Louvers shall be as per relevant IS Code
- o) **PLENUMS:** All the plenum chambers or connections to fans, dampers etc., shall be constructed in 18-gauge GSS, supported on 40 X 40 X 6mm MS angle frames. However, cross bracing of the plenum will be similar to the bracing detail of rectangular duct as specified herein before.

p) **PAINTING:**

- i. All the support rods for ducting shall be given two coats of synthetic enamel paint over one coat of primer paint.
- ii. All support channels and Angle frames shall be given two coats of epoxy paint over one coat of epoxy primer.

12. INSULATION:

a) **GENERAL:** This specification covers the design, supply, constructional features, application, testing and commissioning at site of thermal and acoustic insulation for air conditioning system.

b) **DESIGN REQUIREMENTS:**

- i. The insulation material shall be new and unused, vermin and rodent proof, and shall be designed to withstand the temperatures to which they may be subjected to under specified conditions.
- ii. Nowhere insulation shall be in direct contact with metal. Suitable teakwood reapers should be put in between insulation and support channel for ducting. The thickness & density of the Insulation material shall be generally in accordance with the details given hereunder:

iii. **INSULATION DETAILS:**

Surface Material	Insulation KG/Cu.m/mm	Density/Thick
Supply air duct in non conditioned space	Class O cell elastomeric nitrile rubber applied with rubber based adhesive	25 mm thick
Acoustic insulation	Arma Sound Nitrile rubber	6 mm thick

13. FILTERS:

- a) Dry washable type air filters those are capable of eliminating dust particles of size as specified in Schedule "A" shall be provided.
- b) Filters suitable for eliminating dust particles up to size as mentioned in the Schedule and relevant IS. The filter element shall be fitted in GI casing. The filter casing shall be provided with a flanged reaction for each fitment on the filter drum. The tenderer shall furnish complete characteristic details of the filters and shall also submit the manufacturers test certificate in support.

14. THERMOMETERS: Wet and dry bulb thermometers of standard make for each air-condition room and AHU room shall be provided by the contractor. Quoted rates shall be deemed to cater for all these provisions.

15. INSTALLATION OF EQUIPMENT / PLANT:

- a) All plant and accessories such as compressors, condensing units, pumps etc., shall be installed in accordance with the latest engineering practice on adequately designed anti – vibration mountings / foundations. The tenderer shall furnish to the Project Manager/ Engineer-in- Charge detailed dimensional drawings and specifications of the foundations with necessary design calculations for approval. The foundation shall be as per recommendations of manufacturer.
- b) All electrical equipment & wiring shall be electrically connected to electrical system and adequately earthed in accordance with the latest Indian Electricity Rules by the use of two separate independent earth leads of SWG GI wire to the earth bus. The earth bus and adequate earthing sets as per IE rules shall be provided by the contractor.

16. PLUMBING WORKS:

- a) All necessary water piping including tanks, pumps etc., starting from cooling water shall be provided erected connected and commissioned by the tenderer and the tenderer lump sum shall include for the same. Water inlet to the cooling tower make up tank shall be provided by tenderer. Supply shall be tapped by the contractor from existing pipe line.

- b) All pipes shall be ISI marked medium grade and fittings shall be authorized iron, medium quality conforming to IS – 1239. The joints shall be made with suitable jointing materials to form a complete watertight system.

17. ELECTRICAL WIRING:

- a) All wiring main/sub main and circuits from the point of supply in the main switch located in the plant room to the air-conditioning units and other auxiliary equipment shall be provided by the tenderer with PVC armored cable 1.1 KV grade conforming to IS – 1554.
- b) The wiring shall conform to IS code of practice IS – 732 for Electric wiring installation system voltage not exceeding 650 Volts. The panels shall be wired with multi strand copper flexible cable ISI marked and supply extended up to various instruments.
- c) The electric controlling devices and measuring instruments for compressor motor, pump motor and blower motors etc. shall be mounted on cubicle type of panel / panels with distinct sections comprise of necessary main switch fuses. Starters with thermal overload and no volt protection, voltmeter having 0 – 500 volts range with selector switch to measure the incoming voltage. Ammeter of adequate range for each motor and other accessories required for the proper control and operation of the entire installation and KWH meter of suitable capacity shall also be provided in the panel board by the tenderer.
- d) Insulating rubber matting suitable for the voltage of the system for the entire length of switch boards but not less than 90 cm in width shall be provided for each switch board and cost deemed to be included in the Lumpsum quoted under respective items of Schedule "A" / BoQ.
- e) Complete electrical system shall be interlocked as per standard norms to avoid accidental start of heaters or compressor without putting on blower and water pumps in circuit.

18. DECLARATION OF PERFORMANCE:

- a) The contractor shall guarantee all items of equipment including electrical machinery and wiring for a period of 12 Months after completion of erection and satisfactory seasonal tests as detailed in subsequent clauses.

GENERAL:

- a) The following documents and charts shall be submitted / displayed by the contractor at plant room:
 - i. Flow Diagram
 - ii. Chart showing Sequence of Operation
 - iii. Chart showing DOs & DONTs
 - iv. Notice Board duly showing Duty Roaster, Mobile Number of Contractor and Technicians and Electrical Shock Treatment Chart.
 - v. Two Sets of complete literature of the equipment

• **Test after installation**

- a) The installation shall be taken over after the plant has been commissioned and the Engineer-in- Charge/ Project Manager, EMU(R&D) Delhi is satisfied on the points given below:-
 - i. That the plant equipment and accessories provided are as per contract conditions and specifications
 - ii. That all plants, equipment's and accessories are mechanically sound and other related items of air-conditioning work are of adequate structural strength and the installation is in conformity with the specifications embodied in the contract.
 - iii. That the finish and the general appearance of the work is as per contract specifications.
 - iv. That all ducts, pipes, fittings etc, are of specified size and type, quality design and workmanship and are neatly laid, fixed and painted to match the surrounding work.
 - v. That the design conditions are achieved across the cooling coils for the specified air flow at given ambient condition and inside condition
 - vi. The plant shall be run continuously for minimum 24 hours to observe the efficiency, cop, behavior of various systems and capacity of plant achieved.

• **Commissioning Test:**

- a) After completion of above test, the plant shall be continuously run of a 24 hour basis by contractor. Test shall be carried out by the presence of Project Manager/ Engr-in Charge and contractor. The contractor shall afford all facilities and make all necessary arrangements for these tests at his own cost. The test shall be carried out as soon as the stipulated load and weather conditions are available but not later than one year after. In case the required load is not available arrangements will be made by contractor to provide artificial load. These tests comprise of the following:

- i. Hot weather test is to be conducted in summer months April/May, when the summer condition prevails. Performance results of the plant as a whole will be Recorded.
- ii. Winter test is to be conducted in Dec / Jan and performance results to be recorded.
- iii. The Engineer-in-Charge will be responsible for intimating the date of test to the contractor.
- iv. All expenditure in connection with the tests will be borne by the contractor. The charges for consumption of water and electricity for tests shall be borne by the department. If there are leakages of refrigerant / compressor oil after installation test the same shall be made good by the contractor at his own cost.
- v. If the tests do not show satisfactory results/the contractor shall at his own expense rectify / replace the defective installation or any part thereof as directed by the Accepting Officer or his authorised representative within three months. The decision of the Project Manager/ Engr-in-Charge shall be final and binding. In such rectification of defect, power and consumption charges will be borne by the contractor.
- vi. The installation shall be finally taken over after the contractor has given a satisfactory commissioning test as certified by the Project Manager or his authorized representative. The defect liability period of Two year as per condition 46 of IAFW – 2249 shall start from the date of final taking over of plant after tests.

19. TRAINING OF DEPARTMENT / USERS PERSONNEL FOR RUNNING / MAINTENANCE PLANT:

- a) The contractor shall during installation of the plant be responsible for training to Department personnel or users deputed by the Government for running and maintenance of the installation/plant.
- b) The rate quoted shall include for the training of the personnel as described above.

20. GENERAL:

- a) The type of Air-conditioning shall be Chiller water type system for the items as described in Schedule "A". The same shall be amended to read as such in the relevant clauses of particular specifications.
- b) The entire air-conditioning installation shall be carried out in workmen like manner and in accordance with modern engineering practice as adopted for such work. Safety measures shall be provided conforming to IS – 655.
- c) Special attention shall be paid to the finish and general appearance of the work. Painting of the unit and all other equipment shall be done to the entire satisfaction of the Engineer-in-Charge. All exposed pipe fittings etc. Shall be neatly laid fixed and painted with two coats of approved paint over a coat of primer to the entire satisfaction of the Engineer-in-Charge. The paint used shall conform to the IS – 2932 as amended.
- d) The quoted rate shall be deemed to include for any minor details of construction, which are obviously and fairly intended and may not have been referred to in these documents but are essential for the entire completion of the work.
- e) The tenderer shall quote the rates for supply, installation, commissioning and testing of plants all as per tender requirements
- f) The tenderer may please note that their offer must be as per the requirements mentioned in the tender. The offer which is not as per the tender will be treated as non bonafide.
- g) The tenderers shall limit his offer to specifications and scope of Schedule "A" and PS clause only. He shall have to install equipment of one of the makes given in the list of makes. Equipment of other makes shall not be accepted without approval of Accepting Officer. The tender quoted for deviations to above shall be considered as "conditional tender" hence "Q" bid of the same shall not be opened and scheduled.
- h) After acceptance of tender, tenderer shall submit his offer of makes and models of various equipment selected out of the list in tender he intend to order for incorporation in the plant duly supported by balancing data and efficiency curves for approval of EMU(R&D) Delhi. Tenderer shall confirm the order only after approval of make, model and type of equipment by EMU(R&D) Delhi. To facilitate running payment, tenderer has to bring the material at site along with original test certificates from manufacturers, dispatch invoice and vouchers. However, payment vouchers shall be returned after due defacement. Payment shall be made by department only after material passing and satisfying himself with the genuineness of material and equipment.

Appendix - 'C'**TERMS AND CONDITIONS****1. Quality Control Measures: (GCC Article 10.1)**

- (a) Quality Assurance plan will be monitored by the PMC as submitted by the Executing Agency duly approved by PM / Engineer in Charge as per Para No. 10.1 of GCC (Quality of Work).
- (b) Supervision of work at site shall be quality control oriented and at no stage compromise in quality is acceptable.
- (c) To conduct field and laboratory test of materials being incorporated in the projects and maintain records of all quality related tests in consultation with Engineer-in-Charge / CCE (R&D) Estates, North and Contractor.
- (d) To carryout sample test at site lab and other lab for approval of sample of various construction materials before incorporation in work.
- (e) Conduct hydraulic testing /commissioning of underground CI/DI pipelines various equipment's at site and to keep such records in files. Cost of conducting various tests shall be paid by the contractor of the main project/ sub - projects.
- (f) Transportation of materials from site to the testing lab shall be borne by the contractor. Labour for handling of testing material/equipment's (loading and unloading) shall be provided by the contractor and unloading at lab site shall be in the presence of consultant.

2. Language:

Tender documents including Tender drawings, if any and other information shall be prepared and submitted in English language only.

3. Bar Chart / Pert Network

In order to achieve the completion in time, the CONTRACTOR shall submit Bar Chart/ PERT Network to the CCE (R&D) Estates, North, Chandigarh within 10 (Ten) days from the effective date of agreement. The Bar Chart/ PERT Network shall include all the activities including mobilization, site clearance, procurement of major construction materials like steel and cement, excavations, foundation work, sanitary Electrical and Mechanical water supply work, etc. The list of activities for which the Bar Chart/ PERT Network shall be worked out, their commencement, duration and completion shall be approved by the CCE (R&D) Estates, North, Chandigarh and the copy of the same shall be forwarded to the office of CCE (R&D) Estates, North Chandigarh.

4. Completion Time

The work is required to be completed within a period as specified in the NIT/ **Tender Clause No. 22** from the date of issue of letter of acceptance and the contractor shall not be allowed any extension of completion time except in the following cases: -

a) Force Majeure.

The extension of completion time shall be as per respective clauses of GCC as mentioned in **Article 4.**

OR

Major changes or substantial addition to the work ordered by the CCE (R&D) Estates, North, Chandigarh adversely affecting the completion time.

In case of conditions from **Clause No. 22** above: - Extension of time shall be as per decision of the CCE (R&D) Estates, North Chandigarh.

5. Tender Documents :- List of Documents to be submitted for eligibility criteria are as per Table A of Appendix 'A'.

6. **Safety / Precautionary measures against accidents & payment of compensation**

(i) The contractor shall adopt adequate safety measures by providing safety belts, gloves, helmets, mask etc. as necessary for their safety. In this connection Article 33 & 34 (inclusive of all sub-pares) of General Condition of Contract GCC-2023 as attached are to be strictly followed.

(ii) Security: - The contractor will follow all security rules / regulation prevalent in the area as per the order issued from time to time and engages the personal with proper PVRs.

7. **Mobilization Advance**

Mobilization Advance as per General Conditions of Contracts clause No. 6.4 as amended shall be applicable.

8. **Secured Advance:** As per clause 6.7 to 6.10 of GCC.

9. **Retention Money:** As per clause 6.11 of GCC.

10. **Performance Bank Guarantee (PBG) :** As per clause 6.12 of GCC.

11. **General Conditions to Contract**

The General Conditions of Contract as per RDCE Works Procedure conditions, as amended would apply to this tender. A certificate of Acceptance as per format in Appx - 'H' is required to be attached with the Cover-I. In case this certificate is not attached the bid will be rejected.

12. **Payment Terms and Conditions**

(refer Article No. 6 of GCC - 2023)

13. **Security of Classified Documents**

Contractor's special attention is drawn to condition 44 of General Conditions of Contracts and also the Indian Secret Act-1923 (Particularly Section 5). The Contractor is bound by the provisions of the Act. The contractor shall not communicate any classified information regarding works either to sub-contractor(s) or others without prior approval of Engineer-in-Charge / Project Manager. The contractor shall also not make copies of the design/drawings and other documents furnished to him in respect of the works and shall return all the documents on completion of the work or on earlier termination of the contract. The contractor shall along with the final bill attach a receipt from Engineer-in-Charge / Project Manager in respect of having returned **the classified documents as per Condition 44 of General Conditions of Contract.**

14. **Notices to Contractor**

All notices to be given to the contractor under the contract shall be in writing, typed script or printed and shall be sent by registered post to the address given herein or the last known address and shall be deemed to have been served on the date when in the ordinary course of post it would have been delivered to him.

15. **Accidents**

(i)The Contractor shall be solely liable for any accident or injury to any of the personnel engaged by him or by his sub-contractors in connection with the Contract work. The Owner shall not be liable for any damage or compensations payable by law in respect of or in consequence of any accident or injury to any personnel in the employment of the Contractor or his sub-Contractor and the Contractor shall indemnify and hold harmless the Owner against all such claims, damages, compensations and proceedings.

(ii)The Contractor or his sub-Contractor shall forthwith report to the Owner all cases of accidents to any of their personnel /workmen and shall make every arrangement to render all possible assistance and aid to the victim of the accident. The Contractor shall obtain a group insurance for his employee so that any accident will be covered under the said insurance.

16. **Damage of Equipment**

Any damage to the existing structure and fixtures during the execution of work and damage to equipment due to negligence, lack of proper maintenance and misuse shall be made good by the contractor at his own cost to the entire satisfaction of the Engineer-in-Charge.

17. **Undesirable Activities:** The contractor will not allow or permit the employees to participate in any Trade Union Activities or agitation in the Site of work. It must be ensured that none of the workers are in intoxicated

condition while on duty. If any individuals employed are found to be in intoxicated state, they will be marked absent, and their service will be terminated forthwith.

18.(a) Labour Licence

(i) In addition, the successful contractor shall have to obtain labour license as applicable from respective labour commissioner.

(ii) The tenderer shall ensure that at no time any security point is unmanned. A register shall be maintained at main gate where around the clock duty is performed, For the purpose of taking/ handing over of the duty by the security personnel. Register will be maintained by the tenderer at the main gate to enter incoming and outgoing vehicles. Apart from this the tenderer may have to maintain any such register as required from time to time. The tenderer will have to abide by any other regulatory system as will be found necessary by the institute. Performance of duty in two shifts by the guard on a day shall not be permitted. However, in an emergency case exception can be made with the prior approval of the Institute's Authority to the extent of one person in any one of the ships but the payment to such a person for the extra shift shall be restricted as per labour laws.

18.(b) Electrical Licence: For contractor(s) executing electrical works, this is a mandatory requirement to ensure safety and compliance with the electrical codes and regulations under clause 45 of the Indian Electricity Rules 1956, as amended.

- a. For executing Composite Operation & Maintenance Works, which includes maintenance of Electrical Works, the contractor(s) shall submit an undertaking, provided that they do not possess it in their own name, that they shall associate with an agency having valid electrical license from the competent authority in its name for execution. Such agency shall keep valid license throughout the period of execution by getting it renewed at suitable intervals. In event of any default on the part of the contractor in this regard, its enlistment and authority to work with DCW&E, DRDO will also automatically cease to be valid.
- b. For exclusive works of Operation & Maintenance of Electrical Installations, the contractor(s) shall possess valid 'Electrical Licence' of the appropriate voltage class, valid for the full period of work under the published tender(s). If the validity of the Electrical Licence is expired / not valid for the full period of the published tender(s), the L1 contractor will have to submit the same within one month of expiry of certificate, failing which, the contract would be liable for termination. If the Electrical Licence is not available, the L1 contractor will have to submit the same within a period of three months from the date of commencement of the work, failing which, the contract would be liable to termination along with banning / blacklisting of the firm for a minimum period of two years. In case any causalities / accidents occurring on site, connected with valid electrical license possession, the agency will be liable for contractual, legal and financial compensation to the victim which shall be borne by the contractor. **No reimbursement shall be made in this regard.**
- c. No payment towards getting the Electrical Licence / registration would be made by the department.19.

19. Water & Electricity

Water: Water will not be supplied by the department. The contractor shall make his own arrangement for procurement and storage of water required for construction and workmen etc., at his own cost.

In case, water is supplied by the department at points as decided by Engineer-in-charge. Water will be charged **@1% of work done**. The contractor shall make his own arrangement for the conveyance and storage of water required for the work, labour / Workmen etc. In the event of breakdown of supply of water or in the event of the said supply by local authority's water becoming intermittent, the contractor shall not be allowed any compensation, whatsoever, on this account. The CCE/EMU's do not guarantee the continuity of water supply, and no compensation shall be allowed for intermittent or inadequate water supply and breakdown in the system.

Electricity: Contractor shall have to make his own arrangement for the supply and distribution of electricity for work, workmen etc. at his own cost.

In case, electricity is supplied by the department for works, the electric supply will be made available by the department at the point(s) and recovery @ 1% of work done will be made from the payment to be made to the contractor. The contractor shall provide all necessary connections, cables, fittings etc. from the main switch in order to ensure proper and suitable supply of electricity for the execution of work.

The contractor shall obtain the prior written permission of the Engineer-in-Charge concerned for availing the power. All contractor's installation shall conform to and be strictly in accordance with Indian Electricity Act and Rules. Moreover, the layout of cable etc., as proposed by him shall be as per plan approved by the Engineer-in-Charge. The Department will not guarantee for continuity of the supply and no compensation shall be allowed if the supply becomes intermittent or for break down or any reason whatsoever.

20. **Deviation Limit:** As per RDCE WP - 2024 Chapter – 8 of Deviation Limit.
21. **Maintenance Guarantee / Defect Liability Period:** Maintenance Guarantee period shall be **Twenty-Four (24) months** from the actual date of completion recorded. The contractor shall have to maintain such works during this period to the entire satisfaction of the CCE(R&D) Estates, North, Chandigarh without any extra cost to the Govt. (Refer scope of work)
22. **Working Hours:** The contractor has to observe working hours as per the rules laid down by the authority controlling the area. To work on closed days/holiday, the contractor shall obtain necessary permission in writing. The contractors are supposed to have taken into account the above working conditions in their quoted prices.
23. **Liquidated Damages for Delay :** If the CONTRACTOR fails to complete the Work and clear the Site on or before the scheduled or extended date of completion as per GCC 2023 Article 4 and 23. he shall, without prejudice to any other right or remedy of the OWNER, arising out of the Contract on account of such delay, be liable for payment of Liquidated Damages (LD) as per **GCC Article 23**.
24. **Running Bills**
- (i) The contractor shall submit his pre-receipted contractor's bill on Pro-rata basis on actual work done in triplicate along with Measurement Book issued by CEA to the concerned Engineer-in-Charge who will certify satisfactory progress of the work and arrange payment. All copies be endorsed "payment received in full" and signed by the contractor.
- (ii) Income Tax as applicable from time to time shall be progressively deducted from the CONTRACTOR's bills by the Department for depositing with the Income Tax Authorities. Surcharge on Income Tax as applicable shall also be deducted.
- (iii) All statutory payments/levies as applicable shall be deemed to be included in the quoted percentage in respect of GST & Labour Cess as applicable.
25. **PAYMENT ON ACCOUNT/PROGRESSIVE INTERIM PAYMENTS**

- (b) The progressive payment shall be released after certification by PM/Engineer-In-Charge that works have been performed in accordance with the Technical Specifications including Quality Assurance Plan (QAP) and authorisation for the payment. However, the release of first progressive interim payment shall also be subject to submission of documentary evidence by the CONTRACTOR towards having taken the insurance policy(ies) in terms of relevant provisions of SCC for CONTRACTOR's liability and insurance and acceptance of the same by PM/Engineer-in-Charge.
- (c) The progressive payments further to first Running Account Receipt (RAR) Bill shall be released after certification of PM/Engineer-in-Charge that the CONTRACTOR has complied with requirements of the Contract for bringing Tools & Plants (T&P) at the site, establishment of the site office, lab testing facilities etc. as specified in the Contract. If the CONTRACTOR defaults in fulfilling the above requirements, the OWNER or his authorized representative shall have the authority to withhold an amount equal to following percentage of the claimed amount by the CONTRACTOR in the submitted RAR Bills: - Second RAR bill - 10 % (Ten percent) of the bill amount Third RAR bill - 20 % (Twenty percent) of the bill amount Fourth RAR bill - 30 % (Thirty percent) of the bill amount Further beyond the

Fourth RAR Bill, no payment shall be made to the CONTRACTOR by the OWNER unless the CONTRACTOR has complied with above said requirements.

- (d) All interim/progressive/running payments shall be regarded as payment by way of advance against final payment only and not as payment for the work completed till the date of final payment. The running payment made shall not preclude the liability of the CONTRACTOR to finally complete the Work strictly in accordance with the specifications and drawings, if required by reconstructing faulty works.
- (e) All invoices for running payments as well as for final payments shall be submitted in prescribed forms duly recommended by the PM/Engineer-in-Charge and supported by detailed measurement of items of work in accordance with GCC Article 17.
- (f) Adjustment of final Contract sum shall be made in the last 3 (three) consecutive running bill payment based on the final quantities against various items of work. Adjustment shall also be made in the Contract sum due to variation in executed work, if any, as per requirement of the OWNER in those 3 (three) last running bill payments.
- (f) However, the stages of percentage of contract rates shall be payable against the stages of work shown here in:

Stage of work	% Of Payment Eligible
I. After initial inspection (wherever specified) & at site in good condition of pro-rata basis.	60%
II. On completion of installation in all respects.	25%
III. After completion of Testing & Commissioning (Incl Third party check)	10%
III. After successful Handing over	5%

26. DRAWINGS, CATALOGUES / MANUALS:

- a) The tenderer shall furnish in Duplicate, the following drawings and data with the tender:
 - i. Drawings showing proposed layout of equipment in plant room.
 - ii. Dimensional outline and cross sections of drawings of offered equipment with all accessories showing mounting details, approximate weights and descriptive catalogues of equipment.
 - iii. Illustrative catalogues of the manufacturer's for the equipment offered.
- b) Drawings to be submitted after award of contract is accepted within one month. The successful tenderer shall furnish three copies each of the following drawing for approval before the commencement of work:
 - i. Dimensional layout of equipment in Air Conditioning plant.
 - ii. Air Distribution system.
 - Duct size and dimensions with designed supply air velocity and section on air velocity in each section and room.
 - Location and sizes of supply air outlets and return air outlets.
 - Supporting details of ducts.
 - Quantity of air in CFM considered for each room.
 - iii. Condenser water piping layout with pipe sizes, location number and type of valves, pressure, gauges, strainers and thermometers etc.
 - iv. Refrigerant piping layout with pipe sizes, location number and type all kinds of valves, pressure gauges, strainers and details of pipe insulation, controls as per standard norms and as specified.
 - v. Electrical wiring and control wiring diagram indicating details of all electrical equipment and inter locking system. Cabling iron panels shall be taken on over head MS frame stand up to each equipment at suitable height.
 - vi. Detailed dimensioned drawings for foundation of all equipment's indicating the equipment loads.
 - vii. Any other drawings as and when considered necessary by department shall also be supplied by the tenderer.
 - viii. Lay out drawings of the equipment's to be installed including control cables.
 - ix. Any other drawings relevant to the work.

CATALOGUES AND LITERATURE: The tenderer shall supply the following literature in English:

- a) Along with tender / quotation: Complete literature giving technical information of component parts of the equipment.
- b) After acceptance of tender:
 - i. Manufacturer's instruction books on maintenance and operation of the plant.
 - ii. Spare parts catalogues for each unit of plant.
 - iii. Psychometric chart.

27. FINAL PAYMENT (Ref Clause 6.19 to 6.20 of GCC 2023) : The final bill shall be submitted by the CONTRACTOR within 3 (Three) months from the date of completion of the Work accompanied by :

- (a) Completion certificate issued by the CCE.
- (b) No claim Certificate by the CONTRACTOR.
- (c) Consumption Statement of steel and cement certified by the PM/Engineer-In-Charge.
- (d) Consumption Statement for all other imperishable materials like bricks, electrical and sanitary fittings etc. for which advance has been given by the CCE as mentioned above in GCC Article 6.7 to 6.10.
- (e) Original guarantee furnished by CONTRACTOR's Suppliers for applicable items and in favour of the CCE.
- (f) Bank guarantee for DLP by the CONTRACTOR.
- (g) Test Certificate for items and materials.
- (h) Completion Drawing/Sketches of completed work as mentioned in SCC/Technical Specifications.

Note: The final bill shall be submitted by the CONTRACTOR along with all documents with completeness in the specified manner and format within three months of physical completion of the work or within one month of the date of the final certificate of completion furnished by the CCE whichever is earlier. No further claims shall be made by the CONTRACTOR after submission of the final bill and these shall be deemed to have been waived, extinguished and non-arbitrate.

SPECIAL CONDITIONS OF CONTRACT

1. The work shall be carried out at **ADRDE, Agra**. All the bidders are advised to visit the site before quoting their rates and in case of any anomaly in the BOQ, it may be brought to the notice of this Office, no later claim shall be entertained.
2. The contractor shall have to obtain prior approval from Engineer -in -charge before placing the order for any specific materials. The Estate Manager / Engineer -in -Charge may approve any of the makes /Brands out of the list of accepted makes (enclosed) and shall intimate to CCE(R&D) Estates, North, Chandigarh in writing. All the materials to be used in the work shall be got approved by the Estate Manager / Engineer - in- charge prior to their actual use in the work.
3. The work shall be carried out in engineering like manner. The bad workmanship will not be accepted, and defects shall be rectified at contractor's cost to the satisfaction of the Engineer-in-Charge.
4. No damage shall be caused to the existing structure / installation / equipment during execution of the work. Any damage made to wall ceiling etc. of the building shall have to be made good up to the original finish as per requirement within the tendered amount. Nothing extra will be paid on this account.
5. All damages done to the building during execution of Electrical work shall be the responsibility of the contractor and the same will be made good immediately at his own cost to the satisfaction of the Engineer-in-Charge. Any expenditure incurred by the department in this condition shall be recovered from the contractor and decision of the Engineer-in-Charge about recovery shall be final.
6. The entire installation shall be at the risk and responsibility of the contractor until it is tested and handed over to the department/Client.
7. All repairs and patch works shall be neatly carried out to match with the original finish by the contractor to the entire satisfaction of the Engineer -in-Charge.
8. All the openings in the walls / ceiling including chases etc in the walls shall be part of the scope of the work and nothing extra shall be paid on this account. All the openings and chases etc made shall be finished properly.
9. All the debris of the electrical and associated civil works should be removed, and the site should be cleared by the contractor immediately after the accruing of debris. Similarly, any rejected material should be immediately cleared off from the site by the contractor.
10. The contractor is fully responsible to make his own arrangements for the watch and ward of materials at site as well as the installations provided by him till such time the installation work is completed and handed over to the department in satisfactory working condition for which no extra claim will be entertained on account of damage, theft, pilferage etc., for the materials and installations. Watch and ward of the materials / equipment shall be the responsibility of the contractor till handing over of installation to the department.
11. The contractor shall make his own arrangement for all General and Special T & P required for the work. No T & P items shall be supplied by the department.

12. The material to be used in the work shall be procured only from authorised source / dealers /distributors and documentary evidence to this effect shall be submitted as and when desired to the Engineer -in-Charge or his representative failing which the Engineer -in -charge reserves the right to reject the materials in toto.
13. All materials brought to site should be got approved from the Engineer-in-Charge before being used. Test reports as per relevant IS Code of all the equipment / materials should be submitted. Department reserve the right to check the genuineness of the materials.
14. The quantities given in schedule of work for all the items are tentative. The work shall be carried out as per actual requirement and as approved by the Engineer -in – Charge/ Project Manager.
15. The work shall be under two-year defect liability from the date of completion of work/ date of handing over of the installation to user, whichever is earlier. During this period all the manufacturing defects/repairs shall be made good by the agency free of cost.
16. The price quoted shall be firm and inclusive of all taxes and duties including GST, Income Tax, Labour welfare Cess and other statutory deductions as applicable will be deducted at source from the contractor's bills.
17. The scope of work includes all supports and arrangements etc required from the ceilings/walls/truss supports etc. Nothing extra shall be paid.
18. Inserting of bare wires for tapping the power from electrical sockets is completely prohibited.
19. All unsafe conditions, unsafe acts identified by Department/Client, reported by site supervisors and / or safety personnel etc., to be corrected immediately.
20. No children shall be allowed to enter the workspace.
21. All internal wiring/ control wiring inside the electrical panels shall be carried out with 1100 V grade FRLS PVC insulated Copper conductor cables (IS: 694) of suitable sizes.
22. All hardware items such as nuts/bolts/ screws/ washers etc. to be used in work shall be zinc/ cadmium plated iron.
23. All light and power copper wires shall be FRLS PVC insulated copper conductor single core type only.
24. All the Materials to be used on this Work by the Contractor shall be got approved from the Engineer-in – Charge in advance before installation at the site.
25. All the Equipment's shall be delivered with (i) Manufacturers Test Certificates (ii) Manufacturers Technical Catalogues and Installation/Instruction (O&M) Manuals.
26. Provision and fixing of glands for cable terminations in panel shall be as per CPWD Specifications. Lugs and thimbles at cable/ wire ends should be as per CPWD Specifications. Termination of earth terminals in corresponding earth pits, switch boards, DBs and accessories must be ensured.
27. The rupturing capacity of the MCB's shall be 10 kA. The MCB's shall be ISI marked. The make of MCB, RCCB, RCBO etc. shall be of the same as that of MCB DB/DBs.
28. Materials to be used in work are to be ISI marked. The make of the materials have been indicated in the list of approved makes. No other makes will be acceptable. The materials to be used in the work shall be got

approved by the Engineer in Charge/his representative before its use at site. The Engineer in Charge shall reserve the right to instruct the contractor to remove the material which, in his opinion, is not acceptable.

29. All distribution boards shall be pre-wired and double door type. RCBO/RCCB of suitable rating shall be provided as main incomer in all these DBs.
30. Balancing of 3-phase circuit shall be done if required.
31. Earthing, cement concrete works and testing of the installation shall be done in presence of the Engineer -in-charge or his authorized representative.
32. G.I. pipes shall be medium class as per ISI specification & shall be of single piece without any Joints.
33. All debris at site shall have to be removed by the contractor before handing over the installation to the department.
34. Cutting of brick walls shall be done with due care. All repairs and patch works shall be neatly carried out to match the original finish and to the entire satisfaction of the Engineer in Charge.
35. General arrangement drawings of Panel boards for equipment operation shall be got approved from Engineer-in-charge before commencement of its fabrication.
All the Electrical panels should be properly earthed as per CPWD specifications.
36. Termination of wiring inside the DB's and Panel boards should be done by crimped Copper lugs connections, for which no extra payment will made.
37. All metallic parts must be properly bonded to the earth. Earthing lugs shall be provided to all copper earth wires and shall be fixed whenever required by means of anodized bolts and nuts.
38. All the hardware items such as screws, 'thimbles', G.I. wires etc which are essentially required for completing an item as per specifications will be deemed to be included in the item even when the same have not been specifically mentioned. All hardware materials such as nuts/bolts/screws/washers etc., to be used in the work shall be zinc/cadmium plated iron.
39. The general arrangement drawings of panels shall get to be approved from the Engineer-in-charge before start of work.
40. All materials, accessories, and other related fitting parts shall be new and free from defects which in any manner may impair their character, appearance, strength, durability, and function, and effectively protected from any damage or injury from the time of fabrication to the time of delivery and until final acceptance of the work.
41. The Department shall not be held responsible for the omission or absence of any detail, construction feature, etc. which may be required in the production of the panels. The responsibility of accurately fabricating the panels to the fulfilment of the specification's rests with Contractor.
42. The panel boards must be fabricated from C.P.R.I. approved fabricator. The Panel Boards shall be provided with M.V. danger notice / plates. Lifting hooks and suitable louvers shall be provided in the panels.
43. The contractor shall use any of the approved/Preferred makes list enclosed in the NIT/Agreement for use in the work after obtaining the approval of the Engineer- in-charge.

44. The Contractor must submit GA drawings of Panel Boards and Schematic layout showing cable routing for approval of Engineer-in-charge before commencement of work and get them approved from Engineer-in-charge for execution of work as per approved drawings/details of Engineer-in-charge.
45. Engineer-in-charge will have the right to change the layout as per requirement at site and the contractor shall not have any claim due to change in layout.
46. Labour laws as per the GCC 2023 for construction works must be strictly complied to.
47. The contractor or his representative is bound to sign the site order book as and when required by the Engineer-in-charge and to comply with the remarks therein.
48. The rated service breaking capacity should be equal to rated ultimate breaking capacities ($I_{cs} = 100\% I_{cu}$) where I_{cs} is service breaking capacity and I_{cu} is ultimate breaking capacity, and they should be of approved make. The MCB/RCCB/MCCB shall be same make of approved company
49. Completion plans to be submitted by contractor in 5 sets after completion of work.
50. The Power cable shall be XLPE insulated, PVC sheathed aluminium conductor armoured cables 1100 V grade confirming to IS.
51. All external Cable laying work shall be carried out as CPWD General Specification of electrical works Part –II External-1994.
52. Cable laying work should be executed as per CPWD General specifications for Electrical Works Part – II External, 1994 and CPWD General specifications for Electrical works Part IV Substations, 2013.

Format for BG

**FORMAT OF BG (FORMAT FOR BANK GUARANTEE) FOR
EARNEST MONEY DEPOSIT**

This deed of guarantee made on day of Two Thousand _____ between (Name of Banker) having its Registered office at _____

(hereinafter referred to as the Surety) and President of India acting by and through **Chief Construction Engineer (R&D) Estates, North, M-1026, Sector 29-A, Chandigarh** - 160030 (herein after referred to as the "OWNER").

WHERE AS M/s.....(Contractor's name) hereinafter referred to as "CONTRACTOR" having their registered office atis bound to deposit with the owner by way of Earnest money Rs..... (Rs..... only) in connection with their tender for(name of work) with reference to "OWNER" tender enquiry No.....dated as per specifications and terms and conditions enclosed therein. Whereas the contractor as per clause No. 10 of invitation to tender has agreed to furnish a Bank Guarantee valid upto (date) instead of deposit of earnest money.

NOW THIS WITNESS

That the surety in consideration of the above Tender made by the CONTRACTOR to the OWNER hereby undertakes to guarantee payment on demand to the owner of the said amount of Rs..... which the contractor is bound to deposit with the OWNER by way of earnest money in connection with his tender.

Notwithstanding anything contained in the foregoing, the Surety's liability under the guarantee is restricted to Rs..... (Rupees only). The guarantee shall remain in force and affective up to and shall expireand become ineffective on intimation there-of being given to the surety by the owner in which event this guarantee shall stand discharged.

This guarantee shall Not be affected by any change in the constitution of the OWNER, CONTRACTOR or the surety.

The OWNER shall be eligible to make any claim under this guarantee only if the contractor submitting the tender resales from the offer or modify the terms and conditions thereof in a manner Not acceptable to the OWNER or fail to sign the contract and deposit initial security deposit within 10 (Ten) days after the OWNER has advised the contractor the acceptance for (name of work) on mutually agreed terms and conditions. The OWNER's decision in this regard shall be final and binding.

The surety cannot revoke this guarantee during its currency except by the previous consent of the OWNER in writing.

Notwithstanding anything contained hereinabove unless a demand or claim under this guarantee is made on the surety in writing on or before the surety shall be discharged from all liabilities under this guarantee thereafter.

for and on behalf of
(Banker's Name)

FORMAT FOR AGREEMENT

This AGREEMENT made and entered into this _____ day of _____ Two Thousand _____ between the President of India acting by and through **Chief Construction Engineer (R&D) Estates, North, M-1026, Sector 29-A, Chandigarh - 160030** hereinafter referred to as the "OWNER" (which expression shall, unless excluded by or repugnant to the context or the meaning thereof, be deemed to include its successors and assigns) of ONE PART.

AND

M/s. _____

having their registered office and principal place of business at _____

_____ hereinafter referred to as the "CONTRACTOR" (which expression shall unless excluded by or repugnant to the context or the meaning thereof, be deemed to include its successors and assigns) of the OTHER PART.

WITNESSETH THAT

WHEREAS, the OWNER invited the CONTRACTOR to submit tender for

AND

WHEREAS, the CONTRACTORS submitted their tenders to the OWNER for execution of the work in accordance with the tender documents including technical specifications, schedule of items and tender drawings vide his letters

AND

WHEREAS, the OWNER has accepted the tender submitted by the CONTRACTOR for the execution of the aforesaid work with reference to letter

No. _____

AND WHEREAS, the CONTRACTOR has agreed to execute the aforesaid work on the terms and conditions as stated in tender documents & general conditions of contract and has also agreed to submit to the OWNER initial security deposit required to be paid on the date of signing of the agreement, in accordance with the Tender.

NOW, THEREFORE, in consideration of the foregoing promises and mutual covenants herein contained, the parties hereby agree to fulfil the obligations stated in the tender documents along with contractors offer.

IN WITNESS

WHEREOF THE **Chief Construction Engineer (R&D) Estates, North, M-1026, Sector 29-A, Chandigarh – 160030**, has set his hand for & on behalf of PRESIDENT OF INDIA.

AND

Sh. _____ duly authorised representative of the CONTRACTOR for and on behalf of M/s. _____

has affixed his signature and the seal of the said company in accordance with Articles of Association.

Signed and delivered by

() ()

For and on behalf of

M/s. _____

Signed and delivered by

CCE (R&D) Estates, North

Accepting Officer

For and on behalf of PRESIDENT OF INDIA

WITNESS

1. _____

1. _____

2. _____

2. _____

Appendix-'H'

Format of Certificate for RDCE WP & GCC

CERTIFICATE FOR ACCEPTING TERMS & CONDITIONS OF RDCE WP 2024 & GCC 2023

1. I / we hereby declare that I/we have seen, read and understood the aforesaid General Conditions of Contracts 2023 (GCC-2023) applicable to RDCE WP-2024 (Page 1 to 89 including i-xx) with errata and referred to in the tender documents and form part of the tender document.
2. My / our signature hereunder is deemed to having seen, read and understood these documents before submission of the tender documents. RDCE WP -2024 documents although not attached with the tender but shall be deemed to have formed a part of the tender and subsequently JWO / Contract Agreement if accepted.
3. It is hereby certified that I have gone through the General Contract Conditions -2023 (GCC-2023) attached with the tender and agreed with the mentioned terms and conditions.

Yours Faithfully,

(Signature of the Bidder, with Official Seal)

LIST OF APPROVED MAKES OF MATERIALS

The materials of first/standard quality from the following approved makes or as specified in the particular item of work in Schedule of Quantity are to be used. In case it is established that the brands specified below are not available in the market, contractor shall submit alternative proposal for the approval of Engineer-in-Charge before procurement and the same shall be got approved from CCE(R&D).....

LIST OF APPROVED MAKE OF MATERIALS FOR CIVIL WORKS

S. No.	Materials	Manufacturer / Vendor
Anti Termite Treatment		
1.	Chlorpyriphos (Pre-construction treatment)	DE-NOCIL/ Bayer/ Pyramid/ Searle/ Montari
Concrete Works		
2(a)	Cement: OPC / PPC	ACC, Ultratech, Coromandel, Ramco, Dalmia, Shree Cement, Ambuja, Century, JK Cement, Jaypee Cement, Chettinad, Grasim Industries, Birla Gold
2(b)	White cement	ACC, J.K White, Birla White
3.	Chemical Admixtures	MC Bauchemie, Pidilite Industries Ltd, Sika, FOSROC, BASF and Normet, MYK SCHOMBURG
4.	Ready Mix Concrete (RMC)	Ultra Tech, ACC, LAFARGE, RMC Ready Mix (India), Apama
5.	Damp proof material	IMpermo, Duraseal, ACCO-proof, Pidilite Industries Ltd, MYK SCHOMBURG (verbal), Ultratech
6.	MicroConcrete	Ultratech
RCC Works		
7.	Reinforcement steel (Primary Producers)	SAIL, TATA(TISCO), RINL, JSW Steel Ltd.
8.	Polymer / Blended synthetic wax based Curing Compounds	FOSROC, SIKA, BASF, Ardex, Endura, MYK SCHOMBURG
Steel Works		
9.	Structural Steel	SAIL, TATA (TISCO), RINL, JSW Steel, JSPL.
10.	Hollow Steel Sections	TATA, Jindal
11.	Binding Wire	TATA, JSW
12.	M.S Pipe, Tubes, Bar, Flats, Angle, Tee Sections	SAIL, TATA (TISCO), RINL, Jindal, and Electrosteel.
13.	Auto Shut Rolling Shutter	Gandhi Automation Pvt Ltd, Leaptor(by Avians), Standard Automatic Solutions, NIHVA Technologies, Toshi Automations
Brick Works		
14.	Auto Claved Aerated Cement (AAC) blocks	Xtralite from Ultratech, Aerocon from HIL, Siporex India limited, M/s. Hyderabad Industries Ltd., NCL & NUBRIC, Prime AAC blocks of ECO-Care building products.
15.	Fly ash Cement Bricks	KSP Industries, Prakash International Ltd, NUBRIC.
16.	Factory Made Cement Concrete Cover	A.S.R Cover Blocks, Stand Alone Universal Concrete Cover

S. No.	Materials	Manufacturer / Vendor
	Blocks	Blocks
Wood & PVC Works		
17.	Wooden Flush Doors	Green ply, Century, Kit ply, ARCHID PLY, Anchor, Kuty, Duro and Godrej.
18.	Metallic Steel Fire Door	Shakti Met Door, Promat, Godrej, Navair,
19.	Non Metallic Fire Door	Shakti Met Door, Navair, Promat & Godrej
20.	RCC Door Frames	Ambience Industries and Ventura.
21.	Steel Windows / Pressed Steel Frames	Madhu Industries, (Bengaluru), San Harvic, Ahmedabad/ Baroda, NCL
22.	PVC Door (Pre-laminated)	RajshriPlastiwood, Sintex, Acura Polytech Pvt. Ltd.
23.	PVC Door frames (Pre-laminated)	RajshriPlastiwood, Sintex and Acura Polytech Pvt. Ltd.
24.	UPVC Door, Windows & Accessories.	Fenesta, Kommerling, Rehau and Prime, Aparna, Gealan.
25.	Fire Resistant Flush Door Shutters	Kuty, Romat, Navair
26.	Water proof Plywood	Green Ply, Century, Kit Ply and Anchor.
27.	Commercial Plywood	Archidply, Century, Green ply, Kitply, Anchor, Duro and National
28.	Laminates	Greenlam, Century ply, Merino, Royal Touch, Kitply, Formica, Decolam and Sunmica
29.	High Density fiber (HDF) Pre-Laminated board	Pergo & Armstrong.
30.	Plain / Pre-laminated particle board- Exterior grade,	Novopan, Merino, Green Lam, Archid ply, Century, Bhutan Exterior Grade and Bharat Plywood exterior grade
31.	Gypsum board	Saint Gobain, Lafarge, Armstrong, Vans Gypsum and India Gypsum.
32.	Veneers	Kitply, Centuryply, Archid ply.
33.	Melamine Polish	Asian paints, Melamine Gold Wood finish of Pidilite Industries Ltd, Timbertone of ICI Dulux, Berger, Nerolac.
34.	Door Hardware	Dolma. Kich, Classic. Haffle, Ozone Geze and Godrej.
35.	Hydraulic door closers / Floor springs	Godrej, Hardwyn, Everite, DORMA, Dorset, Hafele, Hettich.
36.	Locks/ Latches	Dorset, Godrej, Hettich, Blum, Hafele and Harrison
37.	Locks in Cabinets / Furniture	Godrej, Hettich, Blum, Hafele.
38.	Fire smoke SeL	Hilti & Raven
39.	Fire Rated Hardware	Dorma, Ingersolrand, Geze.
40.	Stainless steel screws for fabrication and fixing of windows.	Kundan, Puja, Atul & PRIYA, Hilti.
41.	Butt Hinges openable Window shutters	Haffle, Alu Alpha
42.	Mild Steel Butt Hinges / Piano Hinges	Jolly, Garg, AMIT & Jyoti
43.	Nuts Bolts / Screws	Kunda, Puja, Atul
44.	Concealed Tower Bolt	Dorma, Ingersolrand, Alu Alpha
45.	Acoustic Insulation	U.P. Twiga Ltd, Lloyd Insulation, Saint Gobain
46.	Glass / reflective Glass	Saint Gobain, Asahi, Pilkington, Glaverbel, Modi Float, Atul, Goldenfish
47.	Clear Float Glass	Saint Gobain, Asahi, Pilkington, ModiGloverbel & Atul

S. No.	Materials	Manufacturer / Vendor
48.	Mirror Glass	Modi Guard, Saint Gobain, Asahi, Atul, Golden Fish.
49.	Source for tempering Refl. Glass clear	FUSO, Saint Gobain, Impact Safety, Modi, Asahi, Atul, Gloverbel, Pilkington.
50.	Fire Rated Glass	Pyoswiss of Saint Gobain, Pyran of Schott, Pilkington.
51.	Structural Glazing	Modi, Saint Gobain, Asahi & Glaverbel
Flooring		
52.	Vitrified Tiles	Nitco, Rak, Kajaria, Somany, Johnson, Vitero(Aparna), Decolite(Granolite), Granito, Murudeshwar Ceramics, Orient, Bell, Naveen, Somany and Aparna
53.	Unglazed Heavy Duty Vitrified Tiles	Somany (Dura Gres) Kajaria (Pavigres), Naveen, Nitco and Aparna
54.	Glazed Ceramic / Dado Tiles	NITCO, RAK, Kajaria, Somany, Johnson, Orient, Bell, Mududeshwar Ceramics, Naveen and Aparna
55.	Decorative pressed Cement Concrete Tiles	Ultra, Classic, Durocrete, Eurocon
56.	Precast Chequered Tiles	NITCO, Hindustan, INDO, Eurocon
57.	Metallic Floor Hardners	BASF, SIKA, Normet, Fosroc, MYK, Ultratech, SCHOMBURG
58.	Precast Cement Concrete Tiles	NITCO, Hinduatan, INDO, Ultra, Classic
59.	Glass mosaic tiles	Italia, Palladio, Bisazza, Coral, Midul,
60.	PVC Flooring	LG Hausys, Ger Floor, Armstrong.
61.	Unglazed Heavy Duty Tiles	Somany (Dura Stone), Johson (Endura) and Aparna
62.	Calcium Silicate False Ceiling Tiles	Aerolite Co., Hilux & Armstrong, Ramco Industries.
63.	Mineral Fiber Board False Ceiling Tiles	Armstrong, Decosonic.
64.	Tile Adhesives	Laticrete, ArdexEndura Weber, Roff. SIKA, Ferrous, Pidilite Industries Ltd
65.	Synthetic sports flooring	Armstrong, LG, Wonder floor
66.	Linoleum sports flooring	Armstrong, Forgo, Gerflo
67.	False Floor	Hewetson, Unifloor, Unitile, Kebao, Pinnacle, Access Floor System
68.	Engineered wood flooring	Armstrong, Wernel, Pergo
69.	Cement Concrete Parking tiles	NITCO, Poddar, Eurocon.
70.	Unglazed Heavy Duty Paver/ Parking Tiles	Somany (Dura Stone), Johnson (Endura)
71.	Factory Made Interlocking Concrete Blocks / Kerb Stones	Ultra, Shree, Hindustan Tiles, Nitco, Earth Pavers Hyd. Pvt, Uni tile, NTC and Classic Tiles.
72.	Synthetic Carpet Tiles	TOLI, Hollitex & Standard Carpets
Finishings		
73.	Paint/ Primer / Oil bound distemper Acrylic paint	Asian Paint, ICI Dulux, Nerolac, Berger & Nippon, Master Paints Ganganagar, Garware, Jenson & Nicholson, ICI (I Quality)
74.	Water proof cement paint	Snowcem India Ltd, Asian Paint, Berger, Nippon, ICI Dulux, Jenson & Nicholson
75.	Synthetic enamel paint	Berger, Nerolac, Asian, ICI & Nippon

S. No.	Materials	Manufacturer / Vendor
76.	PU Enamel Metallic Paints on MS Structure.	SKK, Akzo-nobel, Asian, Acro, Oikos.
77.	Cement based wall putty	JK wall putty, Birla wall care, Asian paints, Altek and Berger Paints.
78.	Acrylic textured paint	Asian paints, Spectrum paints, Heritage.
79.	Ready mix Cement plaster	Wall plast, Ultratech, Madras Cement Ltd.
80.	Gypsum Plaster/ Polymer Modified Self Curing Plaster	Ultratech
81.	Fire Retardant paint	Jotun, Hilti, Akzonobel
82.	Epoxy Paint	Asian, Berger, Shalimar, MRF
Aluminum Work		
83.	Aluminum Systems / Anodized aluminum sections	Hindalco, Jindal and Indal.
84.	Aluminum Fittings	Classic, Crown, Jyoti and Dorma
85.	Aluminum Sections	Hindalco, Jindal and Indal.
86.	Aluminum Composite Panels (ACP)	Alstrong, Alucobond, Aluplex, Alubond.
87.	E.P.D.M Gaskets	Anand, Roop, Bohra, Hanu, Ameer Rubber,
88.	Silicon Gaskets	SreeGaurav, Roop
89.	Seismic Separation joint (Expansion Joint Systems)	Sanfield, Tristar, Hercules, BASF
Water Proofing		
90.	Water proofing compound	Fosroc, Sika, Pidilite Industries Ltd, Cico, Impermo, ACCOPROOF, BASF, Ultratech, MYK SCHOMBURG
91.	Membrane Water proofing system	BASF, Texsa, Pidilite Industries Ltd, Normet, Sika, MYK SCHOMBURG, FOSROC
92.	Chemical Water proofing system	BASF, MC-Bauchemie, Sika, Fosroc, Normet and Pidilite MYK SCHOMBURG
93.	Water Stops/Bars	Hydrolite, BASF, Hydroswell, Sika, Normet, Forsoc. MYK SCHOMBURG
Public Health Engineering		
94.	Vitreous China Sanitary ware / Auto Water taps / Urinals	Parryware, Hindware, Cera, Jaguar and Somany.
95.	CP Brass Fittings / Fixtures like CP bib cocks, Shower panels etc.	Jaguar, Marc, Parko, ESSESS, Kingston, Parryware, Kohler, Somany and GEM
96.	GI Pipes	TATA, Zenith, Jindal, Apollo, Prakash with ISI Marked
97.	GI pipe fittings	Zoloto, Unik, HB, ICS, R Brand, Tata, Prakash.
98.	RCC Pipes (NP-2)	Indian Hume Pipe Ltd, AL-Hume pipe, Madurai spun pipes, Jain & Co., Indo., Hindustan, Balaji Pipe Industries.
99.	C.P.V.C pipes & specials	Supreme, Prince, Sudhakar, Ashirvad, Astral, Finolex, Aerocon HIL
100.	Poly Propylene Random Co polymer (PPR) Pipes & Specials	SFMC, Victus, Supreme, Prince
101.	Centrifugally Cast (spun), Pipes & Fittings (Sanitary pipes) Centrifugally	NECO (Jaiswal), Babulal Bajaj Iron Foundry Mathura (HIF), Singhal Iron Foundry (SKF), HEPCO casting, Electro steel,

S. No.	Materials	Manufacturer / Vendor
	Cast (spun)	Kesoram.
102.	Pipes (LA) & Fittings (Water Supply Pipes)	Electro steel, Kesoram, LANCO Industries.
103.	Ductile Iron covers & Gratings	Neco, SKF, Bengal Iron Corporation (BIC)
104.	CI pipes	NecoKesoram, Electrosteel&Kapilansh
105.	SWR PVC pipes and fittings	Supreme, Astral. Finolex, Prince, Flow guard, Sudhakar, Supreme
106.	CPVC pipe and fittings	Supreme, Astral. Finolex, Prince, Sudhakar, Ashirvad, Aerocon HIL
107.	UPVC pipes	Supreme, Prince. Finolex, Sudhakar, Ashirvad, Astral, Aerocon HIL
108.	PVC Perforated Pipes	Rex Polyextrusion Ltd, Akash Enterprises, Zenlas Pipes Pvt. Ltd, Jindal
109.	Water supply valves	Zoloto, RB Leader, ARCO, IBP, Prayag
110.	Kitchen SS Sinks	Nirali, Silver Shine, Hindware, Johnson, Franki Diamond, Somany, Kaff, Neelkanth, Gilma, Kingston, Diamond.
111.	CI Manhole cover	Neco, BIC, SKF & HIF, JaiswalNeco ISI Marked.
112.	SFRC Cover and grating	Kutty, KK, Advent, Newtech, Balaji Pipe Industries, Supreme.
113.	Air release valves	Kirloskar and Zoloto
114.	CI Double flange sluice valve	Kirloskar, Zoloto, Leader, IVS, Burn and JaiswalNeco.
115.	Plastic Encapsulated Foot Rest	KK India, KGM, Accurate Buildcon
116.	Gun Metal valves	Zoloto, Leader, Audco India.
117.	CI Double flanged fittings	Kirloskar, Zoloto, Leader
118.	CI Double flanged Non-return valves	Kirloskar and Zoloto
119.	Fire Clay Sinks (with or without drain board)	Sunfire, Parryware, Hindware
120.	Sensor Based Auto Flush Systems	A 0 S System, TOTO, Parryware, Hindware, Grohe, Kohler, Somany, Cera.
121.	PVC Water Storage Tanks	Sintex, Uniplast, Durocon, Polycon, Supreme.
122.	Float Valve	Prayag, Leader.
123.	Water Meter	Zoloto, Leader.
Miscellaneous		
124.	Play equipment	Koochie Play, Playworld Systems
125.	SS Friction stay hinges	Earl-Bihari, Hafele
126.	Expansion joint board	Supreme Industries, SILFILL
127.	Thermal Insulation treatment	Pidilite Industries Ltd, BASF, MYK SCHOMBURG(Verbal)
128.	Sandwich PUF paneled roofing sheets	Lloyd Insulaton (India) Ltd., Jindal Mectec Pvt. Ltd, TATA blue scope Ltd.
129.	Stainless Steel Railings/ Accessories	Dorma, D-Line, Jindal Stainless Steel Ltd, ESSAI, D-Line
130.	Structural and Weather Sealant	Dow Coring, Wacker, GE, Forsroc, BASF, Sika, Pidilite Industries Ltd, Indo Asahi, Saint Gobain.
131.	Poly sulphide sealant	Pidilite Industries Ltd, Fosroc, choksey chemicals, MYK SCHOMBURG, BASF
132.	Bitumen Impregnated Board	Shalitex or equivalent

S. No.	Materials	Manufacturer / Vendor
133.	Polyethylene backer rod	Supreme Ind. Ltd. Or equivalent
134.	Clamp, Rubber, Chemical fastener	Hilti, Fischer, Wurth, Bosch, Canon
135.	Epoxy Grouts for floor/ wall tiles	Fosroc, CICO, Ardex, Laticrete, ArdeEndura, Weber, Pidilite Industries Ltd, MYK SCHOMBURG.
136.	Non-Shrink Grout	Ultratech
137.	False Ceiling Members (Perimeter, Ceiling section, intermediates, angles etc.)	Armstrong, Gyp. Steel of india Gypsum Ltd (Saint Gobain)
138.	Welding rod	ADVANI, Esab
139.	Floor Springs	Dorma, Dorset, Everite, Magnum, Godrej, Ingersoland&Geze
140.	Metal Deck sheet	TATA, SAIL
141.	Shear Stud / Connector	KOCO and Hilti.
142.	Clamp. Rebar, Chemical fastener	Hilti, Fischer, Wurth, Bosch, Canon
143.	Anchor Fasteners / bolts	Hilti, Fischer, Halfen, Bosch, Canon
144.	Masking Tapes	3M. Sun Control. Wonder Polymer
145.	Dash Fasteners	Hilti, Fischer, Anchor, Kundan.
146.	Stainless Steel Bolts, Washers and Nuts	Kundan, Puja, Atul, Hilti, Arrow, Nettlefold, GWK
147.	Stainless Steel Pressure Plate Screws	Kundan, Puja, Atul
148.	Stainless Steel Friction Stay hinges	Haffle, Securistyle, Earl Bihari, ROTO
149.	Glass Reinforced Concrete Jail	Terrafirm, Ecovision& Mahesh GRC
150.	Stainless Steel	Salem, Jindal, SAIL
151.	Polycarbonate Sheets (Double / Single Wall)	Danpalon, Alcx, Polygal, V.A Corporation, Joy Fab, Yadav Engineering, Lexan GE, Everest
152.	Post Tensioning system	GRUX, VSL, Ultracon, BBR
153.	PT Strands	DP Wires, Tata, Usha Martin
154.	Adhesive / Glue	Dunlop, Vamorganic, Sika, Fosroc, Pidilite Industries Ltd.
155.	Grouts & Epoxy Grouts	Balendura, Laticrete, Kerakoll, Weber, Laticrete, Ardex, Endura, Fosroc, Pidilite Industries Ltd, Ultratech, MYK SCHOMBURG
156.	Solar studs / Median markers	3M, Avery Dennison, Nikkalite
157.	Polycarbonate Convex Mirrors, Rubberised road hump	Unique Safety Solutions
158.	Air transfer grills	Cool grills Pune, Systemair India
159.	Pulverized Stone Sand / Crushed Stone Sand (Manufactured Sand)	Rank Enterprises, Robo Sand
160.	Cement Bonded Particle Board	BISON Board of NCL Company, Shera, AEROCON C Board HIL
161.	Admixtures/ Plasticizers	Fosroc, CICO, Sika, BASF &Normet. MYK SCHOMBURG.
162.	Rockwool / Glasswool insulation.	Twigafiber, Lloyd Insulation, Supreme
163.	Stainless Steel Wire Mesh	Champion, GKD, Wmw
164.	Ball Bearing Hinges and Spring Hinges	Dorma, Hafele, Geze, Dorset, Magnum, Dorset, Hettich
165.	Four Point / Multi Point Locking Handle.	Hefele, Alu-Alfa, Geze, Dorma, Godrej
166.	Precoated Galvanized Iron Profile	Pennar, TATA, Blue scope, NCL Nippon steel

S. No.	Materials	Manufacturer / Vendor
	Sheets	
167.	Bitumen	Indian Oil, HPCL, BPCL, MRPL
168.	Adhesive Tape	Norton and 3M
169.	Spider Fittings for Structural Glazing	Dorma, Sevax
170.	PTMT fittings / Fixtures	Prayag, Shakti
171.	Commercial Board	Green Board (Premium), Kitply, Duro (Exterior grade).
172.	Aluminum Hardware fittings	Argent, Classic (ISI marked)
173.	PVC WC seat cover	Commander
174.	Frameless glass partitions & Pivoted doors	DORMA
175.	Silicon sealant	Wacker, Dowcorning
176.	Pre-laminated MDF Boards	Scheit, Span, Euro
177.	Sand cast iron pipes & fittings	RIF of ISI marked, AVON
178.	SWG pipes & gully trap	Perfect, Anand with ISI marked
179.	Railing	Hindalco
180.	RO Plant / Softner	Ion Exchange, Eureka, Kent, Krona
181.	HDPE Pipes	Jain Irrigation, Reliance, Gautami, Nagarjuna, Sudhakar, Avon plast, Precision, Aashirwad.
182.	Geo Textile (Water proofing)	BASF, SIKA, FORSOC, MykSchomberg
183.	Aerocon Panels	Aerocon HIL, HIL Ltd
184.	HDPE Drain Board	BASF, SIKA
Tunnel Works		
185.	Hydraulic Shuttering	CIFA, Constro System, NPEC & Steel Works
186.	Re-Injectable Hose	BASF, SIKA, MYK Schomberg, Normet and Fosroc
187.	Injection Resin	BASF, SIKA, MYK Schomberg, Normet and Fosroc
188.	Non-shrink Cementious Material	BASF, SIKA, MYK Schomberg, Normet and Fosroc
189.	Explosives	Tamil Naidu Indian Explosives (Sivakasi), Apex Explosives (Nagpur), NIDL Chemical Ltd (Hyderabad), NIDL (Rourkela), Indo Gulf Explosives Ltd., (New Delhi), M/s Salvo Explosives & Chemicals Ltd (Kurnool), M/s Veejay Dynamic Explosives Pvt Ltd (Jaipur) IEL (Gomia)
190.	Resin Capsules for Rock Bolts	Builtek Products India Pvt Ltd (New Delhi), Steel Wire Industries (Nagpur), Ramtek Industries (Hyderabad), prgya Enterprises (Nagpur)
191.	Steel Fibers	Precision Drawell Pvt Ltd (Nagpur), Kasuri Metal Composite Pvt. Ltd. (Amravati), Avcon Technologies (Pune), Nina Concrete System Pvt Ltd (Mumbai)
192.	PRE CAST CONCRETE	VME Infrastructure Pvt. Ltd, Preca Hyderabad, Sycon Bangalore.
193.	PEB	Peps Pennar, Kirby, Tata Blue Scope, Llyod
Anti Static Flooring		
194.	Epoxy	Sika/ FosRoc/ MYK/ Pidilite Industries Ltd

LIST OF APPROVED MAKE OF MATERIALS FOR ELECTRICALS WORKS

S. No.	Materials	Manufacturer/Vendor
1	Modular type switches / Sockets / Fan regulators / Telephone / LAN / TV / front plates and anodised GI boxes/Buzzer	Legrand/ MK India / Anchor/Wipro/Crabtree
2	FRLS PVC Wires/ Telephone / TV wire	Finolex/RR Kabel/Havells/V-Guard/KEI
3	FRLS PVC Conduits&Accessories/ MS Conduits & accessories	Precision/Sudhakar/Avonplast/Finolex/ AKG
4	Metal Clad sockets	Lagrand/ Hager/ Schneider/ BEC/Socomec/ IndoAsian
5	MCBs	Lagrand/ Hager/ Schneider/ Siemens/ L&T / ABB
6	Distribution Boards	Lagrand/ Hager/ Schneider/ Siemens/ L&T / ABB
7	LED Light fixtures	Philips/ Trilux/ Wipro/ Havells/ Jaquar
8	Exhaust fans	Havells/ Crompton/ Usha/ Almonard
9	Ceiling fan	Crompton Greaves/ Usha/ orient/ atomberg/ Havells/ Almonard
10	Capacitors	Neptune/Epcos/Schneider /Lagrand/ ABB/Unistar/ L&T/Siemns
11	LED TV	Samsung/LG/ Sony/Panasonic
12	LED Indication Lamps	Siemens/Schneider / Crompton Greaves/ GE/ ABB / L&T/ Alstom
13	Measuring instruments	Enersol/ Trinity/ Conzerv/ AE/ Meco
14	MV Panels	CPRI approved manufacturers having type test report for required short circuit rating as per operating voltage level & temp rise issued recently (not earlier than two years)
15	HT Cables	Finolex/ KEI/ Torrent/ RPG/ CCI/ ORIENT/ UNIVERSAL/ Havells
16	LT Cables	Universal/Finolex/Havells/KEI/RPG
17	HT Termination/Joint Kits	3M/Raychem
18	LT Joint Kits	Jainson/Dowells/3M/Raychem/
19	MV & Control cables	RR Kabel/KEI/ FINOLEX/ ORIENT/ UNIVERSAL/ LAPP/ RPG
20	Cable Glands	Comet/ HMI/ SHYAAM/Dowell's/3D/HEX
21	Cable Lugs	HMI/Comet/Hex/Dowells/ SHYAAM/3D
22	GI pipe	TATA/ Zenith/ Jindal/ Apollo/Prakash with ISI Marked
23	Maintenance free earth station	Universal/Erico/ OBO/ Indlec
24	TVSS	Hager/ ABB/ Obo-Bettermen/ Schneider
25	LT CTs / PTs	AE/ Kappa/ Kalpa
26	Digital Energy meter	L&T/ HPL/ Schneider
27	Power factor control relay	Alacrity/Beluk/ Neptune/ L&T/Epcos/Schneider / ABB/Siemens
28	Heat Shrinkable jointing kits	Raychem/ 3M
29	UPS	Emersion/ APC/ Luminous
30	Battery / Battery charger	Exide/ AMARON/ NED

S. No.	Materials	Manufacturer/Vendor
31	BATTERY(SEALED MAINTENANCE FREE)	EXIDE/ AMCO/ AMARON/ NED
32	Power system relays	ABB/ Siemens/ Alstom/Areva/ GE/ L&T
33	MS/GI street Light Poles	Utkarsh/ Shubham/ Bombay/ Indo Electric
34	Search light's	Sigma/ Kalinlights/ Ajmera
35	LAN Cables	Delton/ Mazda/Finolex/ RR Kabel
36	MCCB/ SFC	Siemens/ L&T/ ABB/Schneider
37	ACBs	L&T/ GEC/ Alstom/ Siemens/ ABB/ Schneider/ Legrand
38	VCB	Siemens/Schneider / ABB (Relays shall be same make as breakers)/ Alstom
39	HTSFU	Megawin/ Kirloskar/ Crompton- Lucy/
40	Horizontal centrifugal fire water pumps	Kirloskar/ Beaconweir/ Mather Platte/ Grundfos/ Danfoss
41	Pump	Kirloskar/ Crompton Greaves/ Grundfos
42	Motors	Kirloskar/ Crompton/ Siemens/ ABB
43	Pressure switch	Switzer/ Infoss/ Danfoss
44	D.I. pipes	Electrosteel/ Lanco/ TATA/Sri Kalahasti
45	Mechanical joint fittings	Electrosteel/ Orient rubber
46	Underground pipe protection	IWL India Limited
47	CI Slim seal butterfly valves	Audco/ Advance/ ZOLOTO/Sant value
48	Electrically operated butterfly valves	Audco/Sant value/ Advance/ ZOLOTO
49	Dual plate check valves (Non-return)	Audo/ Advance
50	Gun Metal gate valves	Leader/ Zoloto
51	Sluice Valves	Audco/ Kirloskar
52	Air release valves	Kirloskar/ Sant
53	MS pipe	TATA/ Jindal Hisar
54	Relays	AVK SEG/ Woodward/ DEIF
55	Anti-vibration pads	GERB/ Dunlop/ MRF
56	Pressure Gauges	FEBI/ H. Guru/ Bicol
57	Digital flow meter	Kent/ Aquametro/ Flowtech/ Atlantech
58	Multi Detectors	Siemens/ Edewarls/ Honeywell
59	Control / Monitor modules	Siemens/ Edewarls/ Honeywell
60	Manual call Points & loop Sounders	Siemens/Edewarls/ Honeywell
61	Fault Isolators	Siemens/Edewarls/ Honeywell
62	Siren	Siemens/Edewarls/ Honeywell
63	M C P	Siemens/Edewarls/ Honeywell
64	Control panel - FAS	Siemens/Edewarls/ Honeywell
65	Repeater Panel	Siemens/Edewarls/ Honeywell
66	Fire extinguishers	Minimax/ Vijay/Safex/ Ceasefire
67	SENSOR	Hager/ Legrand/ Siemens/ Schneider
68	Deep freezer/Refrigerator	Bluestar/ Voltas/ Midea/ LG
69	AC Split/cassette	Carrier/ Bluestar / Voltas/ Daikin
70	Water cooler	Bluestar/ Voltas/ Midea

S. No.	Materials	Manufacturer/Vendor
71	Geysers	Racold/Havells/Crompton/V-Guard/USHA
72	SMC Junction Box	Hensel/ Sintex
73	DG Set upto 250 KVA	Ashok layland/ Greaves/ Cummins/ Kirloskar
74	DG Set above 250 KVA	Cummins/ Caterpillar/ Greaves
75	Transformers	Schneider / PETE/ Esennar/ Prolec-GE/ Crompton/Voltamp/Hammond/T&R
76	Servo voltage stabilizer	Servomax / ABC Transformer/ e-Genesis (Hindustan Power Control System) / VENER 7 / Vertex Power Solution / Servotec / pure volt / Aditya Power & Controls / EVR Power
77	HVAC Filter	AAF, Mechmaark, Freudenberg, Thermadyne

Note:-

- (i) All other items shall be of ISI marked as per approved sample kept at site of work.
- (ii) The contractor shall provide the materials as per the make or brand indicated above. When two or more alternatives/brands have been mentioned, the brand to be finally used shall be as decided by the Engineer-in-Charge.

EMPLOYEE PROFILE FORM
कर्मचारी के विवरण का प्रारूप

Name / नाम	:	_____	<u>Affix</u> <u>Passport Size</u> <u>Photo</u>
Name of Post / पद का नाम	:	_____	
Date of Birth / जन्म तिथि	:	_____	
Aadhaar Card No. / आधार संख्या	:	_____	
Father / Husband's Name	:	_____	
पिता / पति का नाम	:	_____	
Local Address & Mobile /	:	_____	
स्थानीय पता तथा मोबाइल नं	:	_____	
Permanent Address & Mobile	:	_____	
स्थायी पता तथा मोबाइल नं	:	_____	
Police Verification	:	_____	
पुलिस सत्यापन हुआ या नहीं	:	_____	
Bank Account Details	:	_____	
बैंक खाता विवरण	:	_____	
Educational Qualification & experience	:	_____	
(if any)	:	_____	
शैक्षिक योग्यता तथा कार्य अनुभव,	:	_____	
यदि है	:	_____	
UAN / EPF Number	:	_____	
ESI Number	:	_____	
Date / दिनांक	:	_____	Signature
Work Order Number & Date	:	_____	
Contractor's Name & Address	:	_____	
Remarks / टिप्पणी	:	_____	
Date / दिनांक	:	_____	Contractor's Signature
Remarks / टिप्पणी	:	_____	
Date / दिनांक	:	_____	Officer-in-Charge

कर्मचारी निर्धारित कार्य के योग्य है / योग्य नहीं है
Employee is suitable / Not suitable for allotted work

Estate Manager/Project Manager

ACCEPTANCE OF TERMS & CONDITIONS OF TENDER

(To be given on Company Letter Head)

Date:

To

Chief Construction Engineer
CCE(R&D) Estates, North
M-1026, Sector 29-A,
Chandigarh - 160030

Subject: Acceptance of Terms & Conditions of Tender.

Name of Wok:

Dear Sir,

1. I / We have received/downloaded the e-tender document(s) for the above mentioned 'Tender / Work'.
2. I / We hereby certify that I/we have read the entire terms and conditions of the e-tender documents from Page No. One _____ to Last _____ (including all documents like annexure(s), schedule(s), etc.), which form part of the contract agreement and I/ we shall abide hereby by the terms / conditions / clauses contained therein.
3. The corrigendum(s) issued from time to time by your department / organisation to have also been taken into consideration, while submitting this acceptance letter.
4. I / We hereby unconditionally accept the e-tender conditions of above-mentioned tender document(s) / corrigendum(s) in its totality / entirety.
5. I / We do hereby declare that our Firm has Not been blacklisted / debarred by any Government Department / Public sector undertaking.
6. I / We certify that all information furnished by our Firm is true & correct and, in the event, that the information is found to be incorrect / untrue or found violated, then your department / organisation shall without giving any notice or reason. Therefore, summarily reject the bid or terminate the contract, without prejudice to any rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours faithfully,

(Signature of the Bidder, with Official Seal)
(Signature & Stamp of Contractor)

DETAILS OF SIMILAR WORKS FOR PREQUALIFICATION CRITERIA

The tenderer shall support this form by adequate documentary evidence in the form of certified copies of work orders and completion certificates. Each project should be supported with performance certificate as per **Annexure – 'III'** and certified by the Owner not below the rank of Executive Engineer or equivalent/Client for whom contractor executed the work.

Details of all similar works completed during last seven years ending last day of month previous to the one in which tenders are invited:

Ser No.	Particulars	Work-I	Work-II	Work-III
1.	Name of Work / Project & Location			
2.	Contract price as ordered (Rs.)			
3.	Actual Completion Cost (Rs.)			
4.	Date of award			
5.	Stipulated Date of Completion			
6.	Actual date of Completion			
7.	Extension of time (if any) granted with or without levy of compensation			
8.	Whether the proof of TDS by the owner attached. (Yes or No)			
9.	Performance certificate as per Annexure III enclosed (Yes or No)			
10.	Details of the works under which contractor is seeking prequalification			
11.	Litigation / Arbitration Cases pending / in progress with details *			
12.	Employer's / Owner's Name			
13.	Employer's Address: Telephone / Fax Number:			
14.	Name and address / telephone no. E-mail address: of officer (Employer's / Owner's) to whom reference to be made (if required)			
15.	Remarks			

* Indicate gross amount claimed and amount awarded by the Arbitrator

Signature of Bidder(s)

Annexure-III

PROFORMA FOR PERFORMANCE CERTIFICATE

Name & Address of the Client :
 Details of Works executed by :

1	Name of work with brief particulars incl. location	
2	Agreement No. and date	
3	Agreement amount (Rs. In Lakhs)	
4	Date of commencement of work	
5	Stipulated date of completion	
6	Actual date of completion	
7	Details of compensation levied for delay (indicate amount) if any	
8	Gross amount of work completed and paid (Rs. In Lakhs).	
9	Name of address of the authority under whom works executed	
10	Whether the contractor employed qualified supervisor/staff during execution of work	Yes/No
11	i) Quality of work (indicate grading)	Outstanding / Very Good / Good / Satisfactory/ Poor
	ii) Amt. of work paid on reduced rates. If any	Yes/No
12	i) Did the contractor go for arbitration?	
	ii) If yes, total amount of claim	
	lii) Total amount awarded	
13	Comments on the capabilities of the contractor	
	a) Technical proficiency	Outstanding / Very Good / Good / Satisfactory/ Poor
	b) Financial soundness	Outstanding / Very Good / Good / Satisfactory/ Poor
	c) Mobilization of manpower	Outstanding / Very Good / Good / Satisfactory/ Poor
	d) Mobilization of T&P	Outstanding / Very Good / Good / Satisfactory/ Poor
	e) General behavior	Outstanding / Very Good / Good / Satisfactory/ Poor
	f) Over all grading	Outstanding / Very Good / Good / Satisfactory/ Poor

Signature of the Accepting Authority/ Authorized Signatory

ANNUAL FINANCIAL TURNOVER**(FINANCIAL SOUNDNESS AND PROFIT AND LOSS STATEMENT)**

This Form shall be duly certified by Chartered Accountant / Company Auditor in original under his signature, stamp and membership number:

Name of the Tenderer: _____

Sl. No	Description	Financial Data for Last 5 Years (₹)				
		2020-21	2021-22	2022-23	2023-24	2024-25
1.	Total Assets					
2.	Current Assets					
3.	Total External Liabilities					
4.	Current Liabilities					
5.	Annual Profits (Before Taxes)					
6.	Annual Profits (After Taxes)					
7.	Gross Annual turnover					

Signature of authorized signatory of Tenderer

Place:

Date:

Signature of Chartered Accountant with Seal

Notes: -

1. Attach copies of the audited balance sheets, including all related notes, income statements for the last five audited financial years, as indicated above, complying with the following conditions.
2. All such documents shall reflect the financial data of the Applicant and not sister or Parent Company.
3. Financial statements shall be audited by Statutory Auditor of the Company under their seal & stamp and shall be strictly based on Audited Annual Financial results of the relevant period(s). No statements for partial periods will be accepted.
4. Where a work is undertaken by a group, only that portion of the contract which is undertaken by the concerned applicant/member should be indicated and the remaining done by the other members of the group be excluded. This is to be substantiated with documentary evidence.

Signature of authorized signatory of Tenderer

Signature of Chartered Accountant with Seal

Calculation of Bidding Capacity
Details of Existing Commitments and on-going works

Name of the Firm / Bidder : _____

Name of Work :

Bidding capacity of vendors will be calculated during the technical evaluation of each bid as per the given below formula / procedure.

The bidding capacity shall be worked out by the following formula :-

The bidder should possess the bidding capacity as calculated by the specified formula.

Available bid capacity = (A x N x 2)-B, where

A = Maximum value of (Works relevant to work being procured) executed in any one year during the last **07 (seven) years** (updated at the current price level at 7% simple interest), taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of the work for which bid has been invited.

When the value of N is less than 0.50 years then for calculation purpose minimum value of N shall be taken as 0.50.

B = Value of existing commitments and ongoing works to be completed during the period of completion of work for which bid have been invited, the amount of works which are stuck up due to local body clearance, environmental clearance, court decisions etc., shall not be considered for calculation of B. NIT approving authority may take a final decision on other justified reasons.

Sl. No.	Name of work / Projects & Location	Owner or sponsoring organizations	Contract value in Crores of rupees	Date of commencement as per contract	Stipulated date of completion	Up to date percentage progress of work	Remaining work in percentage (100-column 7)	Existing commitment (column 4 x column 8 /100)	Name and address / telephone number of officer to whom reference may be made	Remarks

Total (B) = Rs. _____

Maximum Turnover in last seven years = Rs. _____

Updated value of turnover (A) = Rs. _____

No. Of years (N) = Rs. _____

Bidding capacity = {[AxNx2] – B}

Certificate: - I certify that all the awarded and ongoing work have been included in the above list.

Signature (S) of BIDDER (S)
(WITH STAMP)

Net worth for the Financial Year 2024-25 is (Rs. In Figure _____)

..... Signature, Name and designation of Authorised Signatory Name of the Statutory Auditor's Firm/Chartered Account: _____ Signature:- _____
For and on behalf of	Seal of the Audit / Chartered Accountant Firm: Name of Signatory (in Capital): _____
..... (Name of the Applicant)	Membership No. : _____ Firm Regn No. : _____

Note: - All information sought w.r.t. firm / Chartered Accountant is mandatory.