

BID IDENTIFICATION No: BBSR/ELECT-II/e-07/26-27



ISO 9001 & 14001 CORPORATION

COVER – I

TECHNICAL BID DOCUMENTS / DETAILED TENDER CALL NOTICE FOR THE WORK

**Name of the Work: SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF VRF
A.C SYSTEM FOR OCTAGONAL BUILDING OF PATHANI SAMANTA
PLANETARIUM, BHUBANESWAR (PERCENTAGE RATE BASED TENDER)**

Estimated Cost Put To Tender:

₹ 24,77,925/-

**DIVISIONAL HEAD (ELECT-II)
IDCO, BHUBANESWAR.**

Sl. No.	CONTENTS	PAGES
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Invitation for Bids

Bid Identification No: BBSR/ELECT-II/e-07/26-27

1. The Divisional Head, Electrical Division-II, IDCO, IDCO Towers, 8th floor, Janpath, Bhubaneswar invites **percentage rate** bids in 2nd time tender in **double cover system** in online mode only, for the following work.

Sl. No	Name of Work	Value of work	Divisional Head with Headquarters	EMD	Tender fee including GST	Period of Completion	Class of Bidder
1.	Supply, installation, testing and commissioning of VRF A.C system for Octagonal building of Pathani Samanta Planetarium, Bhubaneswar	Rs. 24,77,925/-	Divisional Head, Electrical Division-II, IDCO, Bhubaneswar	Rs. 24,779.00	Rs.7080/- (to be paid on-line)	45 (Forty five) days	Original Equipment Manufacturer OR Authorised dealers having authorisation from the manufacturer

2. Bid documents such as DTCN / BoQ etc. can be seen / downloaded from www.tendersodisha.gov.in during the period from **18.00 Hours of dt.27.07.2026** to **17.00 Hours of dt.04.08.2026**.
3. Online bids shall be received till **17.00 Hours of dt.04.08.2026**.
4. Bidders are required to furnish "Tender fee" & EMD/Bid security in on-line mode only within the bid submission period. Scanned copy of Transaction receipt of Tender fee/EMD shall have to be uploaded along with the Technical Bid failing which bid shall be summarily rejected. The bidders with pending or failure payment status shall not be able to submit their bid.
5. The technical bids will be opened at **16.00 Hours** of dt. **05.08.2026** in the office of the Divisional Head, Electrical-II, IDCO, IDCO Towers, 8th Floor, Janapath, Bhubaneswar. If the office happens to be closed on the last date of opening of the bids as specified, the bids will be opening on the next working day at the same time and venue.
6. Other details can be seen in the bidding documents.
7. The bidder must possess compatible Digital Signature Certificate (DSC) of Class – II or Class – III.
8. The authority reserves the right to reject any or all bids without assigning any reason thereof.
9. The addendum/Corrigendum if any will be hosted in the e-procurement website & www.idco.in website.

Sd/-
Divisional Head (Elect.-II)

CHECKLIST TO BE ENSURED BY THE BIDDER

Sl. No	Particulars	Reference to DTCN Clause No.	Whether furnished		Reference to Page no.
			Yes	No	
01.	Tender fee of Rs.7,080/- (To be paid online)	No.4 & 5(i)			
02.	Bid Security (EMD) of Rs. 24,779.00 (1% of estimated cost put to tender).	No.5(i) & 20			
	E.M.D @2%in case of deploying machineries outside the State.	No.5 (i) & 20			
03	Additional Performance Security in case the bid price/rate is less than the estimated cost put to tender. (to be submitted by the successful lowest (L1) bidder only within 7 days of issue of LOA)	No.62.2			
04.	Copy of valid Original Equipment Manufacturer OR Authorised dealers having authorisation from the manufacturer	No.5(i) & 21			
05.	Copy of valid GST Registration Certificate	No.5(i) & 21			
06.	Copy of PAN Card	No.5(i) & 21			
07.	EPF Registration	No.5(i) & 21			
08.	EPF Latest Challan WITHIN 3 MONTHS	No.5(i) & 21			
09.	Copy of Profit & Loss Statement	No.5(i) Not Required			
10.	No Relationship Certificate in Schedule – A	No.35			
11.a	Works Experience: List of projects under execution that are similar in nature to the work.	Schedule – B (Not Required)			
11.b	Works Experience: List of projects completed that are similar in nature to the work. (with all details as per Schedule –D format)	Schedule –D (Required)			
12. (A)	Information regarding current litigation, debarring / expelling of the tender or abandonment of the work by the tenderer (Schedule-E)	No.49			
(B)	Affidavit (Schedule-F) (to be uploaded)	No.49			
13.	Eligible registered electrical contractor having valid HT/MV license from ELBO;	No. 8 & Schedule – J			
14.	Assessed Available Bid Capacity.	No. 112 (h) (Deleted)			
15.	Similar nature of work.	No. 112 (g)			
16.	Qualification of Key personnel engaged. (Schedule (G)	No. 64			
17.	Work Programme.				
18.	e-mail ID &				
	Contact no				
	NB: Documents mentioned in the above check list should be uploaded as in order. Documents as per the requirement of the DTCN & Technical Specification should be uploaded even though those are not mentioned in the above check-list.				

CONTRACT DATA**A. GENERAL INFORMATIONS**

SI No	Item	Details
1	Name of the Work	Supply, installation, testing and commissioning of VRF A.C system for octagonal building of Pathani Samanta Planetarium, Bhubaneswar.
2	Employer	Divisional Head (Elect-II), IDCO
3	Employer's Representative.	Divisional Head, Electrical Division-II, IDCO, Bhubaneswar
4	<u>Estimated Cost (In.)</u> Total	Rs. 24,77,925.00/-

B. BID INFORMATION

5	Intended completion period/Time period assigned for Completion	45 (Forty five) Days
6	Last Date & time of submission of Bid	17.00 Hours of dt. 04.08.2026
7	Tender fee	
	i	Amount
		Rs.7,080/- (to be paid online)
		Instructions to be followed for online payment available in the e-Procurement portal during the processing of tender by the bidder.
8	Bid Security	
	i	Amount
		Rs. 24,779.00 (1% of Estimated cost put to tender)
	ii	Instructions to be followed for online payment available in the e-Procurement portal during the processing of tender by the bidder.
	iii	Type of instrument
		As specified in Bid document.
9	Additional Performance Security	
	i	Amount
	ii	In favour of
	iii	Type of instrument
		No.62 (of DTCN)
		No.62 (of DTCN)
		Divisional Head, Electrical Division-II, IDCO, Bhubaneswar
		As specified in Bid document (Clause 62 of DTCN)
10	The Financial years of last seven years	2019-2020 upto 2025-2026
11	Bid validity period	180 days
12	Currency of Contract	Indian Rupees
13	Language of Contract	English

Instruction to Bidders (ITB)

e-procurement.

1. NOTICE INVITING BID AND OBTAINING BID DOCUMENTS:

- 1.1.** The authority belonging to the major discipline is competent to invite tender of composite bids. He will also nominate the **Divisional Head, Electrical Division-II, IDCO** who will deal with all matters relating to the bids in the invitation of bids.
- 1.2.** For composite tender, estimated cost of each component should be clearly indicated in addition to combined estimated cost put to tender. The eligibility of bidders will correspond to the combined estimated cost of different components put to tender.
- 1.3.** The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules /amendments issued there under from time to time. If he fails to do so, it will be considered a breach of the contract and the **Divisional Head, Electrical Division-II, IDCO** may at his discretion without prejudice to any other right or remedy available under law, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation of the provisions of the said Act by him.
- 1.4.** The contractor shall be deemed to have satisfied himself as to the correctness and sufficiency of the Tender and of the rates and prices quoted in the Bill of Quantities, all of which shall, except in so far as it is otherwise provided in the Contract, cover all his obligations under the Contract (including those in respect of the supply of goods, materials, plant & services or of contingencies for which there is a Provisional Sum) and all matters and things necessary for the proper execution and completion of the work and the remedying of any defects therein.
- 1.5.** The successful bidder shall complete the works by the intended completion date specified in the Contract data.
- 1.6.** Throughout these bidding documents, the terms "bid and tender" EMD and Bid Security and their derivatives (bidder / tenderer, bidding / tendering, etc.) are synonymous.
- 1.7.** In case the tender for composite work includes in addition to main work / building work all other ancillary works such as sanitary and water supply installations, drainage installation, electrical work, horticulture work, roads and paths and gate works in dams and canals etc. , the bidder apart from being a registered civil Contractor of appropriate class must associate himself with agencies of appropriate class those who is eligible to tender for sanitary and water supply drainage, electrical and horticulture works in the composite tender. Intending purchasers are not required to produce any documents viz. copy of Registration, Valid **GST Registration Certificate** etc. at the time of purchase of tender documents but will be required for verification purpose at later stage. Furnishing copy of such documents is mandatory along with the tender documents otherwise his/her bid shall be declared as non-responsive and thus liable for rejection. **The L1 Bidder is required to attend the officer inviting the bid for verification of original documents within five days of opening the Price bid.**
- 1.8.** PARTICIPATING IN THE BID IN THE E-PROCUREMENT PORTAL: The Contractor/ Bidder intending to participate in the bid is required to register in the Portal with some information about the firm/Contractor. This is a onetime activity for registering in Portal. During registration, the contractor has to attach a Digital Signature Certificate (DSC) to his / her unique user ID. The DSC used must be of appropriate class (Class II or Class III) issued from a registered Certifying Authority such as n-Code, Sify, TCS, MTNL e-Mudra etc.
- 1.8.1.** To log on to the portal the Contractor/Bidder is required to type his/her *username* and password. *The system will again ask to select the DSC and confirm it with the password of DSC.* For each login, a user's DSC will be validated against its date of validity and also against the Certificate Revocation List (CRL) of respective CAs stored in system

database. The system checks the unique ID, password and DSC combination and authenticates the login process for use of portal.

1.8.2. The tender documents uploaded by the Tender Inviting Officer in the website www.tendersodisha.gov.in will appear in the section of “Upcoming Tender” before the due date of tender sale. Once the due date has arrived, the tender will move to “Active Tender” Section of the *homepage*. Only a small notification will be published in the newspaper specifying the work details along with mention of the specific website for details. The publication of the tender will be for specific period of time till the last date of submission of bids as mentioned in the ‘Invitation for Bid’ after which the same will be removed from the list of Active tenders. Any bidder can view or down load the bid documents from the web site.

1.8.3. All bidders are to furnish EMD & Tender Fee in online mode (Instruction to be followed for online payment available in the e-procurement portal during the process of tender by the bidder). There will be no exemption to any bidder. If the EMD is furnished by any other mode other than the prescribed mode, the tender of such party is liable to be rejected.

1.8.4. If the software application has the provision of payment of Tender Fee through payment gateways of *authorized* bankers by directly debiting the account of the bidders, bidders will be required to avail online payment

1.9. The bidder intending to participate in the bid online shall furnish costs of bid in online mode (Instruction to be followed for online payment available in the e-procurement portal during the process of tender by the bidder)

1.10. DELETED

1.11. In the case of any failure, malfunction, or breakdown of the electronic system used during the e-procurement process, the tender inviting officer shall not accept any responsibility for failures or breakdowns other than in those systems strictly within their own control.

1.12. Any third party/company/person under a service contract for operation of e-procurement system in the State or his/their subsidiaries or their parent companies shall be ineligible to participate in the procurement processes that are undertaken through the e-procurement system irrespective of who operates the system.

2. ELIGIBLE BIDDERS:

2.1. This Bid is open to all **Original Equipment Manufacturer OR Authorised dealers having authorisation from the manufacturer**. The Bidders are required to enclose the proof of registration from the registering authority along with the Bid subject only to the registration in the portal using his/her DSC for online bids. **The work experience, available technical personnel is to be furnished as per clause 112 of DTCN (enclosed).**

Contractors not registered with Govt. of Odisha can participate in the e-procurement after necessary enrolment in the portal but have to subsequently register themselves with the appropriate registering authority of the state Govt./IDCO before award of the work as per prevalent registration norms of the state.

2.2. All bidders *shall* provide a statement that the bidder is neither associated, nor has been associated, directly or indirectly, with the Consultant or any other entity that has prepared the design, specifications, and other documents for the Project or being proposed as Project Manager for the Contract. A firm that has been engaged by IDCO to provide consulting services for the preparation or supervision of the works, and any of its affiliates shall not be eligible to bid.

2.3. If the bidder has a relative employed as an Officer in the rank of **Assistant Engineer/Under Secretary and above in the Government of Odisha in the concerned Department**, he shall inform the same in **Schedule-I** of the bid document mentioning the exact details in a covering letter along with the tender, failing which his bid will not be considered. Also if the fact of relationship subsequently comes to light, his contract will be rescinded. The bid security or the performance security will be forfeited and he shall be liable to make good any loss or damage resulting from such

cancellation. In case the bidder has no relationship with any of the officers mentioned above he shall have to furnish with his bid an undertaking to that effect.

2.4. He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazetted officer in the concerned Department. Any breach of this condition by the contractor would render him liable for penal action for suppression of facts.

2.5. No Engineer of gazetted rank or other gazetted officer employed in Engineering or Administrative duties in an Engineering Department of Govt. of Odisha/IDCO is allowed to work for contractor for a period of two years after his retirement from IDCO service, without prior permission of Govt. of Odisha/IDCO in writing. Such a contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of Govt. of Odisha/IDCO as aforesaid before submission of the tender for engagement in the contractor's service.

3. QUALIFICATION CRITERIA:

3.1. For submission of Bids through the E-Procurement Portal, the bidder shall up-load the scanned copy/copies of documents listed under clause 3.2 in prescribed format wherever warranted in support of eligibility criteria and qualification information. The L-1 bidder shall have to produce the original documents in support of the scanned copies and statements uploaded in the portal within 5 days of opening of price bid. The Bids from Joint ventures are not acceptable.

3.2. The bid shall include following information and documents.

- (a) Copy of valid contractor's registration certificate, PAN card, GST Registration Certificate should accompany the technical bid.
- (b) Copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory.
- (c) DELETED
- (d) DELETED.
- (e) DELETED.
- (f) DELETED.
- (G) DELETED.
- (h) HT/MV Electrical Contractors having valid HT/MV license issued by ELBO with experience in similar nature of work having PAN with GST registration certificate & EPF registration
- (i) DELETED.
- (j) Details of works executed during the last five years.
- (k) Copy of EPF Registration & Copy of latest Challan.
- (L) GST Registration Certificate

3.3. DELETED

3.4. The Bidders are subject to be disqualified if they have:

- a. Made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or
- b. Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.; and/or
- c. Participated in the previous bidding for the same work and had quoted unreasonable prices and could not furnish rational justification to the Engineer-in-Charge.

- d. Indulged in unlawful & corrupt means in obtaining bids.
- e. Been black listed/their registrations by the competent authority.
- 4. **ONE BID PER BIDDER:**
- 4.1. Each bidder shall submit only one bid for one package. A bid is said to be responsive if accompanied by **Tender Fee** and appropriate bid security. The system shall consider only the last bid submitted through the E-Procurement portal.
- 5. **COST OF BIDDING:**
- 5.1. The bidder shall bear all costs associated with the preparation and submission of his bid, and the Engineer-in-Charge will in no case be responsible and liable for those costs.
- 5.2. All the rates and prices in the bid shall cover all charges including labour cess but excluding GST.
- 5.3. The rate of royalties and taxes prevailing on the date of measurement shall be considered while making deductions in the bills.
- 5.4. The successful bidder shall make his own arrangement for all materials unless otherwise specified in the conditions of contract.
- 6. **SITE VISIT:**
- 6.1. Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A Bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. The Bidder shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of work.
- 6.2. **DELETED.**
- 6.3. The Officer inviting the bid **Engineer-in-Charge** will clarify queries on the Contract Data on requisition by the intending Bidder. The bidder may ask question in the e-procurement portal using his DSC; provided the questions are raised before the date mentioned in the home page under critical dates.

B. BIDDING DOCUMENTS

- 7. **GENERAL INSTRUCTIONS:**
- 7.1. The description of the work is as mentioned under Invitation for Bid.
- 7.2. The bids uploaded by the Tender Inviting Officer may consist of general arrangements drawings or typical sections of the project. Bidder may down load these drawings and take out the print for detail study. Any other drawings and documents pertaining to the works available with the officer inviting the Bid as well as in the office of the **Divisional Head Electrical-II** as mentioned in the contract data will be open for inspection during working hours on all working days by the bidders. The bidder is required to down-load all the documents including the drawings for preparation of his bid. It is not necessary on the part of the Bidder to up-load the drawings other Bid documents (after signing) while up-loading his bid. He is required to up load documents related to his qualification information and Bill of Quantities duly filled in. It is assumed that while participating in the bid, the bidder has referred to all the drawings and

documents uploaded by the Officer Inviting the Bids. Seeking any revision of rates or backing out of the bid claiming for not having referred to any or all documents provided in the Bid document by the Officer Inviting the Bids will be construed as plea to disrupt the bidding process and in such cases the bid security shall be forfeited.

7.3. The bidder is expected to examine carefully all instructions, conditions of contract, contract data, forms, terms, and technical specifications, bill of quantities, forms, Annexes and drawings in the Bid Document. Failure to comply with the requirements of Bid Documents shall be at the bidder's own risk.

8. CLARIFICATION OF BIDDING DOCUMENTS:

8.1. Bid documents consisting of drawings, plans, specifications, the schedule of quantities of the various items of work to be done and the set of terms & conditions of contract to be complied with by the contractor who intends to bid and other necessary Documents can be seen in the office of the officer inviting the Bid during office hours every day except on Sundays & Public Holidays till last date of sale of tender paper.

8.2. No paper copy of the bid shall be sold.

8.3. The Contract Data to bid shall be filled and completed in the office of Officer inviting bid before issue of bid documents. If the documents are issued to the intending bidder without having been so filled in & completed, he shall request the officer inviting the bid to have this done before he completes and delivers his bid.

8.4. The bidder can seek clarification on the bids which he received earlier than 07 days prior to the deadline for submission of bids. The Employer's response will be forwarded through the e-mail- ID of the enquirer.

8.5. PRE-BID MEETING: NA

9. AMENDMENT OF BIDDING DOCUMENTS:

9.1. Before the deadline for submission of bids, the officer inviting the Bid may modify the bidding documents by issuing addenda.

9.2. Any addendum thus issued shall be part of the bidding documents and shall be notified in the website www.tendersodisha.gov.in/www.idco.in/notice board.

9.3. To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Officer inviting the Bid may, at his discretion, extend as necessary the dead line for submission of bids.

C. PREPARATION OF BIDS

10. LANGUAGE OF THE BID:

10.1. All documents relating to the Bid shall be in the English / Hindi / Oriya language. Bids submitted in any other language shall be summarily rejected.

11. DOCUMENTS COMPRISING THE BID:

11.1. Following documents will be deemed to be part of the bid even if not submitted with the bid.

- (i) Invitation for Bids (IFB)
- (ii) Instructions to bidders (ITB)
- (iii) Conditions of Contract
- (iv) Contract Data
- (v) Specifications
- (vi) DELETED

11.2. All the volumes/documents shall be provided in the portal by the Officer inviting the bid. The bidder shall carefully go through the document and prepare the required documents and up load the scanned documents in Portable Document Format to the portal in the designated locations of Technical Bid. He will fill up the percentage rate in the

BOQ down loaded for the work in designated Cell and up-load the same in designated locations of Financial Bid. Submission of document shall be effected by using DSC of appropriate class.

- A. **“Tender Fee” & “Bid Security”** shall comprise
- (i) Tender Fee (Online)
 - (ii) Bid Security (Online)
- B. **“Technical Bid”** shall comprise.
- (i) Declaration under the Official Secret Act, 1923
 - (ii) Qualification Information and supporting documents,
 - (iii) Certificates, undertakings, affidavits,
- C. **“Financial Bid”** shall comprise.
- i) Priced Bill of Quantities

12. PROPOSAL BY THE BIDDER:

12.1. In the E-Procurement Portal, an intelligent Bill of Quantity in Microsoft Excel format shall be made available to the bidder.

12.2. Deleted

12.3. In case of **percentage rate** tender, the bidder will only fill in the designated cell and activate “less” or “excess” to indicate how much his price offer is excess or less (Up to two decimal Place) than the estimated amount.

12.4. The **bidder** shall bid for the whole works as described in the Bill of Quantities.

12.5. Bidders **shall** submit offers that fully comply with the requirements of the bidding documents, Including the Conditions of Contract basic technical design as indicated in the drawing and specification. **Conditional offer or alternative offers will not be considered** in the process of bid evaluation.

12.6. All charges and other levies including Building and other Construction Workers Welfare Cess @ 1% payable by the contractor under the contract, or for any other charges shall be included in the rates, prices submitted by the bidder **excluding GST**. Purchase tax, turnover tax or any other tax on material in respect of this contract shall be payable by the Contractor and **IDCO/Government** will not entertain any claim whatsoever in respect of the same.

Tax to be deducted at Source (TDS)

Income tax, cess will be deducted from the bills of the contractor as per prevailing rule of the Govt. and Amended from time to time.

12.7. In the case of any bid where unit rate of any item/items appear unrealistic, such bid will be considered as unbalanced and in case the bidder is unable to provide satisfactory explanation such a tender is liable to be disqualified and rejected.

12.8. DELETED.

12.9. DELETED.

12.10. DELETED.

12.11. DELETED.

12.12. DELETED

12.13. The contractor shall be deemed to have satisfied himself as to the correctness and sufficiency of the Tender and of the rates and prices stated in the Bill of Quantities, all of which shall, except in so far as it is otherwise provided in the Contract, cover all his obligations under the Contract (including those in respect of the supply of goods, materials,

plant & services or of contingencies for which there is a **Provisional** Sum) and all matters and things necessary for the proper execution and completion of the work and the remedying of any defects therein.

12.14. The **contractor shall** conform in all respects, by giving all notices and paying all fees, with the provisions of:

- i) Any national or State Statute, Ordinance, or other Law, or any regulation, or bye-law of any local or other duly constituted authority in relation to the execution and completion of the works and remedying of any defects therein, and
- ii) The rules and regulations of all public bodies and companies whose property rights are affected or may be affected in any way by the works.

12.15. *FOR COMPOSITE BIDS: DELETED.*

13. CURRENCIES OF BID AND PAYMENT:

13.1. The unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees. All payments shall be made in Indian Rupees.

14. VALIDITY:

14.1. Bids shall remain valid for a period not less than **180 days** or the period mentioned in the Contract Data, after the deadline date for submission of bid as specified in the notice inviting the Bids. A Bid valid **for a shorter period shall be rejected by the Divisional Head / Engineer-in-charge** as non-responsive.

14.2. In exceptional circumstances, prior to expiry of the original time limit, the Officer inviting the Bid may request the bidders to extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by cable or by e-mail.

14.3. **DELETED.**

15. BID SECURITY:

15.1. The Bidder shall furnish, as part of his Bid, a Bid security for the amount mentioned under Contract Data in online mode as instructed for online payment available in the e-Procurement portal during the processing of tender

The successful **lowest bidder** will produce the original of all scanned documents for verification within 5 days of opening of the tender (Price Bid). In the eventuality of failure on the part of the lowest successful bidder to produce the original documents, he will be debarred in future from participating in tender for three years and will be blacklisted by the competent authority. In such a situation, successful L-2 bidder will be required to produce his original documents for consideration of his/her tender at the negotiated rate equal to L-1 bidder.

15.1.1. **DELETED**

15.1.2. **DELETED**

15.1.3. **DELETED**

15.1.4. **DELETED**

15.2. The Bid shall be declared non-responsive and shall be rejected if submitted without an acceptable Bid Security and not secured as indicated in Sub-Clauses 15.1.

15.3. Combined bid security for more than one work is not acceptable.

15.4. **All the participating bidders are to be furnish Tender Fee, EMD through online mode. There will not be any exemption to any bidders.**

15.5. **DELETED**

15.6. The Bid Security of the successful bidder will be discharged when the bidder has signed the Agreement and furnished the required Performance Security and Additional Performance security if any

15.7. The Bid Security may be forfeited

15.7.1. If the bidder withdraws the bid after opening of the bid but within the period of validity.

15.7.2. If the Bidder seeks any revision of rates or backs out of the bid claiming for not having referred to any or all documents provided in the Bid by the Officer Inviting the Bids.

15.7.3. DELETED.

15.7.4. In the case of a successful bidder, if the bidder fails within the specified time limit to

15.7.4.1. Sign the Agreement; or

15.7.4.2. Furnish the required Performance Security including additional performance security if any.

16. FORMAT AND SIGNING OF BID:

16.1. The bidder can download the tender of his choice and save it in his system and undertake the necessary preparatory work off-line and upload the completed tender at his convenience within the final date and time of submission. The bidder shall only submit single copy of the required documents and Price Bid in the portal. In the Financial bid, the bidder cannot leave any figure blank. He has to only write the figures, the words will be self-generated. The Bidders are advised to up-load the completed Bid document well ahead of the last date & time of receipt to avoid any last moment problem of power failures etc.

16.2. The Bidder shall go through the Bid carefully and list the documents those are asked for submission. He shall prepare all documents including **Tender Fee**, Bid Security, Declaration form, price bid etc. and store in the system.

16.3. The bidder shall log on to the portal with his DSC and move to the desired tender for up-loading the documents in appropriate place one by one simultaneously checking the documents. Once the Bidder makes sure that all the documents have been up-loaded in appropriate place, he clicks the submit button to submit the bid to the portal.

16.3.1. Tender cannot be pre-opened and cannot be submitted after due date and time. Therefore, only after satisfying that all the documents have been uploaded, the Bidder should activate submit button.

16.3.2. In the e-procurement process, each process is time stamped. The system can identify each individual who has entered into the portal for any bid and the time of entering into the portal.

16.3.3. The Bidder should ensure clarity of the document up-loaded by him to the portal, especially the scanned documents by taking out sample printing. Non-submission of legible documents may render the bid non-responsive. However, the Officer inviting the Bids if so desires, **can ask for legible copies for clarification within a stipulated period of 7 days**, provided such document in no way alters the Bidder's price bid. **If the Bidder fails to submit such documents with in the stipulated date, his bid shall be evaluated on its own merit.**

D. SUBMISSION OF BIDS

17. SECURITY OF BID SUBMISSION:

17.1. All bid data uploaded by the Bidder to the portal will be encrypted by the DSC of the opener(s). The system shall require all the mandatory forms and fields filled up by the contractor during the process of submission of the bid/tender.

17.2. The Bid shall be received in encrypted format by the system which can only be decrypted / opened by the authorized openers only on or after the due date and time.

18. DEADLINE FOR SUBMISSION OF THE BIDS :

- 18.1.** The online bidding will remain active till the last date and time of the bid submission. Once the date and time (Server date and time) is over, the bidder will not be able to submit the bid. The date & time of bid submission shall remain unaltered even if the specified date for the submission of bids declared a holiday for the Officer inviting the Bid.
- 18.2.** The officer inviting the bid may extend the deadline for submission of bids by issuing an amendment in accordance with Sub-Clause 9.3, in which case all rights and obligations of the officer inviting the bid and the bidders previously subject to the original deadline will then be subject to the new deadline.
- 19. LATE BIDS :**
- 19.1.** The system shall reject submission of any bid through portal after closure of the receipt time. For all purpose the server time displayed in the e-procurement portal shall be the time to be followed by the bidder and concerned officers.
- 20. MODIFICATION AND WITHDRAWAL OF BIDS :**
- 20.1.** In the E-Procurement Portal, it is allowed to modify the bid any number of times before the final date and time of submission. The bidder shall have to log on to the system and resubmit the documents as asked for by the system including the price bid. In doing so, the bids already submitted by the bidder will be removed automatically from the system and the latest bid only will be admitted. But the bidder should avoid modification of bid at the last moment to avoid system failure or malfunction of internet or traffic jam or power failure. If the bidder fails to submit his modified bids within the designated time of receipt, the bid already in the system shall be taken for evaluation.
- 20.2.** In the E-Procurement Portal, with-drawl of bid is allowed. But in such case he has to write a letter with appropriate reasons for his withdrawal addressed to the Officer inviting the bid and up load the scanned document to portal in the respective bid before the closure of receipt of the bid. The system shall not allow any withdrawal after expiry of the closure time of the bid.

E. OPENING AND EVALUATION

21. OPENING OF THE BID:

- 21.1.** Bid opening dates are specified during tender creation or can be extended vide corrigendum. These dates are available in IFB, tender document as well as the home page of portal. Bid opening can be done by the authorized users which are defined during the tender publication / approval stage. The bids are encrypted using there public keys and can be decrypted only on or after the Bid Opening due date. The bid openers private key will be required to open the bids and all the openers have to log on to the portal during that time.
- 21.1.1.** The bidders who participated in the on line bidding can witness opening of the bid from any system logging on to the portal with the DSC away from opening place. Contractors are not required to be present during the bid opening at the opening location if they so desire.
- 21.1.2.** Each activity is date and time stamped with **user** details. For time stamping, server time is taken as the reference.
- 21.2.** In the event of the specified date of bid opening being declared a holiday for the Officer inviting the Bid/Engineer-in-Charge, the bids will be opened at the appointed time on the **next working day**.
- 21.3.** In case bids are invited for more than one package, the order for opening of the "Bid" shall be that in which they appear in the "Invitation for Bid".
- 21.4. DELETED.**
- 21.4.1.** Combined bid security for more than one work is not acceptable. If the bid security furnished does not conform to the amount and validity period as specified in clause 15 and has not been furnished in the form specified in Clause 15, the bid will be declared non-responsive and rejected.

- 21.5.** The Bid openers; who have been pre-defined shall log on to the portal with their respective DSC. Unless all the Officers who have been declared as Opening officers, log on the portal with their DSC the Tender cannot be opened.
- 21.5.1.** DELETED.
- 21.5.2.** Subject to confirmation of the bid security by the issuing institutions, the bids accompanied with appropriate **Tender Fee** and valid bid security will be taken up for evaluation with respect to the qualification Information and other information furnished in Part - I pursuant to Clause 3.
- 21.5.3.** After receipt of confirmation of the bid security, the bidder will be asked in writing to clarify his technical bid, if necessary.
- 21.5.4.** The bidders will respond in **not more than 7 days** of issue of the clarification letter, which will also indicate the date, time and venue of opening of the Financial Bid.
- 21.5.5.** Immediately on receipt of these clarifications, the Evaluating Officers; predefined in the system for the bid, will finalize the list of responsive bidders. They will log on to the site with their DSC and record their comments on the Technical evaluation page in the system. The Officer Inviting the Bid if also the accepting authority, shall log on to the system with his digital signature and check the technical evaluation. He can either accept or pass on to the evaluating officers for re-evaluation. Upon acceptance of technical evaluation by the Accepting authority in the system, the system shall automatically generate letter to all the responsive bidders and the system shall forward the letter to all the responsive bidder that their technical bid has been evaluated responsive with respect to the data/information furnished by him and the letter shall also intimate him the date & time of opening of financial bid. The system shall also inform the non-responsive bidders in their email ID that their bid has been found non-responsive.
- 21.6.** The Technical evaluation of all the bids will be taken up as per the information furnished by the Bidders. If any of the information/ statements/documents/certificates furnished by the bidder is found to be false/fabricated/bogus, his EMD/Bid Security shall stand forfeited and his registration in the portal shall be blocked and the bidder is liable to be blacklisted.
- 21.7.** After **technical** evaluation of the bidders and selection of the qualified bidders, the financial bids of the technically qualified bidders shall be opened on the due date of opening. Members of the bid opening committee log on to the system in sequence and open the financial bids for the technically qualified bidders. The opening of financial bid by the opening officer using their DSC shall decrypt the financial bids.
- 21.7.1.** Opening of price bid and evaluation of lowest bidder is subject to satisfaction of other qualification information asked for in the bid pursuant to Clause-3.
- 21.7.2.** The Officer inviting Bid shall ensure that all the Bidders are individually intimated about the date, time & venue of opening of the financial bid along with the responsiveness of the Technical Bid.
- 21.7.3.** The Financial Bid will be opened on the notified date & time in the presence of bidders or their authorized representative who wish to be present.
- 21.7.4.** At the time of opening of "Financial Bid", the names of the bidders whose bids were found responsive in accordance with Sub-Clause 24.1 will be announced. The bids of only those bidders will be opened. The remaining bids will be rejected.
- 21.7.5.** The responsive bidders' names, the bid prices, the item wise rates the total amount of each item, any discounts and withdrawals, and such other details as the officer inviting the tender may consider appropriate, will be announced by him or his authorized representatives at the opening.
- 21.7.6.** Special conditions and/or rebate/discount offer if any uploaded to the system shall be declared and recorded first.

21.7.7. The Financial bid of the bidders shall be opened one by one by the designated officers. The system shall auto-generate the Comparative Statement.

21.7.8. The Bidder can witness the principal activities and view the documents/summary reports for that particular work by logging on to the portal with his DSC from anywhere.

22. PROCESS TO BE CONFIDENTIAL:

22.1. Information relating to the examination, clarification, evaluation, and comparison of bids and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful bidder has been announced. Any effort by a bidder to influence the officer inviting the bid, processing of bids or award decisions may result in the rejection of his bid.

23. CLARIFICATION OF BIDS:

23.1. To assist in the examination, evaluation, and comparison of bids, the officer inviting the bid may, at his discretion, ask any bidder for clarification of his rates including breakdowns of unit rates. The request for clarification and the response shall be in writing or by cable or by e-mail, but no change in the bid price or substance of the bid shall be sought, offered.

23.2. Subject to sub-clause 23.1, no bidder shall contact the officer inviting the bid on any matter relating to his bid from the time of the opening to the time the contract is awarded. If the bidder wishes to bring additional information to the notice of the officer inviting the bid, it should do so in writing.

24. EXAMINATION OF BIDS AND DETERMINATION OF RESPONSIVENESS:

24.1. During the detailed evaluation of "Technical Bids", the officer inviting the bid will determine whether each bid:-

24.1.1. DELETED.

24.1.2. Has submitted legible documents for evaluation.

24.1.3. Meets the eligibility criteria defined in *Clause 3* and;

24.1.4. Is substantially responsive to the requirements of the bidding documents.

24.2. During the detailed evaluation of the "Financial Bid", the responsiveness of the bids will be further determined with respect to the remaining bid conditions, i.e., priced bill of quantities, technical specifications and drawings.

24.3. A substantially responsive "Financial Bids" is one, which conforms to all the terms, conditions, and specifications of the bidding documents, without material deviation or reservation. A material deviation or reservation is one

24.3.1. Which affects in any substantial way the scope, quality, or performance of the works.

24.3.2. Which limits in any substantial way, inconsistent with the bidding documents, the right of the officer inviting the bid or the bidder's obligations under the contract or

24.3.3. Whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

24.4. If a "Financial Bid" is not substantially responsive, it will be rejected by the officer inviting the bid, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

24.5. On opening of the price bid the system shall arrange the financial bids in order of their value (L1 first, followed by L2, L3) for subsequent evaluation. The evaluation status (Sheet) will be visible to all the participating bidders after opening on their respective logins. Each activity is recorded in the system with date and time stamping.

25. EVALUATION OF BIDS: DELETED

25.1. If the officer inviting the Bid in his opinion judges that the price quoted by the lowest qualified bidder is high or a special condition imposed by the bidder is to be withdrawn, the bidder shall be invited for negotiation by the officer

inviting the Bid or by an officer authorised by him in writing. **Negotiations** of financial bid with **only the lowest bidder** shall be carried out, if necessary. Negotiation of bid will be carried out by manual way.

25.2. DELETED.

25.3. DELETED

25.4. DELETED.

25.5. DELETED.

F. AWARD OF CONTRACT

26. AWARD CRITERIA:

26.1. The officer inviting the bid will award the contract to the bidder whose bid has been determined to be substantially responsive to the bidding documents and who has offered the lowest evaluated price.

26.2. On acceptance of the tender, the Contractor shall name in writing his accredited representative(s) who would be responsible for taking instructions from the Engineer-in-Charge.

26.3. Competent Authority of Orissa Industrial Infrastructure Development Corporation (IDCO) reserves to himself the right of accepting the whole or any part of the bid and the bidder shall be bound to perform the same at the rate quoted.

26.4. The successful bidder registered under other State Government / MES / Railways / CPWD/IDCO vendors in equivalent rank has to register under state PWD before signing of the agreement.

27. OPTIONS IF THE BIDDER BACKS OUT FROM BIDDING PROCESS :

27.1. In case the 1st lowest Bidder or even the next lowest Bidder withdraw in series one by one, thereby facilitating a particular Bidder for award, then they shall be penalized with adequate disincentives with forfeiture of EMD/Bid Security unless adequate justification for such back out is furnished. Appropriate action for blacklisting the bidder shall also be taken apart from dis-incentivising the bidder.

27.2. The bidding process shall be deemed to be complete till the date of issue of letter of acceptance. If the bidder fails to sign the agreement within the stipulated period mentioned under clause 29.2, his bid security shall stand forfeited.

28. RIGHT TO ACCEPT OR REJECT ANY OR ALL BIDS :

28.1. The competent authority of IDCO does not bind him to accept the lowest or any other tender and reserves to him the authority to reject any or all the tenders received without assigning any reason.

28.2. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidder shall be summarily rejected.

29. NOTIFICATION OF AWARD AND SIGNING OF AGREEMENT:

29.1. In the E-Procurement Portal, the system shall generate the template of award letter and the Officer Inviting the Bid shall mention the amount of Performance Security and additional security required to be furnished in the letter and intimate the bidders in his e-mail ID. The issue of the letter of acceptance shall be treated as closure of the Bid process and commencement of the contract.

29.2. The bidder shall within 7 days of issue of letter of acceptance, furnish the Performance security & additional Performance security (if any) in the prescribed form & the work programme & shall sign the agreement in prescribed format, failing which the Engineer-in-Charge shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the Bid Security absolutely. The agreement will incorporate all agreements between the officer inviting the bid and the successful bidder.

If L1 bidder does not turn up for agreement after finalization of the tender, then he shall be debarred from participation in bidding for three years and action will be taken to blacklist the contractor. In that case, the L2 bidder, if

fulfils, other required criteria would be called for drawing agreement for execution of work subject to the condition that L2 bidder negotiates at par with the rate quoted by the L1 bidder otherwise the tender will be cancelled. In case a contractor is black listed, it will be widely published and intimated to all departments of Government and also to Govt. of India agencies working in the state.

(Amendment to Para-3.5.14 Note-I of OPWD Code Vol.-I by inclusion).

29.2.1. Following documents shall form part of the agreement.

29.2.1.1. The notice inviting bid, all the documents including additional conditions, specifications and drawings, if any, forming the bid as issued at the time of invitation of bid and acceptance thereof together with any correspondence & documents leading thereto & required amount of performance security including additional performance security as per sub clause 29.2 hereof.

29.2.1.2. Standard Bid Document P.W.D. Form P-1

29.3. The letter to proceed with the work shall be issued by Engineer-in-charge only after signing of the agreement. The notification of award will constitute the formation of the contract subject only to the furnishing of performance security and additional performance security in accordance with the provisions of the agreement.

29.4. On acceptance of the composite bids by the competent authority the letter of award will be issued by the Engineer-in-Charge/Divisional Head on behalf of IDCO.

29.5. Upon signing of the agreement by the successful bidder, the Engineer-in-Charge will promptly notify the other bidders that their bids have been unsuccessful.

30. CORRUPT OR FRAUDULENT PRACTICES:

30.1. The Engineer-in-Charge will reject a proposal for award if he determines that the bidder recommended for award has been engaged in corrupt or fraudulent practices in competing for the contract in question. He will report to the Officer Inviting Bid / next higher authority.

30.2. Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable for rejection.

DETAILED TENDER CALL NOTICE

1. Sealed **percentage rate** bids are invited in **double cover system** from the Class of eligible contractors registered as “Supply, installation, testing and commissioning of VRF A.C system for Octagonal building of Pathani Samanta Planetarium, Bhubaneswar.” at an estimated cost of **Rs. 24,77,925/- (Rupees Twenty-four lakh Seventy seven thousand nine hundred twenty five)** only. Contractors not registered with Govt. of Odisha can participate in the e-procurement after necessary enrolment in the portal but have to subsequently register themselves with the appropriate registering authority of the state Govt. before award of the work as per prevalent registration norms of the state.
 - a) This tender is of composite nature and complete in all respect.
 - b) This detailed Tender Call Notice along with the clauses mentioned herein shall form a part of the contract and agreement.
2. The Bid documents are available on official website of Government: <https://www.tendersodisha.gov.in> **18.00 Hours of dt. 27.07.2026 to 17.00 Hours of dt. 04.08.2026**. The last date and time of submission of Bid is as per contract data.
3. The Technical Bid documents (**Cover-I**) will be opened by the assigned officer in the office of the officer inviting the bid at **16.00 Hours dt: 05.08.2026** in the presence of the bidders or their authorized representatives who wish to attend. After evaluation of the documents contained in Cover-I, the Cover-II containing price bid/s of the technically responsive bidder/s will be opened. The date, time and place of opening the price bid will be intimated to the eligible qualified bidders through system generated E-mails.
4. The Cost of Bid document (Tender fee) of **Rs.7,080/-** will be submitted **online** only as per the Instructions available in the e-Procurement Portal during the processing of tender by the bidder.
5. The bid is to be submitted in two covers.
 - i) **Cover-I** is to contain Registration Certificate, PAN, valid GST Registration Certificate, EPF Registration, EPF latest challan, affidavit, and all other documents required as per the relevant clauses of this DTCN.
 - ii) **Cover-II** is to contain the **PRICE BID** duly filled in by the bidder.
6. Furnishing scanned legible copy of Original Registration certificate, valid GST Registration Certificate, PAN card EPF Registration, EPF latest Challan, along with the Technical Bid is mandatory otherwise his/ her bid shall be declared as non-responsive and thus liable for rejection.
7.
 - (i) Deleted.
 - (ii) Deleted.
 - (iii) Deleted.
8. A copy of **HT/MV** electrical license should also be enclosed with the tender papers, the original of which need to be furnished during verification.
9. (i) **DELETED**

The contract will be drawn & signed by Divisional Head, Electrical Division-II.

 - (ii) The work will be supervised measured & check measured by the Divisional Head, IDCO, Electrical Division-II. Interim & Final payment will be released by the Officer of IDCO executing the agreement.

- 10.** If an individual makes the application, the individual should sign (with DSC) above his full type written name and current address.
- 11.** If the application is made by proprietary firm, it shall be signed (with DSC) by the proprietor & furnish full type written name and the full name of his firm with its current address in a forwarding letter.
- 12.** If the application is made by a firm in partnership, it shall be signed (with DSC) by a partner holding power of attorney for the firm in which case a certified copy of the power of attorney shall accompany the application. A certified copy of the partnership deed and current address of all partners of the firm shall also accompany the application.
- 13.** If the application is made by a limited company or a corporation, it shall be signed (with DSC) by a duly authorized person holding power of attorney for signing the application in which case a certified copy of the power of attorney shall accompany the application. Such limited company or corporation will be required to furnish satisfactory evidence of its existence along with the technical bid.
- 14.** The tender should be strictly in accordance with the provisions as mentioned in the tender schedule. Any change in the wordings will not be accepted.
- 15.** The work is to be completed in all respects within **45 (Forty five) days** from the date of issue of work order. *Before acceptance of tender, the successful bidder will be required to submit a work programme and milestone basing on the financial achievement so as to complete the work within the stipulated time and in case of failure on the part of the agency to achieve the milestone liquidated damage will be imposed*

(Amendment to Para-3.5.18 Note-VIII of OPWD Code Vol.-I).
- 16.** All tenders received will remain valid for a period of **180 days** from the last date prescribed for receipt of tenders and validity of tenders can also be extended if agreed by the tenderers and the Department.
- 17.** The tenderer shall carefully study the tentative drawings and specifications applicable to the contract and all the documents, which will form a part of the agreement to be entered in to, by the accepted tenderer and detailed specifications for Odisha, and other relevant specifications and drawings, which are available. Complaint at a future date that the tenderers have not seen plans and specifications cannot be entertained.
- 18.** The drawings furnished with the tender are tentative and subject to revision or modification as tendered during the execution as per actual necessity and detail test conducted. But the tendered rates quoted by the tenderer will hold good in case of such modification of drawings during the time of execution and shall in no way invalidate the contract and no extra monetary compensation will be entertained. The work shall however be executed as per final approved drawing to be issued by the Engineer-in-Charge as and when required.
- 19.** By admission of a tender for the work, a tenderer will be deemed to have satisfied himself by actual inspection of the site and locality of the work, about the quality and availability of the required quantity of material including the wheat/ rice referred to above, medical aid, labour and food stuff etc., and that rates quoted by him in the tender will be adequate to complete the work according to the specifications attached there to and that he had taken in to account all conditions and difficulties that may be encountered during its progress and to have quoted rates including labour and materials with taxes, octroi, other duties, lead, lifts, loading and unloading, freight for all materials and all other charges necessary for the completion of the work, to the entire satisfaction of the **Engineer-in Charge** of the work and his authorized subordinates. After acceptance of the contract rate Government will not pay any extra charges for any

reason in case the contractor claims later on to have misjudged as regard availability of materials, labour and other factors.

For the purpose of estimate, the approved quarry lead is to be provided judiciously. Engineers in charge would be responsible for ensuring the quality of the materials supplied. The contractors would, however, be responsible for procurement of material from authorized sources and voluntarily disclose the source of procurement for the purpose of billing. Besides, the bidder would be required to submit the details of quarry for procurement while submitting the bids.

(Amendment to Para-3.4.16 (a) (vii) of OPWD Code Vol.-I by substitution).

20. ~~The bid must be accompanied with the prescribed Schedule K duly signed against the exemption of EMD .EMD of Rs.24,779/- has to Paid online during bid submission. Bidders desirous to hire machinery or equipment from outside the state or owned but deployed outside the state are required to furnish additional one percent (1%) EMD / Bid Security. Tenders not accompanied with the Schedule K as specified above shall be declared as non-responsive and thus liable for rejection.~~

21. The tender should be accompanied with the *Scanned copies of the valid Registration certificate, valid GST Registration Certificate and PAN card, EPF Registration, EPF latest Challan* which are mandatory, otherwise his/her bid shall be declared as non-responsive and thus liable for rejection.

22. The tender containing extraneous conditions not covered by the tender notice are liable for rejection and quotations should be strictly in accordance with the items mentioned in the Tender Call Notices. Any change in the wording will not be accepted.

23. The department reserves the right of authority to reject any or all tenders received without assigning any reason whatsoever.

24. The earnest money of the L-1 bidder will be retained and will be dealt with as per terms and condition of O.P.W.D. Code. The retention of E.M.D. with the Department will carry no interest.

25. Divisional Head will notify the bidder / tenderer whose bid has been accepted of the award prior to expiration of the validity period by cable, telex or facsimile confirmed by registered letter. This letter (hereinafter and in the conditions of Contract called the "Letter of Acceptance") will state the sum that the Engineer-in-charge will pay the contractor in consideration of the execution, completion and maintenance of the Works by the contractor as prescribed by the contract (Hereinafter and in the contract called the "Contract Price").

The Notification of award will constitute the formation of the contract, subject only to the furnishing of a performance security (Initial Security Deposit) in form of Deposit receipt of Schedule Bank / Kissan Vikash Patra / Post Office Savings Bank Account/National Savings Certificate / Post Office Time Deposit Account duly pledged in favour of the **"Divisional Head ,Electrical Division-II, IDCO, Bhubaneswar"**& payable at **Bhubaneswar** and in no other form, which including the amount already deposited as bid security (earnest money) shall be 2% of the value of the tendered amount (excluding 1% deposited towards hiring of equipments / machineries from outside the state if any) and sign the agreement in the P.W.D. form No. P-1 (Schedule XLV No. 61) for the fulfilment of the contract in the office of the **Divisional Head, IDCO, Electrical Division** and payable at **Bhubaneswar** or as directed. The security deposit together with the earnest money and the amount withheld according to the provision of P-1 agreement shall be retained as security for the due fulfilment of this contract and additional performance security in accordance with the provisions of the agreement.

The agreement will incorporate all agreements between **Divisional Head, IDCO, and Electrical Division-II inviting the bid** / Engineer-in Charge and the successful bidder within 15 days following the notification of award along with the Letter of Acceptance. The successful bidder will sign the agreement and deliver it to the Engineer-in Charge. Following documents shall form part of the agreement.

- a) The notice-inviting bid, all the documents including additional conditions, specifications and drawings, if any, forming the bid as issued at the time of invitation of bid and acceptance thereof together with any correspondence leading thereto & required amount of performance security including additional performance security.
- b) Standard **P.W.D. Form P-1 with latest amendments**. Failure to enter in to the required agreement and to make the security deposit as above shall entail forfeiture of the Bid Security (earnest money) .No contract (tender) shall be finally accepted until the required amount of initial security money is deposited. The security will be refunded after **12 (Twelve) months** of completion of the work and payment of the final bill and will not carry any interest. As concurred by Law Department & Finance Department In their U.O.R. No 848, dt.21.05.97 J.O.R.No.202 W.F.D. dtd.06.03.98 respectively the E.M.D. will be forfeited in case, where tenderers back out from the offer before acceptance of tender by the competent authority.

26. The contractor should be liable to fully indemnify the Department for payment of compensation under workmen compensation act. VIII of 1923 on account of the workmen employed by the contractor and full amount of compensation paid will be recovered from the contractor.

27. Tenderers are required to liable by fair wages clause as introduced by Govt. of Odisha, Works Department letter No.VII (R&B) 5225, dt.26.2.55 and No.II, M-56/61-28842 (5), dt.27.9.61.

28. The contractor shall bear cost of various incidentals, sundries and contingencies necessitated by work in full within the following or similar category.

- a) Rent, royalties, cess and other charges of materials, **excluding prevailing GST** from time to time. Ferry tolls, conveyance charges and other cost on account of land buildings including temporary building required by the tenderer for collection of materials, storage, housing of staff or other purpose of the work are to be borne by the contractor at his own cost. No rent will be payable to Govt. for temporary occupation of land owned by govt. at the site of the work for bonafide use of the land for work and all such construction of temporary nature by the contractor shall be done after obtaining written permission from the Engineer-in-Charge of Civil portion of the work and all such construction shall have to be demolished and debris removed and ground made good and cleared after completion of the work at no extra cost.
- b) Royalty will be recovered from each bill as notified by Govt. from time to time unless K Forms are enclosed. Refund of royalty at later date after passing of the bills cannot be entertained as the recovery of royalty is being credited to revenue.
- c) Labour camps or huts necessary to a suitable scale including conservancy and sanitary arrangements therein to the satisfaction of the local labour laws and health authorities shall have to be provided by the Contractor.
- d) Arrangement of suitable water supply including pipe water supply where available for the staff and labour as well as for the execution of the work is sole responsibility of the Contractor and no extra cost for carriage of water will be entertained.
- e) All fees and dues levied by Municipal, Canal or Water Supply Authorities are to be borne by the Contractor.
- f) Suitable safety equipments and dresses, gloves, life belts etc. for the labour engaged in risky operations are to be supplied by the contractor at his own cost.

- g) Suitable fencing barriers, signals including paraffin and electric signals where necessary at work and approaches in order in project the public and employees from accident has to be provided by the Contractor at his own cost.
- h) Compensation including cost of any legal suit for injury to persons or property arising out of execution of the work and also any sum, which may become payable due to operation of the workmen compensation act, shall have to be borne by the contractor.
- i) The contractor has to arrange adequate lighting arrangements for the work wherever necessary at his own cost.
- 29.** No payment will be made for layout, benchmark, level pillars, profiles and benching and levelling the ground required, which has to be carried out by the contractor at his own cost. The rates to be quoted should be for finished items of work inclusive of carriage of all materials and all incidental items of work.
- 30.** After the work is finished all surplus materials should be removed from the site of work, preliminary work such as vats, mixing platforms, etc. should be dismantled and all materials removed from the site and premises left neat and his should be inclusive in the rates. No extra payment will be made to the Contractor in this account.
- 31.** It should be understood clearly that no claim what-so-ever will be entertained to extra items of works quantity of any item besides estimate amount unless written order is obtained from the competent authority and rate settled before the extra items of work or extra quantity of any items of work is taken up.
- 32.** The tenderers shall have to abide by the C.P.W.D. safety code rules introduced by the Govt. of India, Ministry of Works and Housing & Supply in their standing order No.44150, dt.25.11.57.
- 33.** No part of the contract shall be sublet without written permission of the officer inviting the bid or transfer to be made by the power of attorney authorizing others to receive payment on contractor's behalf.
- 34.** Bid documents consisting of plans, specifications, the schedule of quantities and the set of terms and conditions of contract and other necessary documents can be seen in all the offices issuing the documents and office of the under signed during office hours every day except on Sundays and Public Holidays till **last date of sale and receipt of tender papers**. Interested bidders may obtain further information at the same address. But it must be clearly understood that tenders must be received in order and according to instructions in complete shape. Incomplete tender is liable for rejection.
- 35. No Relation certificate.**
The contractor shall furnish a certificate along with the tender to the effect that he is not related to any officer in the rank of a **Deputy Manager** & above in IDCO. If the fact subsequently proved to be false, the contract is liable to be rescinded. The earnest money & the total security will be forfeited & he shall be liable of make good to damages the loss or damages resulting for such cancellations. The proforma for no relationship certificate is contained in a separate sheet vide **Schedule-A**.
- 36. DELETED (36.(a) to (e))**
- 37. DELETED**
- 38. DELETED**
- 39. DELETED**
- 40. DELETED**
- 41. DELETED**
- 42.** The tenderers shall make all arrangements for proper storage of materials but no cost for raising shed for store and pay of security guard etc. will be borne by the Department. The department is not responsible for any theft or loss of

materials at site. It is contractor's risk. Under any such plea, if the tenderer stops the work he shall have to pay the full penalty as per clauses of the contract.

43. DELETED

44. The contractor should at his own cost arrange necessary tools and plants required for efficient execution of work and the rates quoted should be inclusive of transportation, hire and running charges of such plant and cost of consumables.

45. The contractor shall properly co-ordinate with the execution of P.H. and Electrical works and take care of the safety of workers.

46. DELETED

47. No claim whatsoever will be entertained for supply of machineries. No extension of time will be granted to the contractor under this ground under any circumstances

48. The tenderer should furnish along with their tender a list of works executed during the last five years duly certified by the concerned **Engineer-in-charge/Divisional Head** indicating the satisfactory completion for works as per the proforma enclosed in a separate sheet of **Schedule-D**.

49. The tenderer or any of its constituent partners of whose contract for any work has been rescinded or who has abandoned any work in the last five years prior to the date of Bid shall be debarred from qualification. The tenderer is to furnish an affidavit at the time of submission of tender paper about the authentication of tender documents. An affidavit to this effect is to be furnished in **Schedule-F** and information in **Schedule-E**

50. It should be clearly understood that :

- a) **DELETED.**
- b) **DELETED.**
- c) **DELETED.**
- d) **DELETED.**

51. DELETED.

52. The contractor shall employ one or more Engineering Graduate or Diploma holders as apprentice at his cost if the work as shown in the tender exceeds Rs.2,50,000.00. The apprentices will be selected by the **Divisional Head (Elect-II)**. The period of employment will commence within one month after the date of work order and would last till the date, when 90% of the work is completed. The fair wage to be paid to the apprentices should not be less than the emolument of personnel of equivalent qualification employed under Government. The number of apprentices to be employed should be fixed by the **Divisional Head (Elect.-II)** in the manner so that the total expenditure does not exceed one percent of the tendered cost of the work.

53. DELETED.

54. DELETED.

55. For submission of a tender for the work, the tenderer will be deemed to have satisfied himself by actual inspection of the site and locality of the work about the quality and availability of the required quantity of materials, Medical aid, labour and Flood stuff etc. and that the rates quoted by him in the tender will be adequate to complete the work according to the specifications attached thereto and that he had taken in to account all conditions and difficulties that may be encountered during its progress and to have quoted labour rates and materials with taxes, Octoroi and other duties lead, lifts, loading and unloading freight for materials and all other charges necessary for the completion of the work to the entire satisfaction of the Engineer-in-charge of the work and his authorized subordinates. After

acceptance of the contract rates Government will not pay any extra charges for any reason in case the contractor finds later on to have misjudged the conditions as regards the availability of materials, labour and other factors. The contractor will be responsible for any misuse, loss or damages due to any reasons whatsoever of any departmental material during the execution of work. In case of loss, damage or misuse, recovery at the rate at 5 times the cost of the materials will be deducted from the bills or his other dues.

56. The prevailing percentage of I.T. Department of the gross amount of the bill towards income tax will be deducted from the contractor's bill.

57. Prevailing rate of GST as applicable would be paid extra.

58. Prevailing rate of cess i.e. @ 1% on estimated cost put to tender as per the Building and Other Constructed Workers (RE&CS) Act. 1996 and Buildings and Other Construction Workers Welfare Cess Act. 1996 (vide resolution No.-12653, dt.15.12.2008 of Labour and Employment Department, Govt. of Odisha) will be deducted from each running bill of the contractor.

59. It must be clearly understood that under no circumstances any interest is chargeable for the dues or additional dues if any payable for the work executed and final bill pending disposal due to any reason whatsoever.

60. No extra payment will be made for removing spreading and consolidating salvaged metals and materials.

61. Under section 12 of contractors labour (Regulation and Abolition) Act. 1970 the contractor who undertakes execution of work through labour should produce valid license from licensing authorities of labour Department.

62. Performance Security / Additional Performance Security

62.1 [Amendment to Appendix – IX, Clause – 36 of OPWD Code Vol.-II by inclusion.Modification in DTCN Clause No.28 as per Works Department, Govt. of Odisha OfficeMemorandum No.173 dtd.03.01.2026 and Clarification vide Office Memorandum No.632dtd.09.01.2026](#)

Amendment of Codal and Contractual provisions of threshold negative bid caps of (14.99%) introduced in Appendix IX, Clause 36 of OPWD Code Volume-II is to be applicable as per the Works Department OM No.173 dtd. 03.01.2026 (Decimal up to two numbers will be taken for all practical purpose) either at the estimated cost put to tender, the tender accepting authority will finalize the tender thorough a transparent lottery system where all bidders /their authorized representatives, the concerned officer inviting the bid & senior officer representative of Finance Dept, IDCO will remain present.(Amendment to Appendix-IX, Clause-36 of OPWD Code Vol.-II) (by inclusion vide O.M.No.173 dt.03.01.2026).

62.2 Additional Performance Security shall be obtained from the bidder when the bid amount is less than the estimated cost put to tender. In such an event, only the successful bidder who has quoted less bid price/rates than the estimated cost put to tender shall have to furnish the amount as mentioned in the below table as Additional performance security (APS) in shape of Term Deposit Receipt / Bank Guarantee pledged in favor of **Divisional Head (Electrical), IDCO Electrical Division-II, Bhubaneswar payable at Bhubaneswar** /Bank Guarantee in favor of the **Divisional Head (Electrical), IDCO Electrical Division-II, Bhubaneswar payable at Bhubaneswar** from any Nationalized/Scheduled Bank in India Counter guaranteed by its local branch at Bhubaneswar within seven days of Issue of Letter of Acceptance (LOA) by the Divisional Head (by e-mail)to the successful bidder otherwise the bid of the successful bidder shall be cancelled and the Earnest Money Deposit /Bid Security shall be forfeited. Further proceeding for blacklisting shall be initiated against the bidder.

SL. No.	Range of Difference between the estimated cost put to tender & Bid Amount	Additional Performance Security to be deposited by the successful bidder
(i)	Below 0% but not below 10%	No Additional Performance Security
(ii)	Below 10% but not below 20%	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 at 11% with the additional bid performance guarantee being 0.1% and this additional performance guarantee percentage shall be applied on the bid price ;
(iii)	20% or more below	The additional performance guarantee percentage shall be incremented by 0.2% for every percentage of bid price below 20% of the project cost put to bid in addition to 1% of the bid price and this additional performance guarantee percentage shall be applied on the bid price.
(iv)		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.
(v)		The additional performance security shall be treated as part of the performance security.
(vi)		Justification for abnormally low bids shall be scrutinized by the Departmental Technical Committee and recommended to the competent authority of the Administrative Department for the approval of the Additional Performance Security (APS). An abnormally low bid is one in which the Bid price, in combination with other elements of the Bid, appears so low that it raises material concerns as to the capability of the Bidder to perform the contract at the offered price. Procuring Entity may, in such cases, seek written clarifications from the Bidder, including detailed price analyses of its Bid price in relation to scope, schedule, resource mobilization, allocation of risks and responsibilities, and any other requirements of the bid document. If, after evaluating the price analyses, the procuring entity determines that the Bidder has substantially failed to demonstrate its capability to deliver the contract at the offered price, the Procuring Entity may reject the Bid / Proposal. However, it would not be advisable to fix a normative percentage below the estimated cost, which would automatically be considered as an abnormally low bid.

1. I

1. If more than one bid is quoted (decimal up to two numbers will be taken for all practical purposes), either at the estimated cost put to tender or less than the estimated cost put to tender, the tender accepting authority will finalize the tender through a transparent lottery system, where all the concerned bidders/their authorized representatives, the concerned SE/EE of the concerned division and Divisional Account Officer (DAO) will remain present.

2. If the rate quoted by the SC and ST Category Contractors comes to the rate quoted by the L1 bidder (decimal up to two numbers will be taken for all practical purposes) after availing 10% price preference as per Para 2 of Works Department Resolution No. 27748 dated. 11.10.1977, the tender shall be finalized by the tender accepting authority through a transparent lottery system along with other categories of contractors.

The State Govt. is pleased to fix the following rate of Additional Performance Security vide office Memorandum No. 173 dtd. 03.01.2026.

if the contractor fails to complete the work, the amount so furnished as additional performance security will be forfeited in addition to the other penal clauses, if any, to be imposed

- 63. Sample of all material** - The contractor shall supply sample of all materials fully before procurement for the work for testing and acceptance as may be requiring by the concerned **Engineer-in-Charge**.
- 64.** Super class contractor shall employ under himself two Graduate Engineer and two Diploma holders belonging to the State of Odisha. Special class contractor shall employ under him one graduate Engineer and two Diploma Holders belonging to the state of Odisha. Likewise 'A' class contractor shall employ under him one Graduate Engineer or two Diploma Holders belonging to state of Odisha. The contractor shall pay to the Engineering personnel monthly emoluments, which shall not be less than the emoluments of the personnel of equivalent qualification employed under the State Govt. of Odisha. **The Divisional Head (Elect.-II)** may however assist the contractor with names of such unemployed Graduate engineers and Diploma Holders if such help is sought for by the contractor. The names of such Engineering personnel appointed by the Contractors should be intimated to the tender receiving authority along with the tender as to who would be supervising the work. Each bill of the Super Class, Special Class or 'A' Class Contractor shall be accompanied by an employment Roll of the Engineering personnel together with a Certificate of the Graduate Engineer or Diploma Holder so employed by the contractor to the effect that the work executed as per the bill has been supervised by him. (Vide Works Department No. Codes M-22/91-15384 dated 9.7.91). The required certificate is to be furnished in the tender documents vide **Schedule-G**.
- 65.** An engineering personnel of the executing agency should be present at work site at the time of visit of High level Inspecting officers in the rank of **Chief General Manager** and above.
- 66. DELETED.**
- 67. DELETED.**
- 68.** The tenderer shall have to abide by the C.P.W.D. safety code rules introduced by the Government of India, Ministry of work Housing and Supply in their standing order No-44150 dtd.25.11.57.
- 69.** The Contractor will have to submit to the **Divisional Head (Electrical-II)** monthly return of labour both skilled and unskilled employed by him on the work.
- 70. DELETED.**
- 71. DELETED.**
- 72.** The Tenderer should furnish along with their tender **1.Schedule-A, 2.Schedule-D, 3.Schedule-E, 4.Schedule-F, 5.Schedule-G, 6.Schedule-H, 7.Schedule-I & 8.Schedule-K** ~~along with other documents as specified in Technical Specification below~~ in the prescribed proforma (s) enclosed herewith in appropriate place of bid document.
- 73. DELETED.**
- 74. DELETED**
- 75.** The contractor has to arrange the samples of materials required for execution to be got tested and approved by the Department before taking up the work and during course of execution required from time to time. All such samples will be tested at any of the Departmental Control and Research Laboratories, at the cost of the Contractor with no extra cost to the Department.

- 76.** If there is any damage to the work due to natural calamities like flood or cyclone or any other cause during the course of execution of work or up to 6 months after completion of work or if any, imperfection becomes apparent to the work within 6 months from the date of final certificate of completion of work the contractor shall make good of all such damages at his own cost with no extra cost to the Department. No claims, whatsoever, in this regard will be entertained.
- 77.** DELETED.
- 78.** Under Section 1 of contract labour Regulation and Abolition Act 1970 the contractor who undertakes execution of work through labour should produce valid license from the licensing authority of labour Department.
- 79.** DELETED.
- 80.** Deleted
- 81.** That for the purpose of jurisdiction in the event of disputes if any of the contract would be deemed to have been entered in to within the State of Odisha and it is agreed that neither party to the contract will be competent to bring a suit in regard to the matter by this contract at any place outside the State of Odisha.
- 82.** **SPECIAL CONDITIONS (PART OF THE CONTRACT)**
- (I) All materials before they are being used in the items of works as per this Schedule of quantities and also the finished items of work where tests are applicable shall have to be tested through the Engineer-in-charge of the respective wing at appropriate Laboratories according to the relevant I.S. specifications of the materials and the said items of works and the cost of all such tests shall have to be borne by the Contractor and the rates of the items of works should be inclusive of cost of such tests.
- (II) The tests have to be planned & carried out such that the progress of work is not hampered
- (III) The tests are mandatory as per the prescribed frequencies and I.S. specifications. However, these are not exhaustive and the Engineer-in-charge has the right to prescribe other required test if any as will be considered from time to time.
- 83.** In case of ambiguity between clauses of this D.T.C.N. and the P-1 contract form, the relevant Clauses of the P-1 contract form shall prevail over the D.T.C.N. The clauses not covered under P-1 contract form shall be governed by the clauses of the D.T.C.N.
- 84.** DELETED.
- 85.** Schedule of quantities is accompanied in Cover-II (Price Bid). It shall be definitely understood that the IDCO does not accept any responsibility for the correctness or completeness of this schedule and that this schedule is liable for alternation or omissions, deductions or alternations set forth in the conditions of the contract and such omissions, deductions, additions or alternations shall no way invalidate the contract and no extra monetary compensation, will be entertained.
- 86.** In case of any complaint by the labour working about the non-payment or less payment of his wages as per latest minimum Wages Act, the **Engineer-in-Charge** will have the right to investigate and if the contractor is found to be in default, he may recover such amount due from the contractor and pay such amount to the labour directly under intimation to the local labour office of the Govt. The contractor shall not employ child labour. The decision of the **Engineer-in-Charge** is final and binding on the contractor.
- 87.** DELETED.

- 88.** The bidder will be responsible for the loss or damage of any departmental materials during transit and in the execution of the work due to reasons what-so-ever and the cost of such materials will be recovered from the bills at stock issue rates or market rates whichever is higher.
- 89.** If the contractor removes Government/ IDCO materials supplied to him from the site of work with a view to dispose of the same dishonestly, he shall be in addition to any other liability civil or criminal arising out of his contract be liable to pay a penalty equivalent to five times of the price of the materials according to the stock issue rate or market rate whichever is higher. The penalty so imposed shall be recovered at any time from any sum that may then or at any time thereafter become due to the contractor or from his security deposit or from the proceeds of sale thereof.
- 90.** The selected contractor may take delivery of Departmental /IDCO Supply according to his need for the work issued by the Engineering- in-charge subject to the availability of the materials. The tenderer shall make all arrangement for proper storages of materials but no cost for raising shed for storage, pay of security guard etc. will be borne by the IDCO. The IDCO is not responsible for considering the theft of materials at site. It is the contractor's risk. Under any such plea if the tenderer stops the work, he shall have to pay the full penalty as per clause of agreement.
- 91.** The IDCO will have the right to supply at any time in the interest of work any IDCO materials to be used in the work and the contractor shall use such materials without any controversy or dispute on that account. The rate of issue of such materials will be at the stock issue rates inclusive of storage charges or rates fixed by the IDCO or current market rate whichever is higher.
- 92.** DELETED.
- 93.** DELETED.
- 94.** DELETED.
- 95.** DELETED.
- 96.** The contractor is required to pay royalty to Govt. as fixed from time of time and produce such documents in support of their payment to the concerned Divisional Head with their bills, falling which the amount towards royalties of different materials as utilised by them in the work will be recovered from their bills and deposited in the revenue of concerned department.
- 97.** DELETED.
- 98.** DELETED.
- 99.** From the commencement of the works to the completion of the same, they are to be under the contractors charge. The contractor is to be held responsible to make good all injuries, damages and repairs occasioned or rendered necessary to the same by fire or other causes and they hold the Govt. of Odisha/IDCO harmless for any claims for injuries to person or structural damage to property happening from any neglect, default, want of proper care or misconduct on the part of the contractor or any one in his employment during the execution of the work. Also no claim shall be entertained for loss due to earthquake, flood, cyclone, epidemic, riot or any other calamity whether natural or incidental damages so caused will have to be made good by the contractor at his own cost.
- 100.** DELETED.
- 101.** Where it will be found necessary by the IDCO the Engineer-in-Charge of the work shall issue an order book to the contractor to be kept at the site of the work with pages serially numbered. Orders regarding the work whenever necessary are to be entered in this book by the IDCO. Officer-in-Charge with their dated signatures and duly noted by the contractor or his authorized agents with their dated signature. Orders entered in this book and noted by the contractor's agent shall be considered to have been duly given to the contractor for following the instructions of the

IDCO. The order Book shall be the property of the IDCO and shall not be removed from the site of work without written permission of the **Divisional Head** and to be submitted to the Engineer-in charge every month.

102. The contractor should attach the certificate in token of payment deposit with the registration authority as per recent circular of the Government/**IDCO** relating to his registration.

103. In case of any discrepancy in printing or omissions of statutory specifications or any other part or portion of the approved document during download of the bid document, the decision of the officer inviting the bid will be binding on the bidder.

104. The rates quoted by the contractor shall cover the latest approved rates of Labours, Materials, P.O.L. and Royalties. Arrangement of borrow areas i.e. Land, Approach Road to the building site etc. are the responsibility of the contractor.

105. DELETED.

106. The contractor shall make requisition of claim book from the date of commencement of the work from the IDCO and shall maintain in proper IDCO form with pages serially numbered in order to record items of works are not covered by his contract and claimable as extra. Claims shall be entered regularly in this book under the dated signature of the contractor or his duly authorized agents at the end of each month. A certificate should be furnished along with the claim to the effect that he has no other claim beyond this claim up-to-date. If in any month there are no claims to record, a certificate to that effect should be furnished by the contractor in the claim book. Each claim must be defined and should be given as far as possible regarding the quantities as well as the total amount claimed. The claim book must be submitted by the contractor regularly by 10th and 16th days of each month for orders of the Engineer-in-Charge or competent authority. Claims not made in this manner or the claim book not maintained from the commencement of the work is liable to be summarily rejected. The claim book is the property of the IDCO and shall be surrendered by the contractor to the Engineer-in-charge after completion of the work or before recession of the contract by the IDCO whichever is earlier for record.

107. DELETED.

108. Even qualified criteria are met; the bidders can be disqualified for the following reasons, if enquired by the Department.

- (a) Making a false statement or declaration.
- (b) Past record of poor performance.
- (c) Past record of abandoning the work half way/ recession of contract.
- (d) Past record of in-ordinate delay in completion of the work.
- (e) Past history of litigation.

109. In case the 1st lowest tenderer or even the next lowest tenderers withdraw in series one by one, thereby facilitating a particular tender for award, then they shall be penalized with adequate disincentives with forfeiture of EMD unless adequate justification for such back out is furnished. Appropriate action for black listing the tenderers shall also be taken apart from disincentives against the tenderer.

110. The following documents which are not submitted with the Bid, will be deemed to be part of the Bid:

Sl. No	Particulars
1	Notice Inviting tender
2	Instruction to the Bidders
3	Conditions of Contract.
4	Contract data

5	Specifications
6	Drawings

111. Deleted

112. ELIGIBILITY CRITERIA:

To be eligible for qualification, applicants shall furnish the followings. Non-furnishing of the following particulars shall be treated as ineligible.

- a. EMD; to be paid **online.**
- b. Tender Fee : to be paid **online.**
- c. Scanned copy of valid **Registration Certificate/IDCO Vendor Registration, GST Registration Certificate, PAN card, EPF Certificate, EPF Latest Challan** along with the tender documents and the **L-I bidder has to furnish** the Original Registration certificate, **GST Registration Certificate and Pan card, EPF Certificate, EPF Latest Challan for verification** for verification within **(5) Five days** of opening of **Cover-II** of the tender before **Divisional Head (Elect.-II), Bhubaneswar** as per **Clause No-1,5 (i) and 21 of DTCN.**
- d. License criteria as per **Clause No.8 of DTCN and Schedule-J need to be furnished.**
- e. **DELETED.**
- f. **Joint Ventures are not accepted.**
- g. The bidder should have satisfactorily executed similar works of Govt. / Govt. Undertaking or equivalent organisations during current/ last seven financial years ending on the last date of months previous to the one in which tender invited, not less than the following as noted below.

(i) 01 (One) Similar Completed work costing not less than Rs. 19.82 Lakhs (80 % of the estimated cost) within 7 (Seven) financial years / current financial year.

OR,

(ii) 02 (Two) Similar Completed work costing not less than Rs. 12.38 Lakhs (50 % of the estimated cost) within 7 (Seven) financial years / current financial year.

OR,

(iii) 03 (Three) Similar Completed work costing not less than Rs. 9.91 Lakhs (40 % of the estimated cost) within 7 (Seven) financial years / current financial year.

Certificates on the above completed works should be furnished by the bidder duly signed by the concerned Officer not below the rank of Executive Engineer or Divisional Head or Equivalent as per Schedule D indicating the components of the work executed to satisfy that the work completed is similar to the work now tendered.

Similar nature of works means **SITC of VRF AC System in any Govt. or PSU or ULB.**

Work Completion Certificates / Handing Over Certificate along with copy of work order, BoQ showing relevant similar nature of work are to be submitted along with the BID.

Special Note (a):-Work Completed by any sub-contractor under a primary contractor shall not be accepted under any circumstances.

Escalation Factor: Following enhancement factors will be used for the cost of works executed and the financial figures to a common base value for works which shall be adopted for evaluation in qualifying work experience criteria evaluation.

Year Before	Multiplying Factor
One	1.10
Two	1.21
Three	1.33
Four	1.46
Five	1.61
Six	1.77
Seven	1.94

h. BID CAPACITY- (DELETED) (Vide Works Department Office Memorandum No.6300 dtd.16.6.2011)

Applicants who meet the minimum qualification criteria will be qualified only if their available bid capacity at the expected time of bidding is more than the total estimated cost of the works. The available bid capacity will be calculated as under.

Assessed Available Bid Capacity = $(A \times N^2 - B)$, where

A = Maximum value of works executed in any one year during the last five years (updated to the current price level) rate of inflation may be taken as 10% per year (escalation factor) which will take into account the completed as well as works in progress.

B = Value of current price level of the existing commitments and ongoing works to be completed during the next years (period of completion of works for which Bids are invited).

N = Number of years prescribed for completion of the work for which the Bids are invited.

Note: The Statement showing the value of existing commitments and ongoing works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Divisional Head or Executive Engineer.

Escalation Factor: Following enhancement factors will be used for the cost of works executed and the financial figures to a common base value for works which shall be adopted for evaluation in qualifying criteria as well as bid capacity evaluation.

Year before	Multiplying factor
One (2022-23)	1.10
Two (2021-22)	1.21
Three (2020-21)	1.33
Four (2019-20)	1.46
Five (2018-19)	1.61

(Applicant should indicate actual figures of costs and amounts for the works executed by them without accounting for the above mentioned factors)

In case the financial figures and value of completed works are in foreign currency the above enhanced multiplying factors will be applied. Instead, current market exchange rate (State Bank of India BC selling rate as on the last date of submission of the bid) will be applied for the purpose of conversion of amount in foreign currency into Indian rupees.

The information on Bid Capacity as on the date of this bid is to be furnished as per the format in Schedule-B.

Total value of Civil Engineering construction work performed in the last five years are to be furnished for which certificate from Chartered Accountant is to be furnished.

2018-2019----- 2019-2020 ----- 2020-2021 -----
2021-2022 ----- 2022-2023 -----

I. Non-submission of required information in schedule D, E, F shall be treated as non-responsive and the bid shall be summarily rejected.

113. Time Control:- (Vide Works Department Office Memorandum No.24716 dtd.24.12.2005 and No.8310 dtd.17.05.2006)

113.1.1 Progress of work and Re-scheduling programme.

- i) **The Divisional Head** shall issue the letter of acceptance to the successful contractor. The issue of the letter of acceptance shall be treated as closure of the Bid process and commencement of the contract.
 - ii) Within 15 days of issue of the letter of acceptance, the contractor shall submit to the Divisional Head for approval a Programme showing the general methods, arrangements, and timing for all the activities in the Works along with monthly cash flow forecast.
 - iii) To ensure good progress during the execution of the work the contractors shall be bound in all cases in which the time allowed for any work exceeds one month to complete, 1/4th of the whole time allowed under the contract has elapsed, ½ of the whole of the work before ½ of the whole time allowed under the contract has elapsed, 3/4th of the whole of the work before 3/4th of the whole time allowed under the contract has elapsed.
 - iv) If at any time it should appear to the Divisional Head that the actual process of the work does not conform to the programme to which consent has been given the Contractor shall produce, at the request of the Divisional Head, a revised programme showing the modifications to such programme necessary to ensure completion of the works within the time for completion. If the contractor does not submit an updated Programme within this period, the Divisional Head may withhold the amount of 1% of the contract value from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Programme has been submitted.
 - v) An update of the Programme shall be a programme showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.
 - vi) The Divisional Head's approval of the Programme shall not alter the Contractor's obligations. The Contractor may revise the Programme and submit it to the Divisional Head again at any time. A revised Programme is to show the effect of Variations and Compensation Events.
- b) Extension of the Completion Date.**
- i) The time allowed for execution of the works as specified in the Contract data shall be the essence of the Contract. The execution of the works shall commence from the 15th day or such time period as mentioned in letter of Award after the date on which the Divisional Head issues written orders to commence the work or from the date of handing over of the site whichever is later. If the Contractor commits default in commencing the execution of the work as aforesaid, Government shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the earnest money & performance guarantee / Security deposit absolutely.
 - ii) The Contractor shall submit the Time & Progress Chart for each milestone Quarter wise indicating each month and get it approved by the IDCO. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Divisional Head and the Contractor within the limitations of time imposed in the contract documents, and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceeds one month (save for special jobs for which a separate programme has been agreed upon) complete the work as per milestone given in contract data.
 - iii) In case of delay occurred due to any of the reasons mentioned below, the Contractor shall immediately give notice thereof in writing to the Divisional Head but shall nevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Divisional Head to proceed with the works.

- (1) Force majeure, or
 - (2) Abnormally bad weather, or
 - (3) Serious loss or damage by fire, or
 - (4) Civil commotion, local commotion of workmen, strike or lockout affecting any of the trades employed on the work, or.
 - (5) Delay on the part of other contractors or tradesmen engaged by Divisional Head in executing work not forming part of the Contract.
 - (6) In case a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work and which would cause the Contractor to incur additional cost, or
 - (7) Any other cause, which, in the absolute discretion of the authority mentioned, in Contract data is beyond the Contractors control.
- iv) Request for reschedule and extension of time, to be eligible for consideration, shall be made by the Contractor in writing **within fourteen (14)** days of the happening of the event causing delay. The Contractor may also, if practicable, indicate in such a request the period for which extension is desired.
- v) In any such case a fair and reasonable extension of time for completion of work may be given. Such extension shall be communicated to the Contractor by the Divisional Head in writing, within 3 months of the date of receipt of such request. Non-application by the contractor for extension of time shall not be a bar for giving a fair and reasonable extension by the Divisional Head and this shall be binding on the contractor.
- c) **Compensation for Delay.**

Time is the essence of the contract. If the contractor fails to maintain the required progress in terms of clause-2 of P-1 Contract or to complete the work and clear the site on or before the contract or extended date of completion, he shall, without prejudice to any other right or remedy available under the law to the **Divisional Head (Elect.-II)** on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below as the **Divisional Head (Elect.-II)** (whose decision in writing shall be final and binding) may decide on the amount of tendered value of the work for every completed day / month (as applicable) that the progress remains below that specified in Clause-2 of P-1 Contract or that the work remains incomplete. This will also apply to items or group of items for which a separate period of completion has been specified. Compensation @ 1.5% per month of for delay of work, delay to be completed on per Day basis. Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10% of the Tendered Value of work or to the Tendered Value of the item or group of items of work for which a separate period of completion is originally given. The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with the **Divisional Head (Elect.-II)**. In case, the contractor does not achieve a particular milestone mentioned in contract data, or the rescheduled milestone(s) in terms of Clause-2.5, the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied at the final grant of extension of time. Withholding of this amount on failure to achieve a milestone shall be automatic without any notice to the contractor. However, if the contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor fails to make up for the delay in subsequent milestone(s), amount mentioned against each milestone missed subsequently also shall be withheld. However no interest whatsoever shall be payable on such withheld amount.

d) **Bonus for early completion(NA)**

For availing incentive clause in any project which is completed before the stipulated date of completion, subject to other stipulations it is mandatory on the part of the concerned **Divisional Head** to report the actual date of completion of the project as soon as possible through fax or e-mail so that the report is received within 7 days of such completion by the concerned **Divisional Head & the Administrative Department**. The incentive for timely, completion should be on

a graduated scale of one percent to 05 percent of the contract value. Assessment of incentives may be worked out for earlier completion of work in all respect in the following scale.

Before 30 % of contract period = 5 % of Contract Value

Before 20 to 30 % of contract period = 4 % of Contract Value

Before 10 to 20 % of contract period = 3 % of Contract Value

Before 5 to 10 % of contract period = 2 % of Contract Value

Before 5% of contract period = 1 % of Contract Value

(Amendment to Para-3.5.5 (V) of Note-III of OPWD Code Vol.-I by inclusion vide O.M. No.5288 dt.04.05.2016)

e) Management Meetings

- i) Either the Divisional Head or the Contractor may require the other to attend a management meeting. The business of management meetings shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.
- ii) The **Divisional Head, Electrical Division-II** shall record the business of management meetings and is to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken to be decided by the **Divisional Head, Electrical Division-II** either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

Rescission of Contract (Amendment as per letter No.10639 dt.27.05.2005 of Works Department, Odisha):- To rescind the contract (of which rescission notice in writing to the contractor under the hand of the Executive Engineer shall be conclusive evidence), 20% of the value of left over work will be realized from the contractor as penalty.

f) Liquidated damages penalty for delays

The work is to be completed in all respects within scheduled Completion period from the date of issue of work order. Before acceptance of tender, the successful bidder will be required to submit a work program and milestone basing on the financial achievement so as to complete the work within the stipulated time and in case of failure on the part of the agency to achieve the milestone liquidated damage will be imposed Delay in handover after 01 month of contract period = 1.5% of Contract Value

Delay in handover after 02 month of contract period = 3% of Contract Value

Beyond more than 02 months of contract period = Maximum upto 5% of Contract Values

N.B. Any delay in works completion is Non-negotiable except force majeure conditions.

- 114.** Building and other Construction Workers Welfare Cess @ 1% of the estimated cost as per tender notification read with latest corrigendum if any will be proportionately deducted from the contractor's bill at the time of making payment of each bill.
- 115.** The tenderers are required to go through each clause of P.W.D. Form P-1 carefully in addition to the clauses mentioned here in before tendering.
- 116.** A Contractor may be black listed as per amendment made to Appendix XXXIV to OPWD Code Vol.-II on rules for black listing of Contractors vide letter no.3365 dt.01.03.2007 of Works Department, Odisha.
As per said amendment a Contractor may be blacklisted
 - a) Misbehavior / threatening of Departmental & supervisory officers during execution of work/tendering process.
 - b) Involvement in any sort of tender fixing.
 - c) Constant non-achievement of milestones on insufficient and imaginary grounds and non-adherence to quality specifications despite being pointed out.
 - d) Persistent and intentional violation of important conditions of contract.

- e) Security consideration of the State i.e. any action that jeopardizes the security of the State.
 - f) Submission of false/ fabricated / forged documents for consideration of a tender.
- 117.** The safety certificate of the E.I. work will be furnished by the agencies after getting necessary verification from the electrical inspector / equally competent authority responsible for the work prior to Energisation of the building.
- 118.** Percentage rate contract (vide Works Department letter no.8310 dt.17.05.2006) In case of percentage rate tender:-
- i) The Contractor has to mention percentage excess or less over the estimated cost (In figures as well as words) in the prescribed format appended to the tender document
 - ii) DELETED
 - iii) Only percentage quoted shall be considered. Percentage quoted by the Contractor should be accurately filled-in figures and words, so that there is no discrepancy.
 - iv) If any discrepancy is found in the percentage quoted in words and figures, then the percentage quoted by the Contractor in words shall be taken as correct.
 - v) If any discrepancy is found in the percentage quoted in percentage excess/ less and the total amount quoted by the Contractor, then percentage will be taken as correct.
 - vi) The percentage quoted in the tender without mentioning excess or less and not supported with the corresponding amount will be treated as excess.
 - vii) The percentage quoted in the tender without mentioning excess / less supported with corresponding amount does not tally with either to percentage excess or less then it will be treated as percentage excess.
 - viii) The percentage quoted in the tender without mentioning excess / less supported with corresponding amount if tallied with the percentage then it will be treated as to which side the amount tallies.
 - (1) The Contractor will write percentage excess/ less up to **two decimal points** only.
 - (2) The tender shall be written legibly and free from erasures, over writings or corrections of figures. Corrections, over writings & interpolations where unavoidable should be made by making out, initialling, dating and rewriting.
 - ix) In the contract P1 time is the essence. The contractor is required to maintain a certain rate of progress specify in the contract.
 - x) The quantity mentioned can be increased or reduced to the extent of 10% for individual items subject to a maximum of 5% over the estimated cost. If it exceeds the limit stated above prior approval of competent authority is mandatory before making any payment.
 - xi) The period of completion is fixed and cannot be altered except in case of exceptional circumstances with due approval of next higher authority.
 - xii) Bills for percentage rate tenders shall be prepared at the estimated rates for individual items only and the percentage excess or less shall be added or subtracted from the gross amount of the bill.

119. DELETED

(Total 119 clauses)

ADDITIONAL TERMS & CONDITIONS FOR ELECTRICAL WORKS

1. Terms of Payment:

Subject to any deduction which the owner may be authorized to make under the contract, the contractor shall on the certificate of the engineer or his authorized representatives whose certificate will be final regarding evidence of materials at site and completion or erection etc. be entitled to payments generally as follows.

- i) 70% of the contract price shall be paid after supply of the materials. (The engineer may seek Indemnity Bond from the contractor against safe custody of the installation / materials erected as watch & ward is the responsibility of the contractor up to handing over to the client).
- ii) 20% of the contract price shall be paid after installation, testing and commissioning with completion of entire work and handing over to the client.
- iii) Balance 10% of the contract price shall be paid after completion of Guarantee period or can be released against submission of equivalent amount of PBG.

2. Regulation of Local Authorities and Status:

The contractor shall comply with the rules and regulations of local authorities during the performance of his field activities. He shall also comply with the Minimum Wages Act, 1948 and the payment made there under in respect of any employee of workmen employed or engaged by his sub-contractor.

3. Guarantee period:

The entire installation after satisfactory completion in all respect shall be guaranteed for trouble free performance for a minimum period of 12 (twelve) months from date of completion in all respect. Any defects noticed during this period arising out of defective materials or bad workmanship shall be rectified free of cost to the owner. 10% performance BG should be valid for 12 (twelve) months from the date of completion.

Other Conditions

1. Before bidding, the bidder should be well aware of the site and quote accordingly and survey the site before bidding.
2. The technical data sheet shall be submitted for approval from IDCO including IDCO's approval toward Make/manufacturer/supplier, prior to placing order.
3. Following equipments shall be offered for Pre Delivery Inspection before despatch. Official from IDCO will inspect.
4. Electricity and water supply charges as required for construction activities should be taken care of by the successful bidder.
5. If any local/site/Row problem arises at site, while executing the work, same may be resolved by the successful bidder only.

CODES

Codes shall mean the following including the latest ascendants and / or replacement if any.

- a. Indian Boiler Act, 1923 and Rules and Regulations made there under.
- b. Indian Electricity Act, 1923 and Rules and Regulations made there under.
- c. Indian Factories Act, 1948 and Rules and Regulations made there under.
- d. The minimum wages Act.
- e. Women's Compensation Act.
- f. The Payment of Wages Act.
- g. The Fatal Accident Act.
- h. The Industrial Employment Act.
- i. The Employment provident Fund Act.
- j. Indian Explosive Act 1984 the Rules and Regulations made there under.
- k. Indian Petroleum Act 1934, and Rules and Regulations made there under.
- l. A.S.M.E. Test Codes.
- m. AIRE Test, Codes.
- n. American Society of Materials Testing Codes.
- o. Standards of the Indian Standards Institution.
 - 1) Low Tension Circuit Breakers: IS 2516-1955 Part I Sec.1
 - 2) Switchgear Bus Bars IS 375-1963
 - 3) HRC fuse links IS 2208-1962
 - 4) Distribution fuse boards IS2675-1966
 - 5) Enclosure for Low Voltage switchgear IS214701962
 - 6) PVC Cables IS1554-1975
 - 7) Tabular fluorescent lamps for Cameral lighting service IS2418-1963
 - 8) Tungsten Filament Lamps for cameral service IS415-1963
 - 9) Ceiling Fans IS274-1966
 - 10) Flood lights IS1947-1961
 - 11) Wall Glass flame-proof electric light fittings IS2206-1962 (Part 1)
 - 12) Water Tight Electric Light Fittings IS3553-1956
 - 13) Steel Boxes for Enclosure of Electrical Accessories IS5133-1969
 - 14) Fittings for Rigid Steel conduit IS2667-1979
 - 15) Rigid steel circuits for electrical wiring IS3837-1966
 - 16) Accessories for Rigid Steel Conduits for Electrical Wiring IS3837-1966
 - 17) Switch Socket Outlets IS3837-1966
 - 18) PVC Wiring IS694-1977

19)	Switches for domestic and similar purpose	IS3854-1966
20)	PVC wiring	IS694-1977
21)	Call Bell and Buzzers	IS2268-1966
22)	Straight through joint boxes and leads sleeves or paper insulated cables-	EID-0032-1964
23)	Earthing	IS3043-1966
24)	Electrical Wiring installations	IS732-1963
25)	Switchgear	IS3072-1965 (Part I)
26)	Lighting protection	IS2309 –1969
27)	Public Address system	IS1882-1962
28)	Low Tension switch use units	IS4064-1978
29)	Code of Practice for Automatic FIRE ALARM system	IS2189-1970
30)	Specification for Heat Sensitive Fire Detectors	IS2175-1977
31)	Guide for Safety procedure in Electric work	IS5216-1969
32)	Rubber Mats for Electric works	IS5424-1969

- p. Other internationally approved standards and / or Rules and Regulations touching the subject matter of the contract.

STANDARDS:

Except as modified in this specification, the materials and work covered under this specification, shall confirm to IS 802(Part-II) 1977 & the amendments thereof the following of Indian Standards and equivalent International Standards whenever indicated below:

Sl. No	Bureau of Indian Standards (BIS)	Title	International & Internationally recognized standard
Sl. No	Bureau of Indian Standards (BIS)	Title	
1.	IS:209	Specification for zinc	
2.	IS:2062/8500	Structural steel (Standard quality)	
3.	IS:432	Mild Steel & Medium tensile bars and hard drawn steel wire for complete reinforcement	
4.	IS:802	Code of practice for use of structural steel in overhead transmission line. Part-I Load and permissible stresses. Part-II: Fabrication, Galvanizing Inspection and Packing. Part-III: Testing.	
5.	IS: 1367	Technical supply conditions for threaded fasteners.	
6.	IS: 1893	Criteria of Earthquake resistant design structures.	
7.	IS: 2016	Plain washers.	
8.	IS: 2551	Danger Notice Plates.	
9.	IS: 2629	Recommended practice for hot dip galvanizing of Iron & Steel.	
10.	IS: 2633	Method of testing uniformity of casting of zinc coated articles.	

11.	IS: 3063	Single coil rectangular section spring washers for bolts, nuts screws.
12.	IS: 5358	Hot dip galvanized coatings on fasteners.
13.	IS: 5613 Part-I & II Section-I	Code of practices for design. Installation maintenance of overhead power lines.
14.	IS: 6610	Specification for heavy washers for steel structures
15.	IS: 6745	Methods of determination of weight of zinc coating of zinc coated Iron and Steel articles.
16.	IS: 12427	Hexagonal bolts for steel structures
17.		Indian Electricity Rules, 1956.
18.		Publication for regulation for electrical crossing of railway tracks.
19.	3534:1979	Outline dimensions of electric lifts (first revision)
20.	1860-1980	Code of practice for installation, operation and maintenance of passenger and goods lifts (first revision)
21.	6620:1972	Code of practice for installation, operation and maintenance of service lifts.
22.	4666:1980	Electric passenger and goods lifts.
23.	6383:1971	Electric service lifts.
24.	9803 : 1981	Buffers for electric passenger and good lifts.
25.	10191 : 1982	Car and counter weight guide rails, guide rail supports and fast rings for lifts; and.
26.	11615 : 1986	Car and counterweight guide shoes for electric passenger and goods lifts.
27.	11706 : 1986	General requirements of carframe for electric passengers and goods lifts.
28.	9878 : 1981	Safety gears and governors for electric passenger and goods lifts.
29.	10448:1983	Retiring cam for passenger and goods lifts.

Chapter 1

TECHNICAL SPECIFICATIONS

1.INTRODUCTION:

Scope:

The scope of this section comprises Supply, installation, testing and commissioning of Variable Refrigerant Flow modular type air-conditioning system suitable for Cooling & Heating both by multiple scroll compressor controlled by individual inverter complete with indoor and outdoor units with individual wired and wireless/wired remote controller for indoor units and centralized controller, interconnecting refrigerant piping, full charge of refrigerant gas (R-410A) & oil, internal control cabling and fittings etc. conforming to these specifications and in accordance with the requirements of Drawings, Schedule of quantities and site condition.

The system should be designed in such a way that the outdoor units have sufficient capacity to meet the requirement of cooling of all the indoor units at maximum possible temperature.

Type:

Unit shall be Air cooled condenser with Variable refrigerant volume air conditioner consisting of outdoor unit and indoor units. Each indoor unit having capability to cooling & heating for the requirement of the rooms. All indoor units shall be provided with isolation valves if required so that a particular unit can be isolated and removed for servicing, while system keeps functioning in normal way. However, OEM can design as per their suitable Piping. It shall be possible to connect multiple indoor unit on one refrigerant circuit as indicated in schedule of quantities.

The indoor units on any circuit can be of different type and also controlled individually. Compressor installed in outdoor unit shall be equipped with capacity control mechanism, and capable of changing the rotating speed / mass flow rate of refrigerant by scroll variable speed mechanism to follow variations in cooling. Outdoor unit shall be suitable for mix match connection of all type of indoor units.

The refrigerant piping between indoor units and outdoor units shall be extended up to maximum 180 meter with maximum 50 meter level difference without any oil traps. Oil recovery system shall be managed without disturbance to normal operation cycle of the system / compressor.

Both indoor unit and outdoor unit shall be factory assembled, tested and filled with first charge of refrigerant before delivery at site.

1.1 BASIC OF DESIGNING:

The building will be air conditioned by providing all inverter air cooled scroll condensing unit and cassette units. The design parameter are as under.

a) COP of each unit at 100% shall not be less than 3.35 and 75% part load shall not be less than 3.90 on standard operating conditions i.e on 35 Deg C DB Ambient (Outdoor) and at 27

Deg C DB & 19 Deg CWB inside conditions. The units shall be suitable to operate up to 52 Deg C ambient conditions in worst case & it should have been tested of above mention temp. OEM to indicate COP at 100% load & at part loads i.e. 75% & 50%.

b) Maximum Air Velocity in duct : Less than 1500 fpm

c) Friction loss in duct : 0.06 in Wg in 100 feet of duct length.

d) Air Velocity in duct : less than 1500 fpm.

e) Friction loss in duct : 0.06 in wg in 100 ft.

1.2 LIST OF BUREAU OF INDIAN STANDARDS CODES :

Following relevant IS codes shall apply read in concurrence with the latest amendments.

IS: 277 -1992 Specification for galvanized sheet (plain and corrugated)

IS: 325-1978 Specification for three-phase induction motors

IS: 655-1963 Specification for metal duct

IS: 659-1964 (1991) Safety code for air-conditioning (revised)

IS: 1554-(Part 1) –1976 Specs for PVC insulated (heavy duty electrical cables)

1.3 Technical Specification of Out Door Unit:

The outdoor unit shall be factory assembled with full charge of refrigerant gas (R-410A) & oil, internal control cabling and fittings etc provided with OEM manufactured high efficiency Scroll compressors fully inverter controlled i.e. changes its speed in accordance to the variation in cooling loads. Weatherproof casing constructed from heavy gauge mild steel panels with powder coated finish/enamel or other suitable proven finish is to be used. Outdoor unit can be Top discharge type with both cooling and heating type. The outdoor unit should be fitted with low noise, OEM based design fan with aero fitting grill for spiral /top discharge airflow to reduce pressure loss and should preferably be fitted with fan motor inverter type for better efficiency. The noise level shall not be more than 76 dB (A) of each module at normal operation measured horizontally 1metre away and 1.5 m above ground level. They shall be provided with duty cycling and starting sequence changing facility for multiple inverter compressor and multiple outdoor units working in one system. The outdoor units shall be of modular construction and should be able to install side by side. All the Out Door Units shall be provided with built in microprocessor based control panel for automatic operation and capacity control. The machines shall be suitable for working in BMS system. Each VRF module must have accumulator to handle liquid and safe guard compressor against liquid flood back due to dynamic load condition. VRF system shall have auto Restart function i.e. In case of power failure, units should restart automatic when power resume. VRF system shall have auto bypass i.e. If any one IDU have any electric or PCB failure, rest of the system should continue to operate. The VRF system shall have free phase technology, which shall correct phases automatically in case of phase reversal. The ODU shall have minimum external static pressure 75 Pa to achieve installation flexibility to avoid recirculation and hot pocket. ESP to be regulated in minimum 3 steps to select as per requirement to optimize energy, capital cost, building aesthetics &

noise level. Outdoor unit heat exchanger coil should be accommodated within 3 sides of outdoor unit. The 4th side to be freely available for ease of maintenance and safety of the person. The units shall be in combination of one or more units which shall be selected in such a way that COP of each unit at 100 % shall not be less than 3.35 and 75% part load shall not be less than 3.90 on standard operating conditions i.e on 35 Deg C DB Ambient (Outdoor) and at 27 Deg C DB & 19 Deg CWB inside conditions. The units shall be suitable to operate up to 52 Deg C ambient conditions in worst case & it should have been tested of above mention temp. Vendor to indicate COP at 100% load & at part loads i.e. 75% & 50% in the data sheets/ shop drawings .The latest prevalent CBC/ASHARE etc standards to be followed . The outdoor unit shall be compatible for three phase four wire 415V $\pm$ 10% 50 Hz AC supply. All outdoor units shall have minimum two compressors so that in the event of failure of one compressor, other can work. The outdoor unit shall be delivered with full charge of refrigerant. The condensing unit shall be designed to operate safely when connected to multiple units.

1.4 Technical Specification of Compressor:

Each compressor shall have inverter technology separately i.e. outdoor units shall have all inverter based scroll compressor (OEM manufactured). The compressor shall be high efficiency scroll and capable for step-less capacity controlling. Compressor should have capacity regulation from 10% to 100% with frequency range from 11 Hz to 110 Hz. It shall change the speed / refrigerant mass flow rate in accordance to the variation in cooling load requirement. Refrigerant mass flow rate can be changed by speed modulation of compressor /mechanical control system. System shall incorporate liquid sub-cooling mechanism with liquid injection at intermediate pressure. Outdoor unit can be Top discharge type. All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated. Forced lubrication may also be employed. Oil heater shall be provided in the compressor casing. The unit shall have separate acoustic sheet metal enclosure for compressor to achieve minimum possible sound level.

1.5. Technical Specification of Cassette Type Indoor Units

- Each Cassette type unit shall have electronic control valve to control refrigerant flow rate responds to load variation of the room.
- The fan shall be multi blade type, statically & dynamically balanced to ensure low noise and vibration free operation of the system. The fan shall be direct driven type, mounted directly on motor shaft having support from housing.
- The cooling coil shall be made out of seamless copper tubes and having continuous aluminum fins. The tubes shall be hydraulically/ mechanically expanded for minimum thermal contact resistance with fins.
- Indoor unit shall have cleanable type filter fixed to an integrally moulded/ moulded plastic frame. The filter shall be slide in and neatly insertable type. Cassette type indoor units shall be 4 way air throw type. The maximum allowable height for the cassette type units shall be 330 mm. The unit must have in built drain pump, suitable for vertical lift up to 850 MM. Unit shall have minimum 4 speed fan control. The noise level of unit at the highest operating level shall not exceed 48dB (A), at a vertical distance of 1.5 m from the grille of the unit. Unit shall have provision of connecting

fresh air without any special chamber & without increasing the total height of the unit (330 mm maximum). The unit shall be supplied with filter. The filter shall be easy to remove, clean & reinstall.

Each indoor unit shall have computerized PID control for maintaining design room temperature. Each unit shall be provided with microprocessor thermostat for cooling or heating. Each unit shall be with wired LCD type remote controller. For officers chamber both wired and wireless remote controller to be given. The remote controller shall memorize the latest malfunction code for easy maintenance. The controller shall have self- diagnostic features for easy and quick maintenance and service. The controller shall be able to change fan speed and angle of swing flap individually as per requirement. Also, a touch screen tab type Central Controller for overall VRF System which will act a Master Controller will be installed as per specification at nominated location.

1.6. CENTRALIZED SYSTEM REMOTE CONTROLLER

A multifunctional compact centralized system remote controller shall be provided with the system. It should be user friendly. It should be able to control at least 64 indoor units connected at a station. The centralized system remote controller shall perform the following minimum functions:

- I. Starting/stopping of Air conditioners as a zone or group or individual units.
- II. Temperature setting for each indoor unit or zone.
- III. Switching between temperature controls modes, switching of fan speed.
- IV. Monitoring of operation status such as operation mode & temperature setting of individual indoor units, maintenance information, trouble-shooting information.
- V. Controller should be capable for scheduling of both Indoor and Outdoor units as per the requirement of user i.e. for cyclic time management, weekly scheduling of operation etc. to save on power with minimum men interface.

1.7. Heat Exchanger

The heat exchanger shall be constructed with copper tubes mechanically bonded to aluminum fins to form a cross fin coil. The aluminum fins shall be covered by anticorrosion resin film. The unit should be with e-pass heat exchanger to optimize the path of heat exchanger and for better efficiency of condenser. The unit shall be provided with necessary number of direct driven low noise level propeller type /suitable design fans arranged for vertical discharge. Each fan shall have a safety guard.

1.8. Refrigerant Circuit:

Each refrigeration circuit (with R-410A refrigerant only) of the condensing unit shall be complete with refrigeration compressors, condenser coils, electronic expansion valve, solenoid valves, 4 way valve, shut down valves, service ports, accumulator and all other components which are essential for safe and satisfactory operation of the system.

Accumulator is essential part of refrigeration cycle to handle liquid particles if any to prevent compressor from damage.

1.9. Safety Devices:

All necessary safety devices shall be provided to ensure safe operation of the system. Following safety devices shall be part of the outdoor unit : high pressure switch, low pressure switch, fuse, crankcase heater, fusible plug, over current protection for inverter, overload protector for fan drive, oil recovery system short recycling guard timer etc.

1.10. PAINTING:

All the equipment including mounting frame shall be powder coated.

1.11. Filter Section

Each unit shall be provided with a factory assembled filter section containing synthetic media washable air filters with efficiency of 90% down to 10-micron particle size. Filters shall have aluminum frame. Filter face velocity shall not exceed 150 meters per minute. Filter shall fit so as to prevent by pass. Holding frames shall be provided for installing number of filter cells in banks. These cells shall be held within the frames by sliding the cells between guiding channels.

1.12. FRESH AIR INTAKES

Extruded aluminum construction duly anodized fresh air louvers with bird screen and extruded construction dampers shall be provided in the clear opening in masonry walls of the air handling unit room having at least one external wall. Fresh air louver, damper, pre filters, ducts and fresh air fan with speed regulator (wherever specified in 'Schedule of Quantities') shall be provided. Fresh air dampers shall be of the interlocking, opposed blade louver type. Blades shall be free from rattle. Damper shall be similar to those specified in 'air distribution'. Fresh air fans and fresh air intakes shall be as per the requirements of 'Schedule of Quantities'.

1.13. DRIVE

Fan drive shall be 3phase-squirrel cage totally enclosed fan cooled EFF2 motor suitable for $415 \pm 10\%V$, 50 HZ AC supply. Motor shall be specially designed for quiet operation and motor speed shall not exceed 1440 RPM. Drive to fan shall be provided through belt drive arrangement with required no. of belts for power transmission without slippage. Belts shall be of oil resistant type of approved make only.

1.14. Piping

Drain Piping: The drain piping shall be PN1.0 grade PPRC and laid in continuous slope and shall be duly insulated to avoid condensation.

Copper Piping: Seamless soft copper tubing, type L shall be used to make connections to equipment, wherever required or specified. Flare fittings e.g. flare nuts, tees, elbows, reducers etc. shall all be of brass.

1.15 HVAC DUCTING SPECIFICATIONS:

Material for Ducting: Material used for ducts shall be galvanized steel sheets class VIII conforming to IS: 277-1962 (revised) or aluminum sheets conforming to IS 737-1955. GSS sheets shall be hot deep galvanization process and minimum acceptable coating of zinc shall be 120gm/Sq M (GSM). Thickness of the sheet shall be as given here under

Minimum Sheet thickness		
<u>Long Size of Duct(mm)</u>	<u>GSS</u>	<u>Aluminum</u>
Up to 750 mm	24 Gauge (0.63mm)	22 Gauge (0.80mm)
751 mm to 1500mm	22 Gauge (0.80mm)	20 Gauge (1.00mm)
1501 mm to 2250mm	20 Gauge (1.00mm)	18 Gauge (1.25mm)
2251 mm and above	18 Gauge (1.25mm)	16 Gauge (1.6mm)
All Round Ducts	20 Gauge (1.00mm)	--

Joints and bracing of ductwork shall generally be as per IS Specifications. However, minimum size of accessories involved shall be as given as per specified in IS 655-1963 here under:

Size of duct	Joint type	Bracing
Up to 750 mm	G .I. Flange	-----
1501 mm to 2250 mm	50 mm x 50 mm x 5mm angle iron frame with 10 mm dia nuts and bolts. at 125 mm centre	40 mm x 40 mm x 3 mm angle iron frame at 1200 mm centre(diagonally cross braced)

1.16. VRF System:

The capacity of the outdoor unit of the VRF system shall be worked out by applying deration for ambient conditions mentioned. Maximum Diversity factor may be considered as 80% .All

the compressors in the outdoor unit shall be inverter type suitable for continuous capacity control. The outdoor unit shall be installed on angle iron frame with suitable anti vibration pads.

The central controller with LCD display and provision for scheduling and temperature setting shall be installed in the AC control room in the terrace.

The refrigerant piping shall be laid on trays duly supported on angle iron stands/ brackets laid on terrace/ above false ceiling. All indoor units including AHUs with electronic expansion valves shall be connected to the central controller through 1.5/ 2.5 sqmm copper conductor FRLS wires duly drawn through metallic conduits.

CHAPTER - 2

INTERNAL WIRING

2.0 Scope:

The specification covers guidelines for execution of work of internal electrification. The specification covers system of distribution and wiring, Metallic and Non-metallic conduit wiring system, DBs, Medium Voltage Panels etc.

2.1 System of Distribution and Wiring:

The distribution system starts from the main panel board and comprises of main and floor panels, distribution boards and connection between them. The connection from main panel to floor panel or main distribution board is taken through cables or rising main with tap off box. In the present day the distribution system have become complicated because of different types of supply, i.e Essential/ Non-Essential/ UPS etc. The distribution system for each type of supply shall be distinctly different and kept separated down to the last point.

2.2 Sub-main wiring:

The sub-main wiring shall mean connection from main distribution board or floor panel to another distribution board. The sub-main wiring is generally done either with recessed or surface conduit or through channels or cable if so required. The sub-main wiring when laid in conduit should not be mixed with any other wiring including circuit wiring. Single phase sub-main wiring shall constitute phase, neutral and earth conductor. Three phase sub-main wiring shall constitute three phase conductors, one neutral conductor and two earth conductors. When drawn through a conduit, all conductors of a sub-main shall be drawn through single conduit to ensure minimum electromagnetic effect. The sub-main connection shall be controlled through a MCCB/ MCB of suitable current carrying and fault with stand capacity.

2.3 Circuit wiring:

The circuit wiring shall mean wiring between Distribution board to switch board laid in surface or recessed conduit. Circuit wirings are single phase wiring constituting phase, neutral and earth conductor. The circuit wiring shall not be mixed with sub-main or point wiring. Circuit wiring shall be controlled through MCB of minimum 10 KA fault withstand capacity. Only C curve MCBs should be used. The circuit wiring is of two types i.e light circuit and power circuit. The load of a light circuit should be limited to 800 Watt. The load of power circuit may vary from 1000 Watt to 2000 Watt depending on the type of load.

2.4 Point Wiring:

The point wirings are of two types i.e light points and plug points. Light points would constitute light/ fan/ exhaust fan/ call bell points. Individual control should be provided for

each point. However, in some cases i.e common areas, toilets, conference rooms, auditorium etc more than one light point may be controlled from one switch/ MCB. In case of common are lighting of entrance lobby/ corridors/ toilets etc, wiring should be done so that 50% to 75% of lights can be switched off through Infra Red sensors for achieving energy conservation. Wiring of light points shall constitute provision switch board with switches, conduit including wiring, ceiling rose/ connector and other accessories including earthing.

Plug point may be of 6A/16A/20A/25A. 6A/16A outlets have load of 100/1000 Watt respectively. 6A outlets are called light plugs and 16A outlets as power plugs. Light plugs can be provided on switch board controlling light points and connected to light circuit. 6A plug points shall be controlled by 6A switch and 16A plugs by 16A switch. 20/25 Amp outlets should be controlled by MCB/ Starter (When used for controlling ACs). More than one light plugs or power plug or a combination of the two can be connected to one power circuit but the number of such outlets to be connected to one circuit should be decided by considering type of use and diversity of load. 16/20/25A power outlet when used for controlling Air-conditioners or any equipment having load more than 1000 Watt, only one outlet should be connected to one circuit.

2.5 Conduit Wiring System :

Two type of rigid conduits i.e Metallic and PVC Conduits are to be used in the work. The metallic conduits shall be of steel finished with galvanized or stove enamelled surface and should be ISI marked. The wall thickness shall not be less than 1.6mm (16 SWG) for metal conduits upto 32 mm dia and wall thickness shall be 2mm (14 SWG) for those above 32mm dia. Only heavy gauge rigid PVC conduit having wall thickness of 2 mm (14 SWG) shall be used. Flexible conduit can be used only for interconnection between termination of point wiring and light fittings/ interconnection of switchgear and DBs.

In case of metal conduit, all accessories should be threaded type. The accessories for PVC conduit shall be grip type and those for flexible conduit shall be threaded type.

MS/ GI switch boxes are to be used in the work. The wall thickness shall not be less than 1.2 mm (18 SWG) for boxes upto size of 20cm X 30cm and those above shall be of 1.6mm (16 SWG) thick. Earth terminal with stud and metal washer should be provided in the box. In case of MS box with piano type switch, the switches and regulator etc are to be fixed on 3 mm thick phenolic laminated sheet.

In case of laying of conduit in surface, saddles shall be provided at an interval of not more than 1 meter and at a distance of 30 cm from centre of fittings like bends/ junction box etc. In case of metallic conduit saddle thickness shall not be less than 0.55 mm (24 SWG) for conduits upto 25mm dia and 0.9 mm (20 SWG) for larger diameter. Heavy gaugenon metallic saddle with base should be used for PVC conduit.

In case of laying of conduit is recess in wall, chase of appropriate size shall be made by using chase cutting machine and finished to match with the surface after fixing conduits. The conduits should be fixed by staples/ J hooks/ saddles fixed not more than 60 cm apart.

In case of laying of conduit in roof slab, conduits shall be laid in position and fixed firmly to the reinforcement bars by steel binding wire to avoid dislocation during pouring of

concrete. To facilitate subsequent drawing of wire suitable fish wire shall be provided along with laying of conduit in the roof slab.

Maximum number of PVC insulated 650/ 1100 Volt grade Aluminium/ Copper conductor cable conforming to IS 694: 1990 to be drawn in conduit of different size are as below.

Conductor Crossection	20 mm dia conduit		25 mm dia conduit		32 mm dia conduit	
	Straight	Bend	Straight	Bend	Straight	Bend
1.5 sqmm	5	4	10	8	18	12
2.5 sqmm	5	3	8	6	12	10
4.0 sqmm	3	2	6	5	10	8
6.0 sqmm	2	-	5	4	8	7
10 sqmm	2	-	4	3	6	5
16 sqmm	-	-	2	2	3	3

2.6 Wires & Wiring System:

Wires shall be single core multi-strand PVC insulated FRLS type and shall be of 1100 Volt grade. Wires of different colours shall be used for quick identification of phase wire / neutral wire etc. All wires shall comply with the requirements regarding the manufacture and testing etc as specified in India Standard Specification IS: 1567/4064 and IS: 694. Termination of wires on switches/ MCBs/ Connectors shall be done by providing crimped lugs.

In wiring, no joints in wiring shall be permitted anywhere except in switch box or point outlet where jointing of wires will be allowed with suitable connectors. The wiring throughout the installation shall be such that there is no break in neutral wire except in the form of linked switchgear.

2.7 Ceiling Fan:

Ceiling fans shall conform to IS: 374-1960. The 1200 mm ceiling fans shall be 5 star rated. In case of any other size the star rating shall be highest as available in the market. Only electronic type regulator shall be used. The fans shall be with double ball bearing and shall be supplied with all standard accessories like downrod, capacitors etc.

2.8 Exhaust Fans:

The exhaust fans shall conform to IS 2312. Exhaust fans shall be robust in design and construction and shall be supplied complete with wall brackets / clamps/ louvers etc. Exhaust fans of diameter 380mm and above should be of low RPM. In case of single use toilets fresh air fans may be used.

2.9 Light Fittings:

Keeping in view the importance of energy conservation LED fittings should be used wherever possible. All fittings supplied should confirm to relevant IS and shall be complete with all standard accessories like driver, heat sink, 4 KV surge protector in case of LED fittings.

2.10 Distribution Boards :

Only MCB distribution boards shall be used. All distribution boards shall be of double door design fabricated out of 1.6 mm thick CRCA sheet and finished with powder coated paint. The distribution board shall be provided with earth terminals for earthing of metal body. The DB shall be provided with insulated copper busbar, isolated neutral bar and connector for termination of earth wires.

2.11 MCB:

MCBs shall be suitable for DIN mounting type and quick make and break type. MCBs shall be provided with magnetic thermal release for over current and short circuit protection. Only C curve MCBs should be used except for capacitor duty application. The breaking capacity shall not be less than 10KA. In case of DP, SPN, TPN or Four pole MCBs there should be a common trip bar.

2.12 MCCB:

MCCBs in AC circuits shall be of Four Pole/TPN (Triple pole with neutral) construction arranged for simultaneous closing and opening of contacts. Operating mechanism shall be quick make, quick break and trip free type. The ON, OFF and TRIP positions of the MCCB shall be clearly indicated and visible to the operator. Unless otherwise specified the MCCBs shall be manually operated type with handle of appropriate size.

All MCCBs of rating 250 A & above shall be provided with microprocessor based trip unit for protection against overload, short circuit & earth faults. MCCBs below 250 A shall be provided with Thermal Magnetic Releases. The instantaneous short circuit release shall be chosen as to operate at a current in excess of pick up motor inrush current & a range of setting shall be provided for selection. Necessary NO+NC contacts should be provided for ON/OFF indication.

MCCB terminals shall be shrouded and designed to receive cable lugs for cable sizes suitable to circuit ratings. The breaking capacity of MCCB's shall be as per the design requirements. The breaking capacities shall be for ICU=ICS as per IEC-60947-2,1989/IS 13947-2,1993. The MCCB shall be made of halogen free high strength heat resisting and flame retardant thermosetting insulating material. MCCB release shall be EMI/EMC compatible.

MCCB shall be provided with rotary handle and door interlock to prevent door being opened when the breaker is in ON position. It should be possible to defeat the interlock in ON position, while taking up maintenance work. It should be possible to provide castle key interlock if required.

2.13 ELCB/RCCB:

Earth Leakage Circuit Breaker (ELCB) shall work on the principle of core balance transformer. ELCB/RCCB(Residual Current Circuit Breaker) shall be current operated independent of the line voltage. Current sensitivity shall be between 30 mA and 300 mA at 240/415 volts AC & shall confirm to IS-12640.

The moving contacts of the phases shall be mounted on a common bridge, actuated by a rugged toggle mechanism. The closing/opening of all the three phases shall occur simultaneously.

The neutral moving contacts shall be so mounted on the common bridge that, at the time of closing, the neutral shall make contact before the phases; and at the time of opening, the neutral shall break after the phases to position.

2.14 Medium Voltage Panel:

The panel board shall be floor mounted cubicle type fabricated out of 2 mm thick CRCA sheet and shall be provided with a base channel. The ingress protection shall be IP 42 for indoor application and IP 54 for outdoor installation. The panel shall be modular in construction, totally enclosed and extensible type and powder coated after treatment in 7 tank process and application of primer. General construction shall be conform to IS :8623-1993. The panel shall be suitable for top or bottom cable entry as the case may be.

The panel board shall be suitable for operation on 3 phase 415 Volt 4 wire 50 Hz system. The busbar shall be designed for 45°C rise in temperature over ambient of 40°C or as specified in additional condition if any. The busbar shall be insulated and shall have short circuit withstand capacity as specified in the BOQ. Current density shall not exceed 130 Amp/Sq.cm for aluminium and 160 Amp/Sq.cm for copper. Neutral bars shall be of same rating as phase for busbar rating upto 400 Amp. For busbar rated above 400 Amp, the neutral shall be rated 50% of phase. Bus support insulators shall be of high strength, good quality fibre reinforced plastic or SMC (sheet moulding compound) with high anti-tracking index and non-hygroscopic.

The panel board shall be provided with 2 Nos earth terminal at both ends and a continuous earth bus of appropriate size shall be provided inside the panel board ensuring earth integrity of the complete panel board. All open able doors shall be earthed by providing flexible copper earth connection between door and the body of the panel board.

The panel board shall accommodate all accessories like circuit breakers, MCCBs, MCBs, switch disconnector fuse units with HRC fuses, starters, necessary meters, relays, indicating lamps etc. as required and shown on drawings and arranged in suitable tiers.

The switchboard shall be fully compartmentalized in vertical tiers housing the feeder switches in different totally enclosed independent compartments. Each feeder must terminate in an independent labelled terminal block. Strip type terminal block accommodating several feeders together is not acceptable. All terminations shall be shrouded in an appropriate manner. The entire enclosure shall meet with IS-2147. Feeder connections shall be of solid insulated copper wires or strips with bimetallic clamps wherever required. Internal wiring, bus bar markings etc. shall conform to IS-375. Internal wiring shall have terminal ferrules. Main switch should be at easily accessible height and the highest switch operating handle should not be over 1.75 M from floor level.

Anti condensation heaters and inspection lamp shall be fitted in each cubicle together with an ON/OFF isolating switch. As a general rule, the heaters shall be placed at bottom of the cubicle.

- Batteries of suitable AH capacity with a suitable Battery Charger shall be provided for starting the DG sets. The battery shall be maintenance free, lead acid type, heavy-duty motive power/traction battery sufficient for three consecutive starts without recharging. Battery charger shall have boost and trickle charging features. Battery shall be conforming to IS: 1651.

Chapter 3

HT Cable & LT Cable

ISI marked XLPE insulated cables rated for continuous operation shall be used. At maximum rating capacity, the conductor temperature shall not exceed 90°C under normal operating conditions and 250°C under short circuit. The cable shall be suitable for laying in trays, trenches, ducts and conduits and for underground buried installation. Cable used in external or open areas shall be ultra violet radiation stabilized. Sequential marking of the length of the cable in meters shall be provided on the outer sheath at every one-meter. The embossing shall be legible and indelible. PVC/Rubber end caps shall be supplied free of cost for each drum with a minimum of eight per thousand meter length. In addition, ends of the cable shall be properly sealed with caps to avoid ingress of water during transportation and storage.

3.1 LT cable:-

The conductor shall be of stranded, high conductivity annealed aluminium /copper wire. Cables shall be heavy-duty type 1100 V grade with XLPE insulated. The conductor shall be 'stranded' for Copper cables conductor of nominal area less than 25 sq mm shall be circular only. Conductor of area 25 sq mm and above may be circular or shaped. Cables with reduced neutral conductor shall have size as per IS. Conductor shall be smooth, uniform in quality, free from scale splits and any other defects. There shall be no joints in individual strands except those made in the base rod or wire before final drawing. The thickness of insulation and the tolerance on thickness of insulation shall be as per IS. Control cables having 6 cores and above shall be identified with prominent and indelible English numerals on the outer surface of the insulation. Colour coding for cables up to 5cores shall be as per IS.

Armouring for multi-core cables shall be by single round galvanised steel wires where the calculated diameter below armouring does not exceed 13 mm and by galvanized steel strips where this dimension is greater than 13 mm. Requirement and methods of tests for armour material and uniformity of galvanization and dimension shall be as per IS. Armouring for single core cable shall be with Aluminium round wire out 2.5 sq mm diameter.

The Outer Sheath shall be applied by extrusion over the armouring with PVC properties mixed with chemicals for protection against rodent and termite attack. The outer sheath shall be marked with "Manufacture name" – "Cable specification with size" – "Year of manufacture" and Sequential marking. The printing Ink shall be in contrast with the cable outer sheath colour. Overall diameter of the cables shall be strictly as per the values declared in technical information furnished along with bids subject to a maximum tolerance ± 2 mm.

Cables shall be dispatched in non-returnable wooden drums of suitable barrel diameters, securely battened, with the take – off end fully protected against mechanical damage. The wood used for construction of the drum shall be properly seasoned, sound and free from defect. Wool preservatives shall be applied to the entire drum. Ferrous parts used shall be treated with a suitable rust preventive finish or coating to avoid rusting during transit or storage. Each drum shall bear a distinguishing number, either printed or neatly chiselled on the outside of one flange. Steel cable drum shall be suitably constructed to avoid any problem due to shrinkage.

LIST OF APPROVED MAKES FOR EQUIPMENT & MATERIALS:

Sl No	Item	Make
	Air-conditioning	
1	VRF Unit	Mitsubishi/ Hitachi/ O general/Toshiba/LG
2	Air Handling Unit	VTs / Systemair / Zeco / Edgetech
3	Inverter Split Ac	Mitsubishi/ Hitachi/ O general/Toshiba
4	Centrifugal Fan (AMCA Certified)	Kruger / Systemair / Greenheck
5	Inline Fan	Kruger / Systemair / Greenheck
6	Propeller Fan	Systemair / Elta / Air flow / Carryaire
7	Refrigerant. Cu pipe	Rajco / Mandev /Totaline / Uniflow
8	Piping & Duct Insulation	Atmacell / K -flex / A -flex
9	UPVC / PVC Hard pipe	Astral / Finolex / Ashirbad / Supreme/ Shykya polymer
10	GI Sheet	TATA / Jindal / Bhusan / SAIL
11	Factory Fabricated Duct	GP Spiro / Ductofab / Rolastar / Zeco / Best Engineering
12	Pipe / Duct Support	Hiraovan / Gripple / As per Standard
13	Grills / Diffuser / Damper	Systamair / Rustkin / Carryaire / Dyanamic Equipment
14	Duct Insulation/ Duct Acoustic	Atmacell / K -flex / A -flex
14	UV Protective quoting	Pidilite / Paramount
16	Duct Sealant	Doby verrolec / Eflow / Zeco
17	Anchor Fastener	Hilti / Fisher
18	Vibration Isolator	Easyflex / Resiatroflex/ Dunlop
19	Motor	ABB/ Seimens / Heavels
	Electrical	
1	MV Panel	Powertech/Technocrat/ Utkala panel builder/ OEA of Siemens/OEA of L&T
2	MCCB (Icu= Ics=100%)	Siemens/ L&T/ Schneider/Legrand
	CTs	Kappa/ Pragati/ L&T
3	Push button, Indicating Lamps	Siemens/ L&T/ Schneider
4	Digital Meters	L&T/ Schneider/ HPL/ Sceure
	Internal EI	
5	PVC Conduit (2 mm thick)	Norpack/ AKG/ shakya polymer/BEC
6	FRLS PVC insulated Cu wires/cable	Finolex/Polycab/ RR Kabel/KEI
7	Switch/ socket (Metallic finish)	Legrand(Myrius) / Crabtree(morano)/ MK
8	Double Door MCB DB/ MCB/ RCCB	Legrand/ Crabtree (Xpro)/ Simens(beta guard)
9	Indoor Luminaires	Phillips/ Bajaj/ Crompton

CERTIFICATE OF NO RELATIONSHIP

I/We hereby certify that I/We* am/are* **related / not related** (*) to any officer of IDCO of the rank of Deputy Manager & above I/We* am/are* aware that, if the facts subsequently proved to be false, my/our* contract will be rescinded with forfeiture of E.M.D and security deposit and I/We* shall be liable to make good the loss or damage resulting from such cancellation.

(*) - Strike out which is not applicable

Signature of the Tenderer

Date:-

WORK EXPERIENCE

LIST OF SIMILAR NATURE OF PROJECTS EXECUTED

Name of Employer	Name of location and name of work	Contract price in Indian Rupees/ Agreement no.	Major Items of works	Stipulated date of commencement / completion of the work as per Agreement	Actual date of completion of the work	Value of work actually executed during last 5 / Current financial years								Reasons for delay in starting/ completion, if any
						Financial year							Value	
1	2	3	4	5	6	7						Current FY	8	9
						2019-2020	2020-2021	2021-22	2022-23	2023-24	2024-25	2025-26	Total	

Note: The above information is to be certified by the Engineer in Charge / Employer not below the rank of Executive Engineer. Column '7' & '8' is to be filled up for the last 5 (Five) financial years. Incomplete & uncertified Schedule-D will not be accepted under any circumstances.

Signature of the Employer

Signature of the Tenderer

Date.....

Date.....

**INFORMATION REGARDING CURRENT LITIGATION, DEBARRING EXPELLING OF
TENDERER OR ABANDONMENT OF WORK BY THE TENDERER**

- | | | | |
|----|----|--|----------|
| 1. | a) | Is the tenderer currently involved in any litigation relating to the works. | Yes / No |
| | b) | If yes: give details: | |
| 2. | | Has the tenderer or any of its constituent partners been debarred/expelled by any agency in India during the last 5 years. | Yes / No |
| 3. | a) | Has the tenderer or any of its constituent partners failed to perform on any contract work in India during the last 5 years. | Yes / No |
| | b) | If yes, give details: | |

Note:

If any information in this schedule is found to be incorrect or concealed, qualification application will summarily be rejected.

Signature of Tenderer

AFFIDAVIT

1. The undersigned do hereby certify that all the statements made in the required attachments are true and correct.
2. The undersigned also hereby certifies that neither my / our firm / company / individuals _____ nor any of its constituent partners have abandoned any road/ bridge/Irrigation /Buildings or other project work in India nor any contract awarded to us for such works have been rescinded during the last five years prior to the date of this bid.
3. The undersigned hereby authorise(s) and request(s) any bank, person, firm or Corporation to furnish pertinent information as deemed necessary and as requested by the Department to verify this statement or regarding my (our) competency and general reputation.
4. The undersigned understands and agrees that further qualifying information may be requested and agree to furnish any such information at the request of the Department.

(Signature of Tenderer)

Title of Officer

Name of Firm

Date:

CERTIFICATE OF EMPLOYMENT OF UNEMPLOYED GRADUATE**ENGINEER / DIPLOMA HOLDERS****(For Super Class / Special Class / 'A' Class Contractors only)**

I / We hereby certify that at present, the following Engineering personnel are working with me / in our firm / company and their bio-data are furnished below.

Sl. No.	Name of Engineering personnel appointed for supervising contractor's work with address	Qualification	Date of Appointment	Monthly emolument	Whether full time engagement and continuous	If they are superannuated / retired / dismissed or removed personnel from state Govt./ Central Govt. / Public Sector Undertaking / private Companies and s or any one ineligible for Government service
1	2	3	4	5	6	7

Signature of the Tenderer.

Date:-

SAMPLE FORMATS

UNDER TAKING

This is to certify that

1. My firm has neither been associated, directly or indirectly, with the Consultant or with any other entity that has prepared the design, specifications, and other documents for the Project nor has any person associated with been proposed as Project Manager for the Contract.
2. My firm has not engaged any agency and any of its affiliates engaged by the Engineer-in-Charge to provide consulting services for the preparation or supervision of this work.
3. My firm has not engaged any Engineer of gazetted rank employed in Engineering or Administrative duties in an Engineering Department of the Government of Odisha or other gazetted officer retired from Government service during last two years without prior permission of the Government of Odisha in writing on or before submission of this tender. I am aware that my contract is liable to be cancelled if either I or any of my employees is found any time to be such a person who had not obtained the permission of the Government of Odisha as aforesaid.

Signature of the Tenderer.

Date:-

Note: i. Strike out whichever is not applicable

ii. In case any person is under his employment with due permission from Government, the same may be cited in a separate letter.

RELATIONSHIP DECLARATION

To,

The Tender Inviting Officer,

Subject: (Name of the Work)

Reference : (Bid reference number)

Sir,

Pursuant to clause **2 of the ITB**, it is to inform that I have relative(s) employed as an Officer in the rank of an Assistant Engineer/Under Secretary under the _____ Department. His (Their) details are as follows.

Relationship:

Name:

Designation

Office

Address

Pursuant to clause **2 of the ITB**, I am to submit herewith the names of persons who are working under my firm having near relatives to any gazetted officer in the rank of an Assistant Engineer/Under Secretary in the _____ Department.

Sl No	Name of the my employee and his designation in the firm	Presently working at	Details of his relatives working in the Department
			Relationship Name: Designation Office Address
			Relationship Name: Designation Office Address

I am also duty bound to inform the relationship of any subsequent employment with any gazetted officer in the rank of an Assistant Engineer/Under Secretary in the _____ Department. I **am aware that any** breach of this condition would render my firm liable for penal action for suppression of facts.

Yours Sincerely

Signature of the Tenderer.

Date:-

Memorandum of Understanding

First Party I Sri/Smt....., Aged Years, S/O-, At / P.O. / Dist-..... (hereinafter called the First Part)

AND

Second Party I Sri/Smt....., Aged Years, S/O-, At / P.O. / Dist-..... (hereinafter called the Second Part) having H.T. / L.T. license registration No..... valid upto

AND Whereas the First Party of 1st part is the managing partner of

AND Whereas the First Party willing to appoint the Second Party to execute the E.I. portion for the tender work, “.....”

And Whereas the Second Party accepted the offer of First Party.

Now this deed of agreement witnesses as follows;

- 1) That, the Second Party shall do all E.I. works, if the tender is awarded to First Party.
- 2) That, the Second Party shall fulfill all the E.I. works as per the tender schedule by instruction of Divisional Head.
- 3) That, the First Party shall receive payment, signing the bill the document for the concerned work.
- 4) That, the Second Party shall abide the rules, regulations and specification of E.I. works of above said matter.

In witness where of both the party have signed in presence of

Witness

W1 -

W2 –

**Sd/-
Divisional Head (Elect.-II)**