



Chhattisgarh State Renewable Energy Development Agency (CREDA)

(Dept. of Energy, Govt. of Chhattisgarh)

Near Energy Education Park, Village Fundhar
VIP (Air Port Road) Raipur 492015 (C.G.) Ph.: 0771-7112473, 7112459
E-mail: contact.creda@gov.in, Website: www.creda.cgstate.gov.in

E. BID DOCUMENT No. 10372/CREDA/HOR/RE-III/ SPVPP-PDN /2018 DT. 25-07-2018

Standardization of Rates for the Laying of Power Distribution Network,
Control room and fencing including material Supply on turn-key basis for
SPV Power Plants at various sites of State Chhattisgarh

Important Events and their schedule for this tender are as follows-

S.No	Particulars	Date	Time	Place
1	Pre-bid meeting	06-08-2018	from 11.30 AM	At Bio Diesel Conference Hall Near Energy Education Park VIP Road Raipur
2	Submission of Tender Document, Technical Bid	21-08-2018	till 01.00 PM	
3	Submission of Price Bid through http://cspc.co.in website	21-08-2018	till 01.00 PM	http://cspc.co.in web portal
4	Examination of Technical Bid	21-08-2018	from 03.00 PM	At Bio Diesel Conference Hall Near Energy Education Park VIP Road Raipur
5	Opening of Price Bid	21-08-2018	After Technical Bid	

Bid Document Cost-Rs 10,000/-

Document can also be downloaded from our website : www.creda.cgstate.gov.in
the cost of tender as mentioned in NIT, shall have to be deposited along with the tender documents.

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**CHHATTISGARH STATE RENEWABLE ENERGY DEVELOPMENT AGENCY
(CREDA)**

(Dept. of Energy, Govt. of Chhattisgarh)
Near Energy Education Park, Village FundharVIP (Air Port Road) Raipur 492015 (C.G.)
Ph.: 0771-7112472,73, 26 **E-mail:** contact.creda@gov.in, Website: www.creda.cgstate.gov.in

Ref. No. 10372/CREDA/HOR/RE-III/SPVPP-PDN/2018

Date 25.07.2018

NOTICE INVITING E.BID

CREDA invites E.Bids from experienced Contractors/vendors for standardization of rates for the Laying of **Power Distribution Network** including material Supply, **Control room and Fencing** on turn-key basis for SPV Power Plants at various sites of State Chhattisgarh as per following details-

SN	Particulars of Work	Cost of Tender Document	EMD	Essentials*
01	Laying of Power Distribution Network including material Supply, Control room and Fencing on turn-key basis for SPV Power Plants as per Specification and Drawings.	10,000/-	5.00 Lacs	* for details pl. see eligibility conditions of the tender documents

Important Events and their schedule for this tender are as follows-

S.No	Particulars	Date	Time	Place
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2	Submission of Tender Document, Technical Bid	21-08-2018	till 01.00 PM	
3	Submission of Price Bid through http://cspc.co.in website	21-08-2018	till 01.00 PM	http://cspc.co.in web portal
4	Examination of Technical Bid	21-08-2018	from 03.00 PM	At Bio Diesel Conference Hall Near Energy Education Park VIP Road Raipur
5	Opening of Price Bid	21-08-2018	After Technical Bid	

Note:-

- Price Bid shall be submitted online only at <http://www.cspc.co.in>,* however technical bid will have to be submitted in hard copy at Bio Diesel Conference Hall Near Energy Education Park VIP Road Raipur . Bidders are advised to follow the instructions provided for Registration and E Submission Process accordingly.
- The bid forms, General Instructions to Bidders and other details including amendments/changed can be viewed/ downloaded from website creda.cgstate.gov.in
- Tender notice is also available on CREDA website creda.cgstate.gov.in the link notice or <http://www.cspc.co.in> ..
- Bidders are requested to attend Pre Bid meeting with their suggestions/ objections/ reservations if any with details so as to avoid any confusion and to ensure clarity and transparency regarding the tender.

CREDA reserves all right to extend the deadline for submission of Bids or accept/reject any or all tender in full/part without assigning any reasons whatsoever.

**(Rajiv Khare)
Chief Engineer**

2.CHECK LIST

To ensure that your tender submitted to CREDA is complete in all respects, please go through the following checklist & tick mark for the enclosures attached with your tender:

S.No.	Description	Attached / Not Attached	Page no. if attached
1	Proof of submission of Tender Fee and EMD.		
2	Copy of Contractor/Supplier/vendor Registration Certificate in CREDA in SPV Programme for FY 2018-19.		
3	Balance Sheets of last three financial years showing positive net worth as on 31-03-2018 and overall annual turnover of Rs 02 Crores in last three Financial Years duly certified by a registered Chartered Accountant.		
4	Completion and Performance Certificates of PDN Projects done/ Supply of material by the Bidder in Govt. Scheme of CREDA/ DISCOM/ Any other Govt. dept./agency.		
5	Original Tender document duly signed & sealed on each page, as a confirmation of acceptance of Terms & Conditions (T&C)		
6	Declaration of the supplier about any relatives working with CREDA.		

(Sign & Seal of the Bidder)

Details of EMD & Tender Document Fee Attached

S.No.	Description
1	Earnest Money Deposit - Earnest Money Deposit of Rs. 5.00 Lacs, submitted in the form of Demand Draft/Banker's Cheque /NEFT/RTGS/TDR drawn on Bank, Branch, bearing DD/BC/TDR/FDR No..... dated.....is attached herewith.
2	Tender Document Fee - Tender Document Fee of Rs. 10,000 /-, submitted in the form of Demand Draft/Banker's Cheque, drawn on Bank, Branch, bearing DD/BC/NEFT/RTGS No..... dated.....is attached herewith.

(Sign & Seal of the Bidder)

3. UNDERTAKING OF THE BIDDER

I/We have read carefully and examined the notice inviting tender, schedule, General Rules and terms and conditions of the contract, special conditions, Schedule of Rates and other documents and Rules referred to in the tender document for the supply.

I/We hereby tender my rates for the execution of the work for CREDA as specified within the time stipulated in the schedule in accordance with all aspects with the specifications, designs, drawings and instructions with such conditions so far as applicable.

I/We agree to keep the tender open for Ninety (90) days from the due date of submission thereof and not to make any modifications in its terms and conditions.

A sum of Rs 05 Lacs is hereby forwarded as earnest money in the form of Demand Draft/ Bankers Cheque /RTGS/NEFT/TDR/FDR payable to CREDA at Raipur (C.G.). If I/We, fail to commence or complete the sanction ordered in specified time I/We agree that the CREDA shall, without prejudice to any other right or remedy, be at liberty to forfeit the said Earnest Money absolutely. The said Earnest Money shall be retained by CREDA towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be required by CREDA.

I/We hereby declare that I/We shall treat the tender documents, specifications and other records connected with the work as secret/confidential and shall not communicate information derived there from to any person other than a person to whom I/We have authorized to communicate the same or use the information in any manner prejudicial to the safety of CREDA/Government.

I/We shall abide to all the laws and shall be responsible for making payments of all the taxes, duties, levies and other Govt. dues etc. to the appropriate Govt. departments.

Our GST registration No. is _____. The PAN No. under the Income Tax Act is _____.

I/We shall be responsible for the payment of the respective taxes to the appropriate authorities and should I/we fail to do so, I/we hereby authorize CREDA to recover the taxes due from us and deposit the same with the appropriate authorities on their demand.

Dated:

Signature

Place:

Name of Bidder with seal

Witness

Signature:

Name:

Postal Address:

4. GENERAL INFORMATION ABOUT THE TENDER

S.No.	Particulars	Details
1	Tender No.	Ref. No. 10372/CREDA/HOR/RE-III/ SPVPP-PDN/2018 Date 25.07.2018
2	Particulars of the work	Standardization of Rates for the Laying of Power Distribution Network including material Supply, Control room and Fencing on turn-key basis for SPV Power Plants at various sites of State Chhattisgarh.
3	Time Period for completion of the work	Maximum 3 Months from the date of allocation of Work/ Date of completion of Work Order whichever is earlier
4	Pre Bid Meeting	At 11.30 AM on 06-08-2018
5	Mode of submission of Bids	Technical Bid- Off Line Price Bids –E Bidding through http://www.cspc.co.in Website.(Online)
6	Last date and time for submission of Tender Documents including Technical bid (Offline) and Price Bid (Online)	Till 13:00 Hours Date 21-08-2018
7	Period of validity of rates for acceptance	Three months from the date of opening.
8	Date and time of opening of Technical Bid	From 15.00 hours Date 21-08-2018
9	Date and time of opening of Price Bid	After Technical bid Date 21-08-2018
10	Place of opening Tender	At Bio Diesel Conference Hall Near Energy Education Park, village Fundhar, VIP Road Raipur

5. ELIGIBILITY CRITERIA

- 5.1 Bidder should be registered in CREDA as a Contrator/Vendor in SPV Programme for the financial year 2018-19 on the date of opening of this Bid.
- 5.2 Bidder should have minimum direct experience of experience of Supply and Laying of Power Distribution Network / Supply of PDN materials under DISCOMs ,RVE, DDG and Outdoor PDN Work. Experience certificate issued by Govt/Govt Undertaking/Govt. Agency shall only be considered.
- 5.3 Bidder must have a minimum positive net worth of 10 Lakh as on 31-03-2018.
- 5.4 Bidders should have a Overall Annual Turnover of Rs. 02 Crores in last three Financial Years ending on 31st March of each FY i.e. FY 2015-16, FY 2016-17 & FY 2017-18.
- 5.5 Bidder will have to submit audited copy of balance sheet certified by a registered chartered accountant as a proof for point no. 5.2 and 5.3 .
- 5.6 The Bidder should have valid GST registration certificate in the state. A copy of which should be enclosed
- 5.7 Bidders whose performance is poor in operation & maintenance activities and whose percentage of non- functional/non- working PDN work is more than 5% will not be allowed to participate in tender. Also they will have to submit a performance certificate of the signed by authorized signatory of O&M section of CREDA for PDN work done under Govt Mode. If the bidders have done PDN work in any other states/UT, bidders have to submit performance Certificate issued by Govt Department / Govt UT in prescribed format shall only be considered.
- 5.8 Bidders may not be allowed to participate in the Bid who have not completed more than 25% of allocated works within stipulated/ extended time limit.
- 5.9 Bidders who are **Blacklisted** by CREDA or any other Govt. Agency/ Department / UT, **will not be** allowed to participate in this tender. System integrator whose registration has been suspended by CREDA due to bad performance or other reasons, shall not be eligible to participate in price bid.
- 5.10 Bidders who has any litigation pending in any court with CREDA on the date of opening of the bid shall not be eligible for this bid.
- 5.11 Any information/data submitted/rendered by the applicant/bidder if found false/ forged/wrong would entitle CREDA to reject/cancel the tender submitted by bidder.

6. INSTRUCTION FOR BIDDERS

1. The Bidder is expected to examine all instructions, forms, terms and specifications as mentioned in the Tender document. Failure to furnish all information required by the Tender documents or submission of a bid not substantially responsive to the Bid Document in every respect will be at the Bidder's risk and is likely to result in out-right rejection of the Tender.

2. LOCAL CONDITIONS:

It shall be imperative on each bidder to fully inform him of all local conditions and factors, which may have any effect on the execution of the works covered under these documents and specifications. AGENCY shall not entertain any request for clarifications from the Bidder, regarding such local conditions.

3. CLARIFICATION OF TENDER DOCUMENTS:

3.1 A prospective Bidder requiring any clarification of the Tender Documents may contact AGENCY in writing or by Fax at the AGENCY's mailing address indicated in the Invitation for Tender.

3.2 Verbal clarifications and information's given by the AGENCY or its employees or its Representatives shall not be in any way entertained.

4. AMENDMENT OF TENDER DOCUMENTS:

At any time prior to the submission of the tender or prior to the opening of the financial bid the AGENCY may, for any reason, whether at its own initiative or in response to a clarification requested by the Bidder, modify the bid documents by amendments.

5. BIDDING PROCESS: For ease of accessing the e-bidding website and registration the following is to be done by bidder –

A. Visit <http://www.cspc.co.in>

B. Click on e-bidding button on right hand side of the page.

C. The user will be directed to e-bidding page where all information regarding registration is available along with helpline details.

D. The Bidder must submit attested copies of all legal documents pertaining to the constitution of their Concern as applicable, along with the Tender, to authenticate their identity, such as affidavit of Sole Proprietorship/Partnership Deed/ Registration Certificate/ Certificate of incorporation of the Company/Memorandum of Association of the Company and Power of Attorney authorizing a person to represent the firm in all matters with respect to the Bid.

E. Price Bid shall be submitted online only at <http://www.cspc.co.in> , however technical bid will have to be submitted in hard copy. Bid Documents (including Technical Bid and samples) must reach At Bio Diesel Conference Hall Near Energy Education Park VIP Road Raipur latest by 11.30 AM on 21.08.2018. Tenders submitted after scheduled time and date shall not be considered.

F. Tender Documents should be submitted in prescribed manner in separate envelopes duly super scribed and placed as follows- (A) Tender Fees and EMD , (B) Eligibility Documents as per point 5.1 to 5.11 mentioned above (C) Technical Bid and Complete tender document in original duly signed by authorized signatory on each & every page of the tender document.

G. The envelopes must be clearly marked as “(A)Tender Fees and EMD /(B) Eligibility Documents / (C) Technical Bid and Complete tender document in original of “**TENDER NO. 10372/CREDA/HOR/RE-III/SPVPP-PDN/2018, Date 25.07.2018.**

6. The Specifications of PDN materials should be as specified in the tender in schedule attached.
7. Bidder shall have to submit details of GST & PAN registration numbers issued by the appropriate authority.
8. The documentary evidence for meeting the eligibility criteria must mandatorily be submitted along as per check list with tender in prescribed manner.
9. Bidders must enclose the safety procedure & manual.
10. When Technical Bid Documents & Eligibility documents are delivered through messenger, it should be submitted at Bio Diesel Conference Hall Near Energy Education Park VIP Road Raipur latest by 1.00 PM on 21.08.2018. Nobody is authorized to receive or grant receipt for tender delivered on behalf of CREDA.
11. Bidder should quote their rates considering variation of site conditions, variation in price of different components and keeping the quantum and quality of work in mind. If CREDA anticipates that rate is abnormally low or high, CREDA shall have liberty to amend the rates or reject the tender.
12. **VALIDITY:** Full descriptive particulars and complete specifications should accompany the offer. Offers should be kept open for acceptance for at least three months from the date of opening. After finalization of this tender the approved rates shall be valid till one year from the date of award; however CREDA shall have liberty to increase or decrease this validity if needed.
13. The terms, conditions and specifications mentioned in tender document shall be binding on the Bidders and no condition or stipulation contrary to the conditions shall be acceptable. It may please be noted that the Bidders who do not accept terms and conditions stipulated in this tender documents, their offers shall be liable to be rejected out-rightly without assigning any further reasons.
14. Each page of tender document & enclosures shall be signed by the Bidder and seal affixed. All the pages of the documents issued must be submitted along with the offer. In case of any corrections / alterations in the tender, the Bidder should attest the same; otherwise tenders may not be considered.
15. Bidders are also instructed to submit their tenders in properly arranged manner (with index , proper paging and with flags on important documents). Incomplete, lose, conditional or improper arranged tenders will not be accepted.
16. CREDA reserves the right (i) to reject or accept any or all tenders wholly or partly without assigning any reason on the grounds considered advantageous to CREDA, whether it is the lowest tender or not and (ii) to split the quantities against the tender on more than one firm for the same items/ work. No reason will be assigned by CREDA for this and will be binding on the bidders. The bidder who had quoted the lowest price shall be preferred for placing order. Due to large quantum of work & limitation of the time period for completion of the work CREDA shall take consent from more than one bidder if they agree to work on rates standardized by CREDA. CREDA may undergo agreement with those eligible bidders who give consent to work on rates standardized by CREDA and may place work orders to them. Rates approved through this tender may be standardized for all eligible tenders to work in year 2017-18 and shall be valid till 31-03-2019. However CREDA reserves right to curtail or extend this period.

17. Offers through Telegraph/ Fax/Emails or open offers etc. received shall be summarily rejected.
18. All the Bidders shall essentially indicate the break-up of prices as shown in Price Bid. In case any of the charges are not included in the quoted prices, the same shall be clearly shown as extra, indicating specifically the rate/scale of such charges. The lowest prices quoted shall be considered.
19. **TENDER DOCUMENT FEE AND EARNEST MONEY:**
Each Bidder should submit Tender Document Fee and earnest money in the form of Demand Draft/Banker's Cheque /NEFT/RTGS/TDR / as mentioned in the NIT vide no "Tender no. **10372/CREDA/HOR/RE-III/SPVPP-PDN/2018, Date 25.07.2017**" DUE ON **21-08-18**", in a separate envelope as prescribed at point no. 1 & 2 of table 2 of page 4 else they will summarily be rejected and returned. Tender Document Fee, EMD submitted in cash or any other form shall not be accepted. . [Exemption from EMD shall be given only to those SSI units of Chhattisgarh State who submit the competency certificate on which it should be clearly mentioned that, "the company/firm is registered in Chhattisgarh for manufacturing of that particular product"]. CREDA Competency Certificate for EMD will not be considered as EMD for this Rate Contract Bid.
20. **FORFEITURE OF EARNEST MONEY DEPOSIT:**
It should be clearly understood that in the event of Bidder failing to enter into the agreement in the prescribed format on their quoted rates and also fails to execute assigned works under this tender, within stipulations, if he is so communicated within the validity period of the offer, the full amount of earnest money shall be forfeited and Bidder will be debarred from future business with CREDA. CREDA's decision in this respect will be final and binding on the Bidder.
21. **PRICE:**
The prices quoted should be firm and F.O.R. destination excluding GST payable on the bill of supply and installation / services. GST as applicable on the date of billing shall be paid additionally as per applicable rate over the above quoted prices.
22. **ENGINEERING DOCUMENT:**
Bidders will have to submit Engineering Documents with technical details, drawings, Specifications of components and make etc to CREDA for approval, as and when asked by CREDA. Works may only be started out only after approval of the Engineering Document and their samples.
23. **SAMPLES:**
If Require CREDA may inspect the consignment before dispatch of the material at shall be delivered/ accepted as per the scope of work and specifications, as get it tested in accreted laboratory at its own cost.
24. **TAX OBLIGATIONS:**
TDS for Income Tax, Civil Work etc shall be recovered under various acts and deposited with the appropriate authority if required as per rules.
25. A pre-bid meeting shall be organized on **06-08-2018 at 11.30 AM** at Bio Diesel Conference Hall Near Energy Education Park VIP Road Raipur, to explain the terms & conditions of the tender and to clarify doubts of the Bidders so that all doubts and confusions are resolved before the tender is submitted. Only one authorized representative of the parties who fulfils the primary eligibility conditions as mentioned in NIT and desire to purchase/download the tender document shall be allowed to participate in the said meeting. Amendments/clarifications, if any arising

during pre-bid meet, shall be uploaded on www.credacg.in. It is advised to all Bidders to attend this Pre Bid Meeting so as to get clarifications on various points if required. A training may also be arranged if require by bidders for Registration and E Submission Process for e Bidding.

26. TECHNICAL CRITERIA

- 1) The eligible Contractors/Vendors to whom work is likely to be awarded should have their own service unit cum office within Chhattisgarh state.
- 2) The Bidders should have sufficient technically qualified and well-experienced manpower for execution of the project and after sales service of the systems. These details may be called by CREDA and in case there is any deficiency found the Contractor/Vendor may be debarred from the tender.

27. Prevention of Conflict of Intrest:

- a) All persons/groups/agencies/workers/Bidders including their blood relatives who are employed or have been assigned jobs/works with Chhattisgarh CREDA, Raipur are prohibited from biding for the work mentioned in this document, without prior approval of CEO, CREDA Chhattisgarh, Raipur.
- b) Any violation of this clause will lead to the automatic rejection of the bid irrespective of the stage. If the violation of this clause is found out after the issuance of work order it will lead to the automatic cancellation of the work order from the date of detection. In such case the bid Security Amount/EMD will be forfeited by CREDA, Raipur.

28. Miscellaneous:

- a) The Selection Process shall be governed by and constructed in accordance with the laws of india and the courts at Raipur shall have exclusive jurisdiction over all disputes arising under, pursuant to and/or in connection with the selection process.
- b) All forms of canvassing, misrepresentation, or voluntary withholding or omission of facts for the above work will render the applicant ineligible for the biding process & CREDA, Raipur reserve the right to take action as per law.
- c) CREDA, Raipur in its sole discretion and without incurring any obligation or liability, reserve the right, at any time to:
 - i. Suspend and/or cancel the Selection Process and/or amend and/or supplement the Selection Process or modify the dates or other terms and condition relating thereto; in case of cancellation or suspension of the process CREDA, Raipur will return the security/bid amount in 60 days.
 - ii. Consult with any bidder in order to receive clarification or further information;
 - iii. Independently verify, disqualify, reject and/or accept any and all submission or other information and/or evidence submitted by or on behalf of any Bidder.
 - iv. It shall be deemed that by submitted the proposal, the bidder agrees and releases CREDA , its employees, irrevocably, unconditionally, fully and finally from any and all liability for proven and adjudication claims, losses, damages, costs, expences or liabilities in any way related to or arising from the exercise of any rights and/or performance of ny obligations hereunder.
 - v. The bidder, once applied, will not be allowed to withdraw at any stage. if the bidder wants to withdraw, the entire amount of EMD will be forfeited.

27. JURISDICTION OF THE COURT:

Any dispute arising out of the contract shall be subject to the jurisdiction of court at Raipur.

7. GENERAL CONDITION OF CONTRACT

1. DEFINITIONS:

In writing General Conditions of Contract, the specifications and bill of quantity, the following words shall have the meanings hereby indicated, unless there is something in the subject matter or content inconsistent with the subject.

CREDA shall mean the Chhattisgarh State Renewable Energy Development Agency represented through the CEO.

Work shall mean any work entrusted to the Bidder as mentioned in the scope of work and work order.

The "Engineer in charge" shall mean the Engineer or Engineers authorized by CEO, CREDA for the purpose of this contract. Inspecting Authority shall mean any Engineering person or personnel authorized by CREDA to supervise and inspect the erection/work of PDN for SPVPP.

"The Eligible Contractor/Supplier/Bidder" shall mean the Bidder awarded with the contract or their successors and permitted assigns. Contract Price shall mean the sum named in or calculated in accordance with the provisions of the contract as the contract price. General Conditions shall mean the General conditions of Contract.

"Specifications" shall mean the specifications annexed to these General Conditions of contract and shall include the schedules and drawings attached thereto or issued to the eligible Contractor/Vendor from time to time, as well as all samples and pattern, if any,

"Month" shall mean calendar month. "Writing" shall include any manuscript, typewritten, printed or other statement reproduced in any visible form whether under seal or written by hand.

2. CONTRACT DOCUMENT:

The term "Contract" shall mean and include the General conditions, specifications, schedules, drawings, work orders etc., issued against the contract schedule of price or their final general conditions, any special conditions applying to the particular contract specification and drawings and agreement to be entered into. Terms and conditions not herein defined shall have the same meaning as are assigned to them in the Indian contract Act or any other Act in vogue or by any person of common knowledge and prudence.

3. MANNER OF EXECUTION:

Execution of work shall be carried out in an approved manner as outlined in the technical specifications or where not outlined, in accordance with desired Specifications laid down by CREDA, to the reasonable satisfaction of the Engineer.

- i) The eligible Contractor/Vendor shall conduct a detailed survey of site and submit Site Clearance and necessary documents and survey details in concerned District Office of CREDA in prescribed manner.
- ii) District / Regional Office CREDA shall examine these reports and after satisfaction forward these to Superintending Engineer SPV Off Grid, Head office of CREDA for approval.

- iii) The Contractor/Vendor shall start work within 15 days after the date of issue of work Order. Workorder will be given to the chosen System Integrator only after execution of the agreement with CREDA.
- iv) All the materials required for PDN Works as per Work Order issued shall be kept at site in the custody of the Contractor/Vendor. CREDA shall not be responsible for any loss or damage of any material during the installation.
- v) All the electrical works should be done as per Indian electricity Act. The persons engaged for carrying out electrical works should have a valid license of required category accordingly.
- vi) After installation and joint inspection will be done in presence of beneficiary, Contractor/Vendor and CREDA and after successful commissioning of PDN Work and its approval from CREDA a JCC will be signed and the payment claim will be forwarded for payments as per guidelines and procedures of CREDA.

4. VARIATIONS, ADDITIONS & OMISSIONS:

CREDA shall have the right to alter, amend, omit, split or otherwise vary the quantum of work, by notice in writing to the Contractor/Vendor. The eligible Contractor/Vendor shall carry out such variation in accordance with the rates specified in the contract so far as they may apply and where such rates are not available; those will be mutually agreed between CREDA and the eligible SI.

5. INSPECTION DURING ERECTION:

The Engineer in Charge or his authorized representative (s) shall be entitled at all reasonable times to inspect and supervise and test during installation and commissioning. Such inspection will not relieve the eligible Contractor/Vendor from their obligations under this contract. Material can be inspected before dispatch by the authorized representatives of CREDA at the factory at the cost of the eligible Contractor/Vendor, if desired by CREDA.

6. COMPLETION OF WORK:

Time being the essence of contract, the installation of the PDN work shall be completed within the time as specified in the Work Order/LOI. Time limit will start from the date of site approval/approval of layout.

7. ELIGIBLE SIs DEFAULT LIABILITY:

CREDA may by written notice of default to the eligible SI, terminate the contract in circumstances detailed hereunder:

- (a) If in the opinion of the CREDA, the eligible Contractor/Vendor fails to complete the work within the time specified in the work order or within the period for which extension has been granted by CREDA to the eligible SI.
- (b) If in the opinion of CREDA, the eligible Contractor/Vendor fails to comply with any of the provisions of this contract.
- (c) In the event of CREDA terminating the contract in whole or in part as provided in paragraph (a) above, CREDA reserves the right to engage another eligible Contractor/Vendor or agency upon such terms and in such a manner as it may deem appropriate and the eligible Contractor/Vendor shall be liable to CREDA

for any additional costs or any losses caused to CREDA as may be required for the completion of erection of the SPVPP and or for penalty as defined under this tender document until such reasonable time as may be required for the final completion of the work.

- (d) In the event CREDA does not terminate the contract as provided in paragraph (a) the eligible Contractor/Vendor shall continue performance of the contract, in which case he shall be liable to CREDA for penalty for delay as set out in this tender document until the work is completed.

8. FORCE MAJEURE:

The eligible Contractor/Vendor shall not be liable for any penalty for delay or for failure to perform the contract for reasons of FORCE MAJEURE such as of God, acts of public, enemy, naxal problems, acts of government, cyclone, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes provided that the contract, shall within 10 (ten) days from the beginning of such delay notice the CREDA in writing of the cause of delay. CREDA shall verify the facts and grant such extension as facts justify. Delay in supply of any accessories/material of PDN etc by the related vendors, to whom the Bidder has placed order, shall also not be treated as force majeure.

9. REJECTION OF WORKS:

In the event of any of the material supplied/work done by the eligible Contractor/Vendor is found defective in material or workmanship or otherwise not in conformity with the requirements of this contract specifications, CREDA shall either reject the material and/ or work and advise the eligible Contractor/Vendor to rectify the same. The eligible Contractor/Vendor on receipt of such notices shall rectify or replace the defective material and rectify the work, free of cost. If the eligible Contractor/Vendor fails to do so, CREDA may,

- i At its option replace or rectify such defective materials and/ or work and recover the extra cost so involved from the eligible Contractor/Vendor plus fifteen percent service charges of the cost of such rectification, from the eligible Contractor/Vendor and/ or terminate the contract for balance work/ supplies with enforcement of penalty as per contract
- ii Defective materials/ workmanship will not be accepted under any conditions and shall be rejected outright without compensation. The eligible Contractor/Vendor shall be liable for any loss/ damage sustained by CREDA due to defective work.

10. EXTENSION OF THE TIME:

If the completion of installation is delayed due to any reason beyond the control of the eligible Contractor/Vendor, the eligible Contractor/Vendor shall without delay give notice to the CREDA in writing of his claim for an extension of time. CREDA on receipt of such notice may agree to extend the contract/delivery date of the Solar System as may be reasonable but without prejudice to other terms and conditions of the contract.

11. MAKES OF EQUIPMENTS TO BE USED IN THE WORK:

The eligible Contractor/Vendor has to ensure that equipments as per Technical Requirements of guidelines of CREDA as complied with. The eligible Contractor/Vendor has also to ensure that he will use only components of approved vendors of CREDA. The material/works for which CREDA/MNRE or BSI or ISI specification is not available, engineer-in-charge of the works will examine and approve the material/works, preferably of all makes on which CREDA has report of satisfactory performance. Test certificates for all major equipments should be submitted to the engineer-in-charge of the works before installation of the same.

12. WARRANTEE PERIOD AND POST INSTALLATION SERVICES:

The work done/ material supplied by the eligible Contractor/Vendor should be warranted for satisfactory operation and against any defect in material and workmanship including Luminaries, and other balance of equipment's, at least for a period of 1 (one) years, from the date of commissioning of the PDN work including other works as per scope of work. The above warrantee certificates shall be furnished to the CREDA for approval. Any defect noticed during this period should be rectified by the supplier free of cost upon written notice from CREDA provided such defects may be due to bad workmanship or bad materials used. The warrantee period shall be extended by the period during which the PDN work remains non-operative due to reasons within control of the eligible Contractors/Vendors. This warrantee must be an unconditional onsite warrantee and the eligible Contractor/Vendor will have to replace the defective material within 7 days positively from the date of information given to him. Care should necessarily be taken to make the SPVPP operational, once the reporting of the fault/non operational status is done, within a week. If the Faulty work is not made operational within 7 days, CREDA may rectify the same at the cost of Contractor/Vendor, and the warrantee period shall be extended for a month for the same. This warrantee must be an unconditional onsite warrantee and the eligible Contractor/Vendor will have to replace the defective material within 7 days positively from the date of information given to him.

System Integrators shall have to establish their service stations in the allocated area and shall have to keep sufficient quantity of spares and man power to ensure proper service network for taking care of smooth functioning of SPVPP installed by them. Contractor/Vendor shall have to give a toll free/ phone/mobile number to register complaints.

13. TERMS OF PAYMENT:

The following terms of payment shall apply for the tender: -

- a) 95% of the eligible payments as per the work order after satisfactory execution and commissioning of PDN Work at site with proper handing over.
- b) Balance 5% of the eligible payments shall be retained by CREDA as Performance Security for a period of five years. However the same may be released to Contractor/Vendor on submission of TDR (duly pledged in favour of CREDA) of equivalent amount issued by a Scheduled Bank in prescribed format valid for a period of at least one year at a time but to be extended till end of five years from date, of commissioning of all systems failing which such security may be invoked by CREDA.
- c) GST shall be paid extra as applicable on the date of billing.

14. PENALTY FOR DELAY IN COMPLETION OF CONTRACT:

If the eligible SI fails to complete the erection, testing and commissioning etc, within the phased time schedule specified in the work order or any extension granted there to, CREDA will recover from the eligible SI as penalty of one percent (1%) of the system/work price for each week of delay or part thereof. For this purpose, the date of taking over shall be reckoned as the date of completion. The total penalty shall not exceed 5% (five percent) of the Cost. The repeated fault may result in forfeiture of part or whole of money and even termination of the contract.

Penalty may be recovered from payments due or by invocation of performance security. CREDA may also debar the SI from future business for upto 3 years in case of non performance of work in time limit.

15. PERFORMANCE SECURITY:

The Performance Security shall be 5% of the eligible payments and shall be deposited in manner under clause no. 13. For the purpose of 13(b) the EMD may be considered to be converted into part of performance security. EMD shall be refund only upon submission of at least equal amount towards performance security or else EMD shall be deemed to be converted into performance security.

16. INSURANCE: The eligible Contractor/Vendor shall arrange insurance coverage for the materials at his/ beneficiary's custody for the work under execution and successful commissioning and subsequent handover to the beneficiary. The eligible Contractor/Vendor shall take up insurance or such other measures for the manpower so as to cover the claim for damage arising under workmen's compensation Act and other applicable State/ Central laws. CREDA shall not bear any responsibility on this account.

17. ELIGIBLE CONTRACTORS/VENDOR RESPONSIBILITY:

Notwithstanding anything mentioned in the specifications of subsequent approval or acceptance of the PDN Work by CREDA, if any, the ultimate responsibility for satisfactory performance of the entrusted work shall rest with the eligible Contractor/Vendor. If in any case the eligible Contractor/Vendor does not complete the work as per the work orders issued to them then CREDA may take over the task & complete the project at the cost of eligible SI.

18. RESPONSIBILITY TO RECTIFY THE LOSS AND DAMAGE:

All costs of damages for which the eligible Contractor/Vendor is liable to the CREDA will be deducted from any money due to the eligible Contractor/Vendor including the security deposit. If any loss or damage occurs to the work or any part thereof or materials/ plant/ equipments for incorporation therein the period for which the eligible Contractor/Vendor is responsible for the cause thereof or from any cause whatsoever, the eligible Contractor/Vendor shall at his own cost rectify/ replace such loss or damage, so that the permanent work confirms in every respect with the provision of the contract to the satisfaction of the Engineer. The eligible Contractor/Vendor shall also be liable for any loss or damage to the work/ equipments occasioned by him in course of any operation carried out to him during performing the contract.

19. RESPONSIBILITY TOWARDS THE WORKMAN OR OUT SIDERS:

The eligible Contractor/Vendor shall have to take insurance coverage from any authorized Insurance Company against Workmen compensation due under Workmen Compensation Act and submit copy of the insurance document before issuance of work order. The eligible Contractor/Vendor shall ensure all safety measures during execution and repairs of the work. CREDA, will, in no case be responsible for any accident fatal or non-fatal, caused to any workman or outsider in course of transport or execution or repairs of work. All the expenditure including treatment or compensation will be entirely borne by the eligible SIs. The eligible Contractor/Vendor shall also be responsible for any claims of the workers including PF, Gratuity, ESI & other legal obligations.

20. NON-ASSIGNMENTS:

The eligible Contractor/Vendor shall not assign or transfer the work orders issued as per this contract or any part thereof without the prior approval of CREDA.

22. CERTIFICATES NOT TO AFFECT RIGHTS OF CREDA:

The issuance of any certificate by CREDA or any extension of time granted by CREDA shall not prejudice the rights of CREDA in terms of the contract nor shall they relieve the eligible Contractor/Vendor of his obligations for due performance of the contract.

23. SETTLEMENT OF DISPUTES THROUGH ARBITRATION:

- i. Except as otherwise specifically provided in the contract, all disputes concerning questions of fact arising under the contract shall be decided by the Chief Executive Officer (CEO), CREDA provided a written appeal by the eligible Contractor/Vendor is made to CREDA. The decision of the CEO, CREDA shall be final and binding to the all concerns.
- ii. Any dispute or difference including those considered as such by only of the parties arising out of or in connection with the contract shall be to the extent possible be settled amicably between the parties. If amicable settlement cannot be reached then all disputed issues shall be settled by arbitration.

24. LAWS GOVERNING CONTRACT:

The contract shall be constituted according to and subject to the Laws of India and jurisdiction of the High Court of Bilaspur, Chhattisgarh.

Compliance with Labour Regulations-During continuance of contract, the contractor shall abide at all times by all applicable existing labour enactment and rules made there under, regulations, notifications and bye laws of state and central Govt or local authority that may be passed/issued or may be issued.

25. LANGUAGE AND MEASURES:

All documents pertaining to the Contract including specifications, schedules, notice correspondences, operating and maintenance instructions, drawings or any other writings shall be written in English / Hindi language. The metric system of measurement shall be used in this contract.

26. CORRESPONDENCE:

- i. Any notice to the eligible Contractor/Vendor under the terms of the contract shall be served by registered mail to the registered office of the eligible Contractor/Vendor or by hand to the authorized local representative of the eligible Contractor/Vendor and copy by post to the eligible SI's principal place of business.
- ii. Any notice to CREDA shall be served to the CEO, CREDA, Raipur in the same manner.

27. SECRECY:

The eligible Contractor/Vendor shall treat the details of the specifications and other documents as private and confidential and they shall not be reproduced without written authorization from CREDA.

28. CREDA reserves all right to change/ amend any condition of the Bid or accept/reject any or all bids in full/part without assigning any reasons whatsoever.

29. CREDA reserves all rights to increase or decrease quantum of works to be allocated to bidders if required without assigning any reason.

30. In case of non-compliance of any terms and conditions by bidder, CREDA, may discontinue the contract if required and may forfeit the EMD.

31. CREDA reserves the right to cancel the work allotted to the bidder if the bidder fails to complete the work within stipulated/ extended time limit as mentioned in the Work Order. Subsequently CREDA shall also have right to reallocate the work fully or partly to any other eligible bidder for completion of the work. CREDA shall also have right to forfeit payment of uncompleted work of the bidder if require.

28 AGREEMENT:

The successful eligible Contractor/Vendor shall have to enter into an agreement with the CEO, CREDA in the approved contract agreement form within 07 days of the receipt of call from CREDA.

8. PROCEDURE FOR FINALIZATION OF BID

8.1 TENDER EVALUATION CRITERIA

i. Offer of only those parties who are found qualifying based on eligibility Criteria will be taken into further consideration and prices of only those parties qualifying based of these criterion will be opened.

ii. **EVALUTION OF PRICE BID**

Effective price= L1 of individual item shall be termed as effective price.

Grading of Bidder = L1, L2, L3Ln shall be decided on the basis of sum of price quoted for individual item.

iii. The Grading of Bidder as calculated above shall be used for determination of L1, L2 and so on for work allocation alone. If two bidders have same effective price the one who has offer work quantity shall be considered better pleased for above ordering.

iv. Other things being equal, the lowest rates shall normally be preferred, but CREDA shall have rights and liberty to amend/lower the rates and negotiate with L1.

v. Conditional tenders shall not be accepted.

vi. However CREDA shall have rights and liberty to call any /other parties to work on approved rates as and when requires in accordance with quantum of work and scheduled time limits for completion of targets.

8.2 ALLOCATION OF TARGETS AND AREA OF WORK

i. Initially all the eligible SI will be awarded with equal nos. of work. However further allocations shall be made on the basis of their performance subsequently.

ii. CREDA reserve rights to increase or decrease quantities to be allocated to eligible contractors.

8.3 EXTENSION IN SCOPE OF WORK

Up to 50% extension in work quantity can be awarded to each which will be binding on bidder up to 1 year from the date of award at discretion of CREDA.

We (on behalf of Eligible SI/Bidder) have read all the above stated details & accept to comply with it in total.

(Name, Signature & Seal of the Bidder)

9. SCOPE OF WORK:-

1. For Power Distribution Network

(a) Laying Grouting and other labour works

Contractor shall supply all the required material for PDN at site. The scope of work of contractor shall be as under:-

All the work required to be done for PDN such as laying of transmission line, Distribution lines, Grouting and installation of Pole, Fixing of stay set, earthing kit etc, as directed by site in charge and as per layout providing by the CREDA. The scope of work includes:

1. Grouting of Poles,
2. Laying of transmission Lines, Over Head Pole to Pole/ Including Insulators/ Cable fixture)
- 3 Laying of transmission Lines(Pole to House Holds/ Including Insulators)
4. Individual house wiring as per drawings
5. Fixing of stay sets.
6. Installation Chemical Earthings for Pole.
7. Installation of Street Light Brackets, fixing of Street light Luminary etc.

(b) Electrical, Electronics and Other PDN Materials

1. Supply cables of various specifications, supply of Electrical & Electronics items, Luminaries, Fixtures, electrical and electronic hardware & accessories and all other related items of various specifications, as per requirement of CREDA to District Places, at sites in the State of Chhattisgarh.
2. All material is to be delivered either in district head quarter or site as per the instruction of CREDA.
- 3 Material supplied should be as per ISI mark and if the item does not come in the category specified in the ISI then also the quality of those items shall be of best available in the category, with due approval of CREDA. All the material shall match with the requirement of the purpose of installation at site.
- 4 All the material shall be warranty for one years from the date of supply for any manufacturing defect. Luminaries shall bear warrantee for one year from the date of installation

(c) Fabrication Items

The scope of work is to supply of fabrication and GI Pole/Steel structure/other fabricated items. All the related items as per drawing/designed, specification as required of CREDA to District Bilaspur State of Chhattisgarh. All the scope of work includes :

1. Fabrication and supply of Hot dip Galvanized GI Pole.
2. Fabrication and supply of Hot dip Galvanized GI. Pipe Street Light Bracket.
3. Fabrication and supply of Hot dip Galvanized Earthing Coils.
4. Fabrication and supply of Hot dip Galvanized Stay Set.
5. Fabrication and supply of Hot dip Galvanized Cable fixture.
6. Fabrication and supply of Hot dip Galvanized suitable street light bracket.

2. For Control Room

Supply and Installation of Twin Wall Insulated Control Rooms with Foundation as per drawings.

3. For Fencing Work

Supply and Installation of GI Chain Link Fencing with gate as per drawings.

Note:-

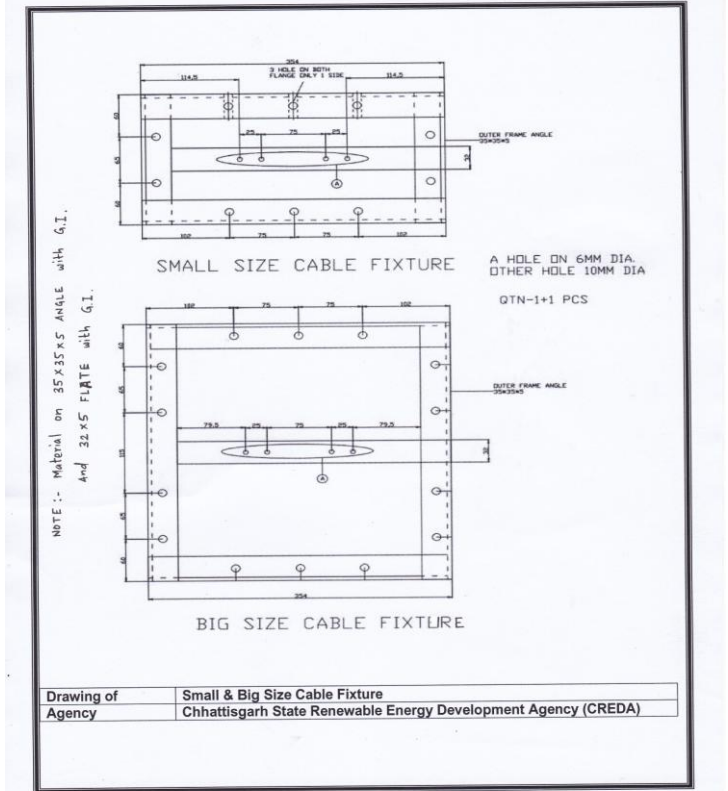
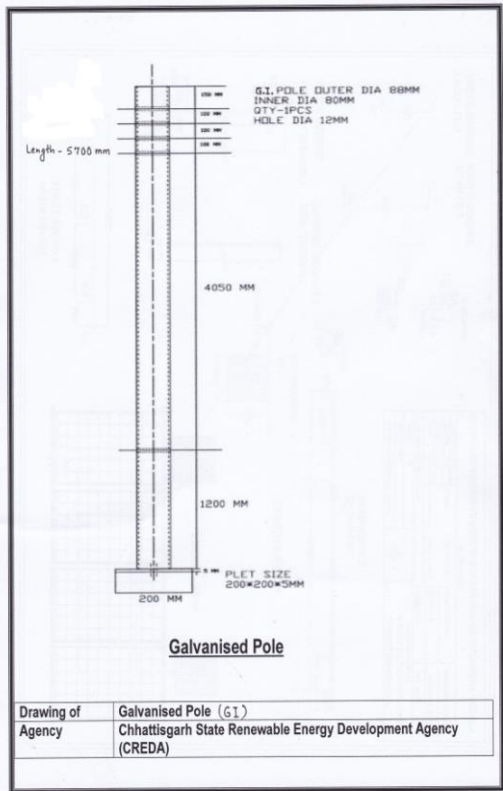
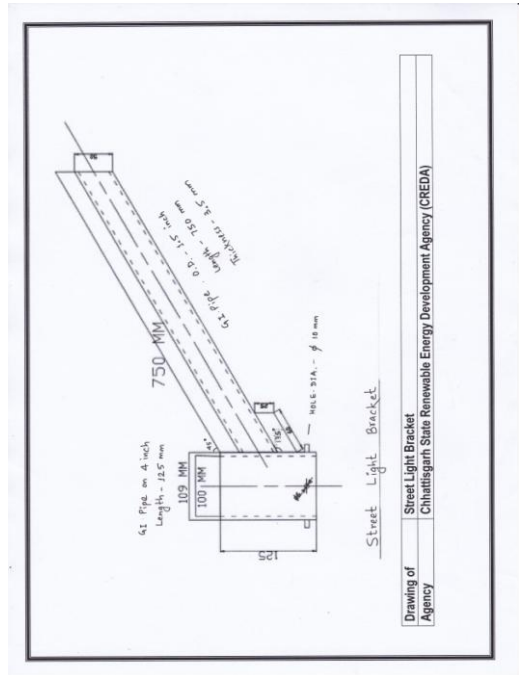
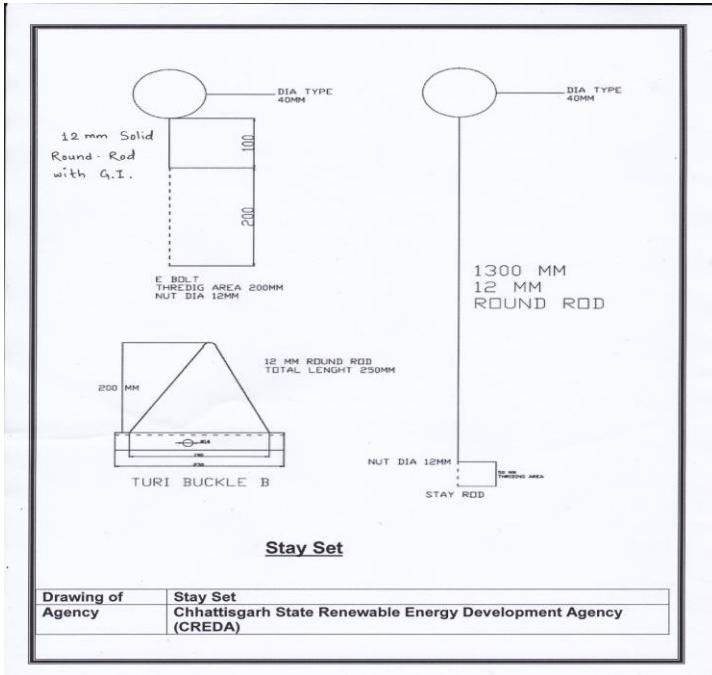
Such works, not listed in the schedule of work be required for completion of the project shall deemed has been included in the scope of the bidder.

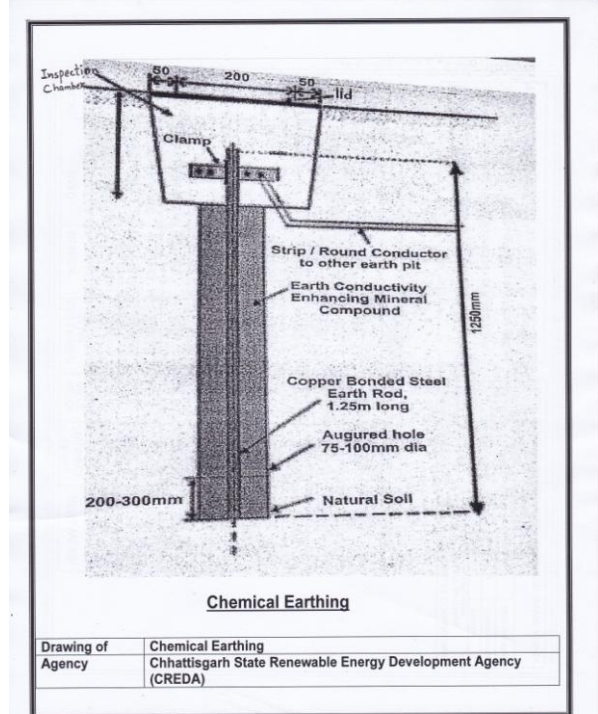
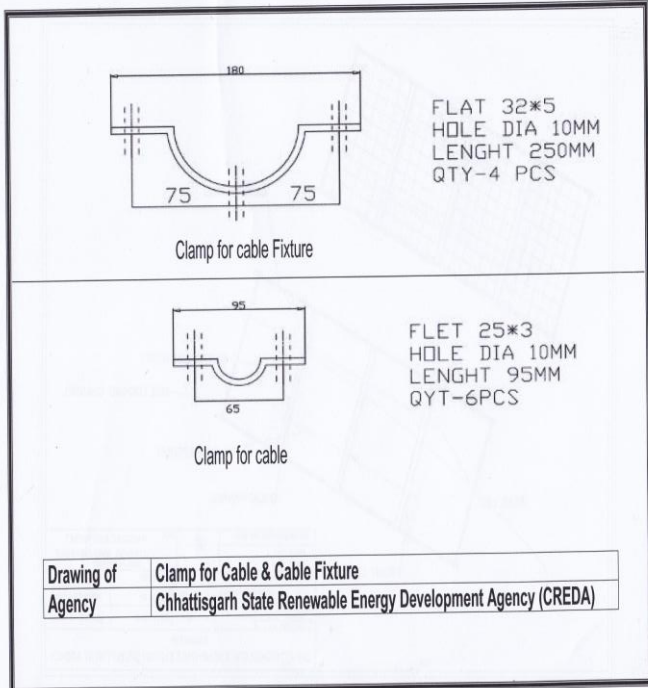
Commissioning and testing of complete work

10. TECHNICAL SPECIFICATIONS

1. FABRICATION MATERIALS

1. Fabrication of 5.70 mtrs. GI Pole, with ISI "B" Class Pipe as per drawing and specification enclosed with all material.
2. Fabrication of GI. Pipe Street light bracket as per design & drawing specification.
Fabrication of Earthing coil made from 8 mm hot dip galvanized G.I. wire with 105 turn of 50 mm inner dia and tail length 1.8 meter.
3. Fabrication of GI stay set complete with 1.3 meter stay rod, 200x200x5 mm stay plate, Eye bolt 400 mm and a turn buckle bow of 12 mm dia and 200 mm height, with 7/12 - 6 mt steel wire rope & "U" both with required nut bolt & washer as per drawing and specification with two coat primer of standard quality.
4. Fabricated cable fixture as per drawing:
Type - A
Type - B
5. G.I. pipe should be confirming to ISI "B" class specification.
6. Pole shall be properly capped from Top with GI. Cap and GI plate of size 225 x 225 x5 mm shall be welded at the bottom with one small hole.
7. Street light brackets and other accessories should be as per **enclosed** drawings and specification.





2. Wires and Cables

1. All cables & wires shall be as per ISI specifications.
2. Power cable – Unarmoured/Armoured with Aluminum Conductor PVC insulated PVC Sheathed (Heavy Duty) as per IS:1554/1988, part one two four core
 - (i) 4 Sq. mm, 2-core
 - (ii) 6 Sq. mm, 2-core
 - (iii) 10 Sq. mm, 4-core
3. All copper cables and wires used shall be of copper conductors of suitably cross-section with cross-linked polythene or polyvinyl insulated with polyvinyl sheath. Stranded and flexible cable shall be used. Non-stranded cables shall not be acceptable except otherwise mentioned and permitted.
4. Heavy duty multistand wire and cable P.V.C. insulated twisted bright annealed Copper 1100 Volts, IS 694, Size :- 1.5 Sq. mm.
5. Exposed cables, wherever, used, shall have UV resistant jacket besides being water resistant.
6. Buried underground cables shall be armored. .
7. Conductor sizes of cables and wires shall be selected based on efficient design criteria such that the overall electrical energy loss in any section of cable or wire is not more than three (3) percent under the designed operating conditions. Conductor sizes of less than 1.5 mm shall not be accepted.
8. Cable/Wire connections shall be soldered, crimp-on type or split-bolt type. Wire nut connectors shall not be used.
9. All cables shall be adequately supported. Outside of the terminal/panels/enclosures shall be protected by conduits. Cables shall be provided with dry type compression glands wherever they enter junction boxes/panels/enclosures.
10. All cables shall be suitably marked or colour coded for easy identification. The marking of length of the cable should clearly marked on the cable
11. Cables and wires shall conform to the relevant standards. Bidders to specify the specification, for any additional features.
12. Cables should in a packing of at least 100 m each.

3. Electrical , Electronics and Other PDN materials

1. GI Wire
 - (i) 12 no.
 - (ii) 16 no.
2. PVC Ring Insulator
 - (1) P.V.C. Ring Insulator, Heavy duty Size: 12 mm x 12 mm with inner dia 10 mm weather proof (white).
 - (2) P.V.C. Ring Insulator, Heavy duty Size: 20 mm x 20 mm with inner dia 16 mm weather proof (white).
 - (3) P.V.C. Ring Insulator, Heavy duty Size: 26 mm x 26 mm with inner dia 22 mm weather proof (white).
3. Junction box unbreakable thermo plastic. IP 65 protection, suitable for outdoor application, fire retardant up to 750°C chemical resistance suitable for given size and terminal of Hensel make
 - (i) 98 x 98 x 61 – 4 Sq. with terminal suitable for one in two out
 - (ii) 200 x 160 x 98 with terminal five in one out of 16/25 Sq.mm

3.1 COMMON TECHNICAL SPECIFICATIONS FOR LED STREET

- Luminary should have separate compartments for LED circuit & LED Driver for LED lights of 60W & above
- Both the compartments should have separate covers for access with IP65 or more protection. It is preferred to have top opening for access of driver compartment.
- 3 output wires (Phase, Neutral, Earth) each of minimum half meter length.
- The luminary made of Pressure Die Cast Aluminum (ADC 12) housing with corrosion resistant polyester powder coating & safety as per IEC standards. Good thermal management system should be provided to dissipate the heat to ambient air and block any accumulation of dust / water. Luminary equipped with distortion free, clear, heat resistant, toughened and UV stabilized glass / Polycarbonate cover.
- The luminary body temperature should not exceed 50°C from ambient after 24 hours of continuous operation & impact resistance ≥ IK05
- Constant current & voltage internal driver (preferably Plug & Play type) with protection of minimum 5 kV internal surges; In-built protection against Under Voltage, High Voltage & Short Circuit Current. The Drivers should meet BIS standards. Bidder should include documents for the same.
- The LED street lights (60W & above) should have Secondary lens array for optimized roadway photometric distribution. The lens should be XML lens of 60°X120° or higher and material of optical high grade PMMA with more than 90% light transmittance.

(1) 15W LED STREET LIGHT

Parameter	Specifications	Applicable IS	
Total System Wattage (Luminary Wattage)	Max. 15W		
LED Assembly	SMD LED Chips mounted on Copper MCPCB where the base metal is of Aluminum	16106	
LED Drive Current	350 – 1000 mA		
Luminary Housing	Suitable for side entry mounting for 25mm to 40mm OD pipe bracket complete with bracket & locking bolt		
Luminous Flux	Minimum 1300 lumens	16106	
Luminary Angle	Fully Cut-Off		
Light Distribution	Batwing		

3.2 House Hold Connections

1. Service Pipe with G.I.Pipe 'B' Class, Length 10 feet -19mm.
2. Suitable Clamp for service pipe.-19 mm.
3. Cycle Insulator Porcelain. Size: 62 mm x 50 mm
4. Bombay Nails Size : 38mm x 50 mm
5. TATA Nails Size: 38mm x 50 mm
6. PVC Casing & Caping, ISI make-20mm
7. Power Plug 16 Amp. SS Combined with box
8. Switch 6A Flash Type ISI Make
9. Angle holder
10. LED 9W Specifications

Parameter	Specifications	Applicable IS
Light Source	SMD LED Chip	LM80 / 16106
LED Make	Highest performing high-density discrete LEDs of Nichia / CREE / Osram / Philips / LG / Samsung / Refond / Everlight / Seoul / Bridgelux Only	
LED Efficacy	Minimum 130 lm/W	Efficacy at actual LED driving condition
LED Wattage	≤ 1W	
Lamp Life	Minimum 50,000 hours	16102-2 & 16106
CCT	5700 – 6500 °K	16102-2 CCT range as per standard or ANSI
CRI	Minimum 80	16102-2 & 16106
Lamp Body	Should have aluminium inserts to dissipate the heat to ambient air and block any accumulation of dust The anti glare diffuser shall not be easily removable from lamp body	
Total Harmonics Distortion	< 20%	16102-2
Driver Efficiency	≥ 85%	IS 15885
Power Factor	Minimum 0.9	16102-2
Operating Voltage	100 – 300V AC	
Srge Voltage	Withstand 2.5 Kv	
Working Temperature	-10 to 50 °C	
Working Humidity	10% - 90% RH	
Safety Requirement	All Test	16102-1
Adequate Dielectric Protection	Isolation- Minimum 1.5 kV dielectric resistance in the design to prevent any possibility of electric shock to user from leakage or short circuit current from lamp body	
Other Requirements	Quick Start, No Flicker, No Noise The Drivers should meet BIS standards	

SELF BALLASTED 9W LED BULB FOR DOMESTIC USE

Parameter	Specifications	Applicable IS
Lamp Wattage	Max. 9W	16102-1 & 16102-2
Bulb Efficacy	≥ 100 lm/W	16102-1 & 16102-2
Base Cap	B22d	
Beam Angle	$\geq 240^\circ$	16102-2
Outer Body Luminary Temperature	Max. 60°C (± 5) at 30°C ambient Temperature	
Ingress Protection	IP20	
Luminous Flux	Minimum 800 lumens	16102-2 & 16106
Lumen Maintenance @ 25°C ambient ($\pm 2^\circ\text{C}$)	Minimum 80% after 6000 hours	16102-2 & 16105
Rated Voltage	140 – 270V AC	

11. Connector-Bakelite

(i) 30 Amp, 500 V, 2 way

(ii) 30 Amp, 500 V, 5 way

12. PVC Board Size: 100 mm x 100 mm x 50 mm

13. Machine Screw 3/16 x 38 mm with nut and washer

14. PVC Square Box:-Size: 100 mm x 100 mm

15. P.V.C. Insulate Tape. 19 mm x 8 mts. ISI Make.

16. Steel Screw.- 13 mm x 6 no.

17. Electronic circuits in use shall be modular IE standard in design to allow for ease of service, maintenance and replacement.

18. All electronic circuits shall be housed in suitable packages or panels or enclosures so as to conceal them from general public. However, these shall be easily accessible to trained technicians for maintenance.

19. Suitable number of protective fuses shall be included. Safe accessibility for easy replacement, if required, shall be ensured.

20. The control circuit shall provide for an emergency shut down for the system and manual reconnect facilities.

21. Power Factor of all types of Electronic Ballast should be ≥ 0.90 .

22. Only mercury displacement relays or equivalent shall be used in the power circuits. Mechanical relays are not acceptable.

23. The electronic circuitry shall be rated at least for an operating temperature of 0°C to 48°C and a storage temperature - 10°C + 55°C.

Hardware

1. The hardware material shall be of ISI specification wherever mentioned in the Price Bid. If mentioned items does not come in the category of specified in ISI then also the quality of those items shall be of best available in the category.

2. All the material shall match with the requirement of the purpose of installation at site.

Specification for Control Room Building

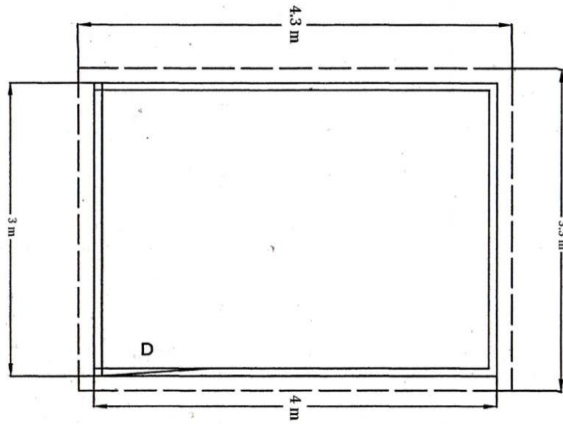
Insulated twin wall sandwich control rooms for SPVP

1. Size: (A) 3M X 3M, (B) 3MX4M (C) 4MX 6M
2. Insulation (Roof & Panels): PUF 40 mm Thick
3. Frame: square pipe;-
Size for main frame - 72 MM X 25 (Min)
Supporting frame – 72MM X 25 mm (Min.)
4. Exhaust fan: 40W/ 220V - 250mm size,
5. Painting & bitumen tar/ silicon felting for longevity, durability and leak proofing
6. Roof Sheet. PUF 40 mm Thick,,
7. Civil Work As per drawing attached.
8. Details are as follows:-

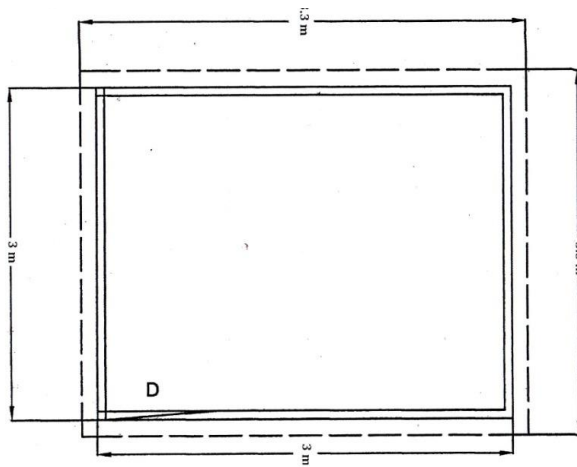
- **Shell:** The shell is fabricated from tested quality steel duly welded, Comprising of base frame, peripheral structure self draining roof. Entry, doors and windows (as per requirement). The eight corners shell be sufficient strengthened to facilitate transportation lifting and placing.
- **Main Frame:** The base frame shall be made of pressed mild steel rectangular pipe section. The main structural element shall be of 72mmX25mm (Min.) used in 12 edge of main frame with 72mmX25mm welded providing strength to the structure.
- **Side and end walls:** All exterior wall shall be made up of 0.5 mm pre painted galvanized iron sheets with adequate 25-40 mm PUF insulation the steel free from corrosion, panels shall be vertically corrugated sheet shall be continuously screwed form face with structure so as to offer better strength to weight ratio. All gaps will be swaled at edges and at seams bottom etc to prevent ingress of moisture.
- **Flooring system:** Finished PCC Floor with 75 mm PCC base.
- Roof self draining type roof shell should be made out of 1mm MS Sheet with 40 mm PUF corrugated.
- **Paint:** Epoxy zinc phosphate primer & synthetic epoxy paint for final 02 coats. Corrosion free and fire proof paints on the fabricated main frame before fixing of external sheets and internal panels.
- **Insulation:** 25-40 mm thick PUF insulation shall be used for walls and same to be provided for roof.
- **Main Entry Door:** The door shall be of internal opening type made out of the same material (as of walls) with door closing unit. The peripheral edges of the door shall be sealed to make it waterproof & leak proof. The door interior can be finished with same material matching with that of the inner house interior. The door shall be provided with locking arrangements with spate handles of both sides of the door as per requirement. Main door will be insulated and fitted with appropriate lock and tower bolt.
- **Aluminum Windows:** Aluminum window sliding type shall be provided made of aluminum section; 4 mm thick, clean vision glazed panels are to be fitted to it as required.
- **Ventilator with louvers:** Aluminum ventilator shall be provided made of aluminum section; 4 mm thick louvers of A.C.P. sheet are to be fitted too.
- **Exhaust fan:** 40W/ 220V, 250 mm size should be provided.
- Frames should be provided for hanging of ACDB/DCDB, junction box etc. and there should be proper arrangement for earthing of electrical instruments.
- Brick Work below control room:
 - PCC work: 100 mm thick (M 15) 400 mm below ground level,
 - Brick Work: 200 thick brick work above PCC upto 400 mm above ground level,
 - RCC Beam: 200 X 200 mm RCC beam, above brick work,

Drawings for Sandwich Control Room

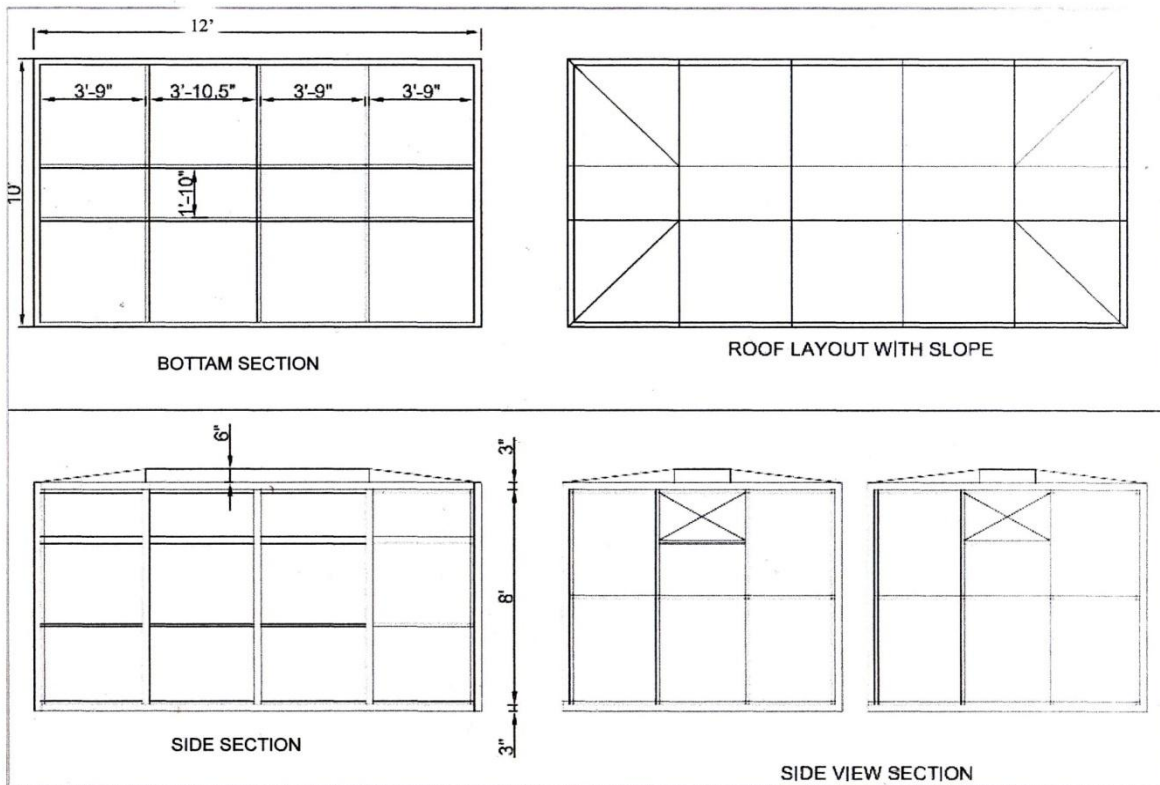
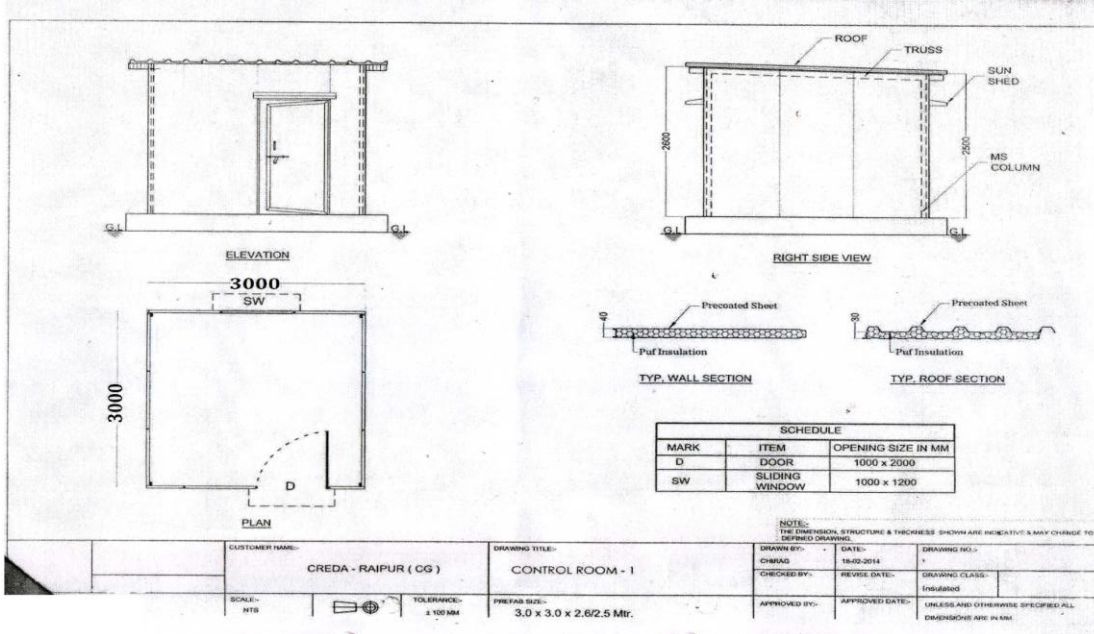
Layout Drawing for Portable Control Room Size 3 m x 4 m

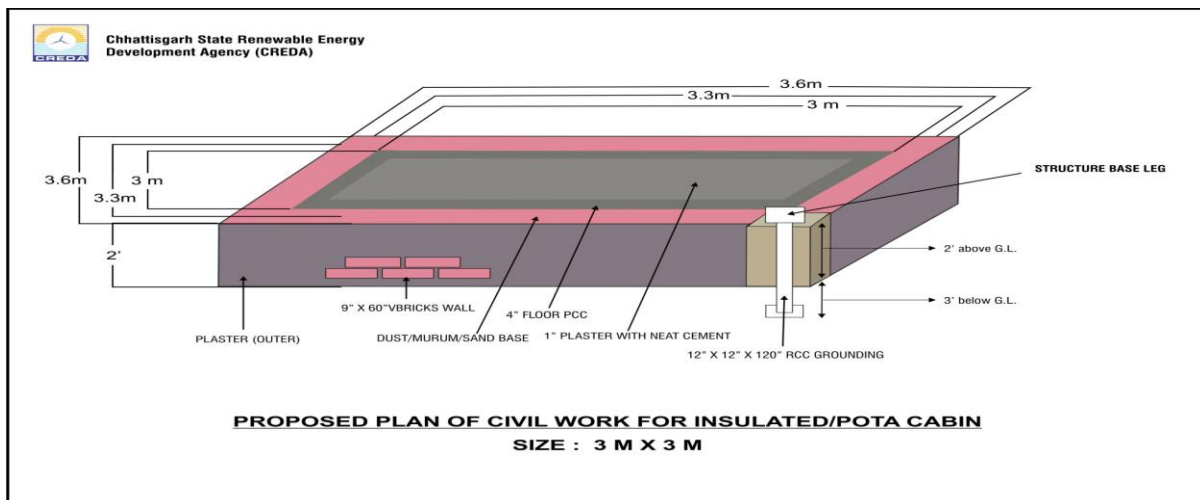
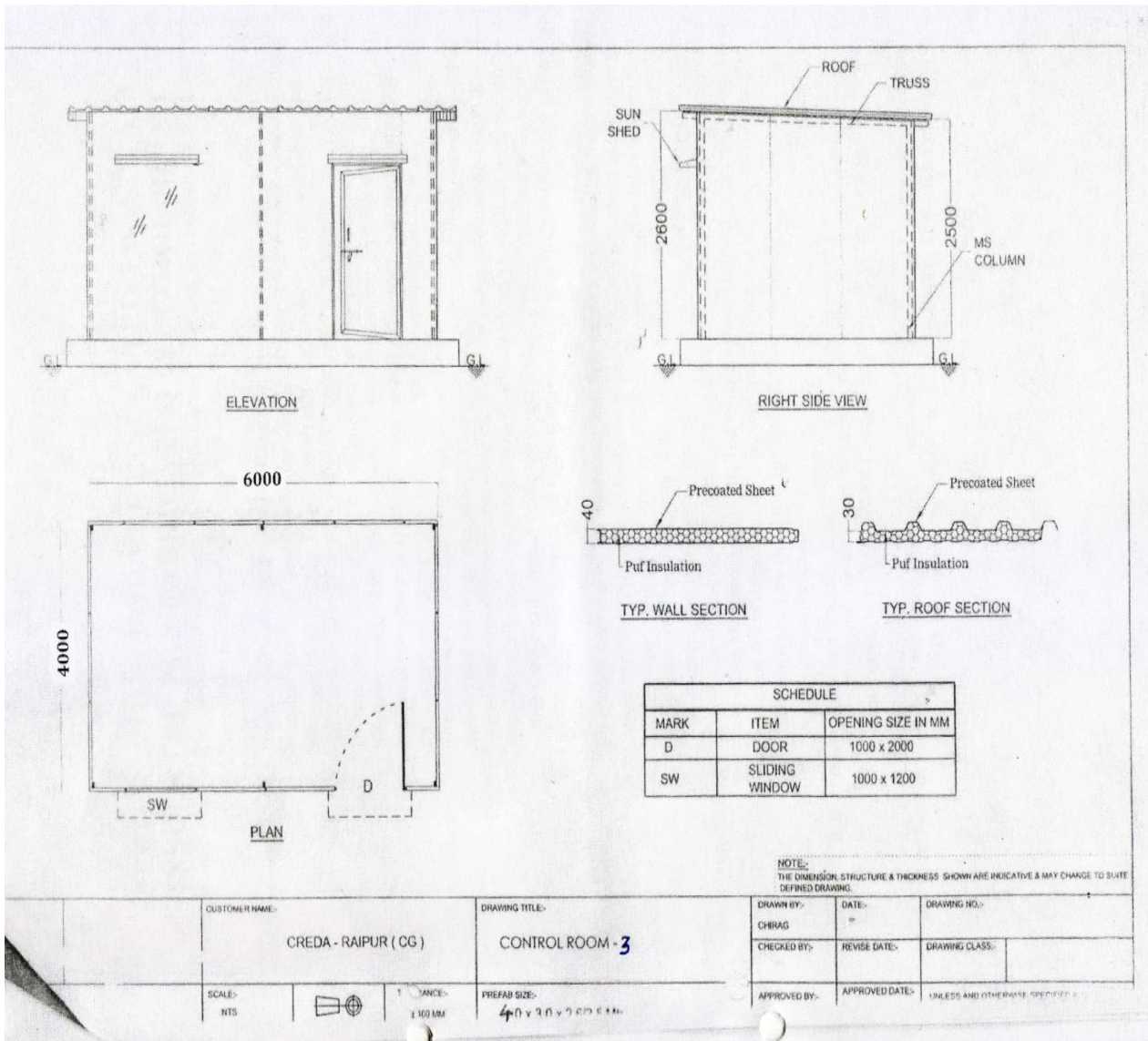


RCC PARAMETER – 3.3 m x 4.3 m x 6 " (HT)
CABIN PARAMETER – 3 m x 4 m x 8' (HT)
DOOR – 6'6" x 3'



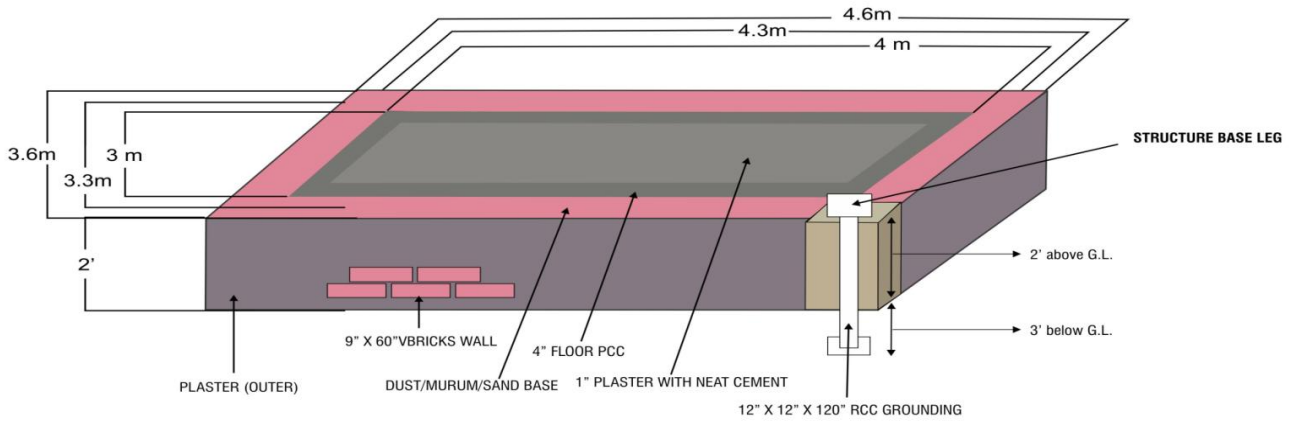
RCC PARAMETER – 3.3 m x 3.3 m x 6 " (HT)
CABIN PARAMETER – 3 m x 3 m x 8"(HT)
DOOR – 6'6" x 3'







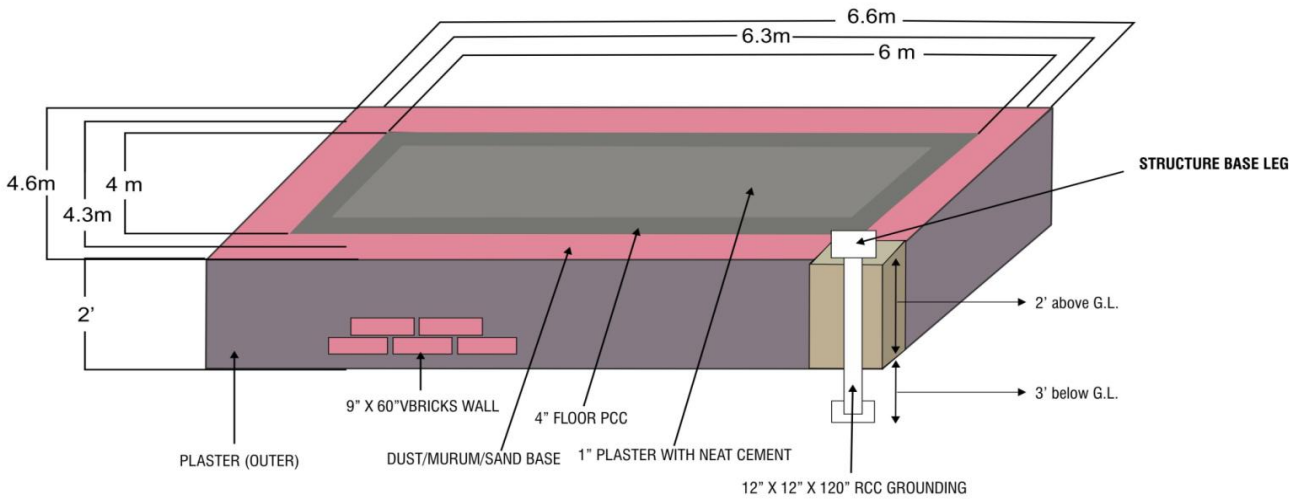
Chhattisgarh State Renewable Energy Development Agency (CREDA)



**PROPOSED PLAN OF CIVIL WORK FOR INSULATED/POTA CABIN
SIZE : 3 M X 4 M**



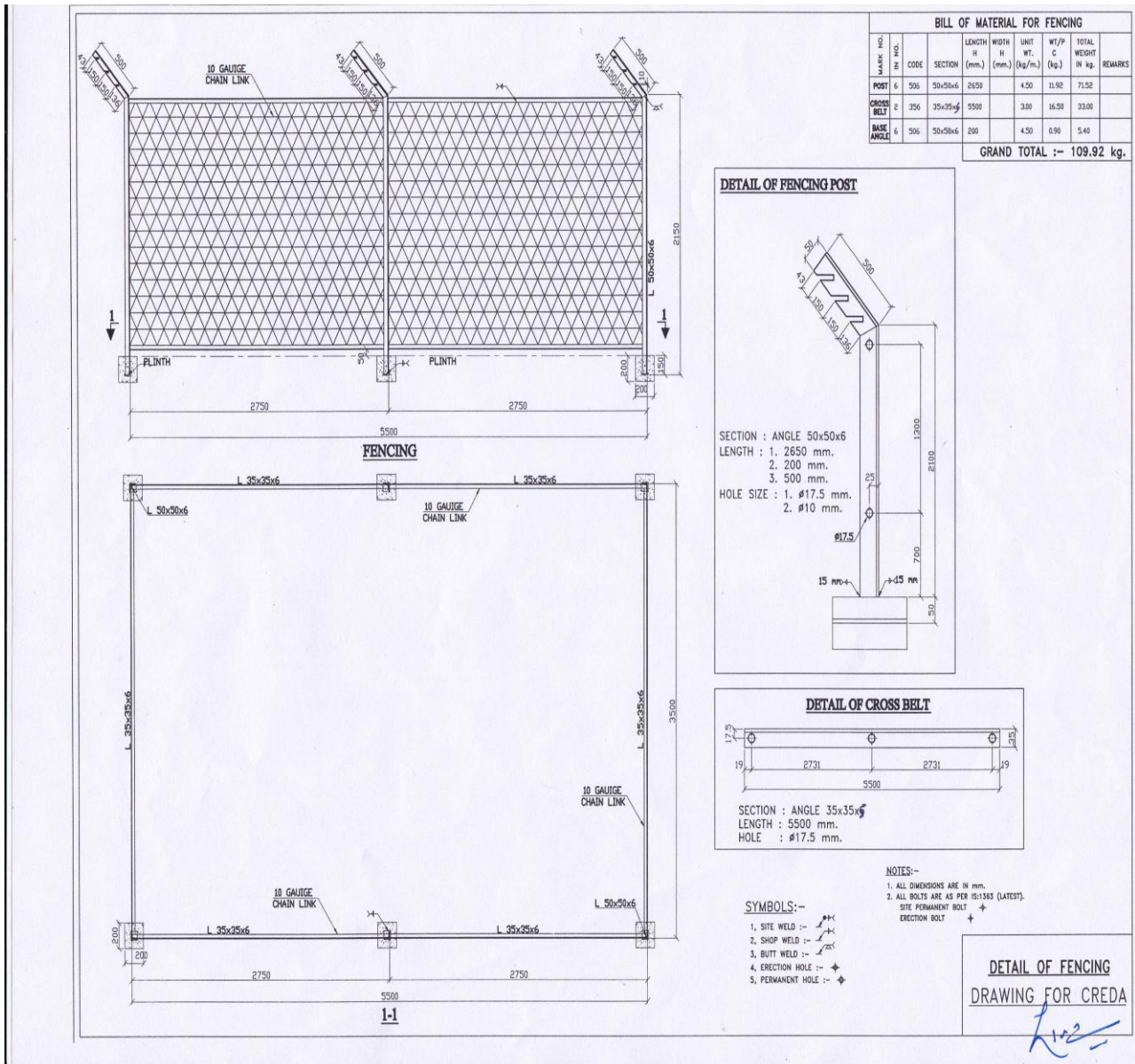
Chhattisgarh State Renewable Energy Development Agency (CREDA)

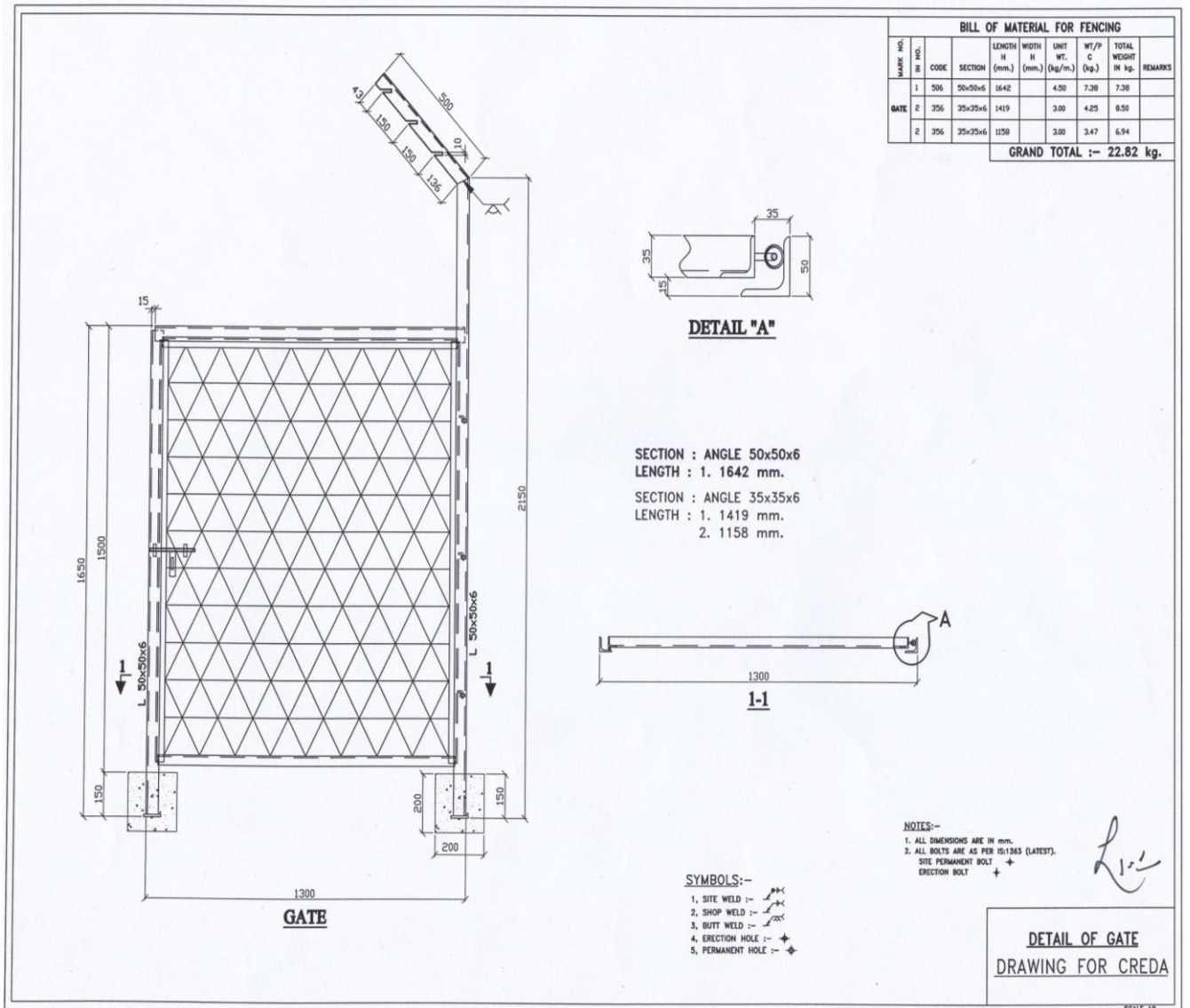


**PROPOSED PLAN OF CIVIL WORK FOR INSULATED/POTA CABIN
SIZE : 4 M X 6 M**

Specification for Chain Link Fencing :

Fabrication, supply and installation of fencing of 10 gauge chain link wire mesh of 75X75 mm opening, fitted with 50X50X5 mm vertical M.S. Angle at spacing of 2.5 mtr & 35X35X5 mm horizontal M.S. Support. Every set of fencing will have one M.S. Angle framed gate with same chain link wire mesh with locking arrangement and two extra posts. Three lane barbed bolts, washer and nut as per enclosed design drawing and specification with two coat steel primer zink chromate and one coat silver/aluminium paint of standard brand with installation and fitting of fencing with grouting the poles in 1:2:4 P.C.C. of size 0.45X0.45X0.60 mtr. for given requirement with complete civil material.





PRICE BID**Schedule of Rates for C.R./Fencing/PDN Work***(As per Specifications & Scope of Work of Bid no 10372/CREDA/HOR/RE-III/SPV/2018 Date 25-07-2018)*

Standardization of Rates for the Laying of Power Distribution Network including material Supply, Control room and Fencing on turn-key basis for SPV Power Plants at various sites of State Chhattisgarh as per following details-

(in Rs)

No.	Type of Work	Description of works	Unit of Measurement	Unit Rate (Without GST)	
1	Control Room	Fabrication, Supply Twin wall (Sandwich) insulated Control Room for SPV Power as per Drawing (Size 3M x 3M)	Nos.		
		Installation including Civil Work foundation of Control Room at site			
2		Fabrication, Supply Twin wall (Sandwich) insulated Control Room for SPV Power as per Drawing (Size 3M x 4M)	Nos.		
		Installation including Civil Work foundation of Control Room at site			
3		Fabrication, Supply Twin wall (Sandwich) insulated Control Room for SPV Power as per Drawing (Size 4M x 6M)	Nos.		
		Installation including Civil Work foundation of Control Room at site			
4		Fencing	Fabrication, supply of Fencing of 10 Gauge chain link wire mesh as per specification with complete civil material.	R.M.	
			Installation including Civil Work of Fencing at site.		
5	PDN Outdoor for Village/Majratola Electrification	Fabrication & Supply of Hot dip Galvanised (80 Microns) poles as per specifications and drawing (Height of poles - 5.7 meter)	Nos.		
		Installation & Grouting of Hot dip Galvanised (80 Microns) poles with civil material as per specifications and drawing (size 1.5 x 1.5 x 3.0 ft.). in 1:3:6 concrete mix.			
6		Fabrication & Supply of Hot dip Galvanised (80 Microns) stay sets as per specifications and drawing	Nos.		
		Fixing of Hot dip Galvanised (80 Microns) stay sets as per drawing.			
7		Supply of pvdf, pipe earthing coil with perforated pipe charcoal, salt, etc & 6 SWG Earth wire giving earth values suitable for pipe earthing	Nos.		
		Fixing & grounding of pipe earthing coil			
8		Supply of chemical earthing set	Nos.		
		Fixing & grounding of chemical earthing set including preparation of 30 mm x 150 mm deep pit			

No.	Type of Work	Description of works	Unit of Measurement	Unit Rate (Without GST)
9	PDN Outdoor for Village/ Majratola Electrification	Fabrication & supply of Hot dip Galvanised (80 Microns) Street Light Brackets as per specifications and drawing.	Nos.	
		Fixing of Hot dip Galvanised (80 Microns) Street Light Brackets as per specifications and drawing.		
10		Fabrication & supply of hot dip galvanized(80 microns) Wall Mount Brackets as per specifications and drawing	Nos.	
		Fixing of Hot dip Galvanised (80 Microns)) Wall Mount Brackets as per specifications and drawing		
11		Supply of 4 core 10 sq.mm. unarmoured cable for pole to pole wiring including Hot dip Galvanised (80 Microns) cable fixtures as per requirement, GI wire, Ring & Shackle Insulators, Junction Box etc as per specifications and drawing.(village electrification)	Mtr.	
		Laying of 4 core 10 sq.mm. unarmoured cable for pole to pole wiring including Hot dip Galvanised (80 Microns)cable fixtures as per Requirement, GI wire, Ring & Shackle Insulators, Junction Box etc as per specifications and drawing. (village electrification)		
12		Supply of 2 core 4 sq.mm. unarmoured cable for pole to pole wiring including Hot dip Galvanised (80 Microns) cable fixtures as per requirement, GI wire, Ring & Shackle Insulators, Junction Box etc as per specifications and drawing.(Street lighting work)	Mtr.	
		Laying of 2 core 4 sq.mm. unarmoured cable for pole to pole wiring including Hot dip Galvanised (80 Microns)cable fixtures as per Requirement, GI wire, Ring & Shackle Insulators, Junction Box etc as per specifications and drawing. (Street lighting work)		
13		Supply of 4 core 10 sq.mm. armoured cable for pole to pole underground cabling with suitable GI pipe length 1 mtr as per requirement, Junction Box etc as per specifications and drawing.(Street lighting work)	Mtr.	
		Supply of 2 core 6 sq.mm. armoured cable for pole to pole underground cabling with suitable GI pipe length 1 mtr as per requirement, Junction Box etc as per specifications and drawing.(Street lighting work)	Mtr.	
		Supply of 2 core 4 sq.mm. armoured cable for pole to pole underground cabling with suitable GI pipe length 1 mtr as per requirement, Junction Box etc as per specifications and drawing.(Street lighting work)	Mtr.	
		Laying of transmission line underground having depth (min 300 mm to max. 450mm) in trench (Main+ Distribution) with suitable armoured conductor and connectivity to Solar power plant as per specification	Mtr.	
		Supply of 2 core 4 sq.mm as per specification for pole to individual houses complete with all accessories such as service pipe, insulator, Junction Box etc(village electrification)	Mtr.	
Laying of distribution line from pole to individual houses with 2 core 4 sq.mm as per specification complete with all accessories such as service pipe, insulator, Junction Box etc(village electrification)				
15		Supply of in-house wiring wires for individual houses (for 05 light points and 03 nos. 3 pin sockets) including casing, capping, conduit, Copper Cable, switches, boards etc complete with all accessories.	Nos	
		Laying of house wiring in individual houses (for 05 light points and 03 nos. 3 pin sockets) including casing, capping, conduit, Copper Cable, switches, boards etc complete with all accessories.		
16		Supply of 20Watt fan as per specification.	Nos.	
	Installation of 20Watt fan as per specification.			
17	Supply of indoor LED lamp 9W(max) as per specification.	Nos.		
	Supply of indoor LED tubelight 14W as per specification.			
	Supply of indoor LED tubelight 28W as per specification.			
	Installation /fitting of LED lamp/tubelight as per specification			

No.	Type of Work	Description of works	Unit of Measurement	Unit Rate (Without GST)
18	PDN Outdoor for Village/ Majratola Electrification	Supply of Compact Street lighting weather proof Luminary with 15 W LED Lamp and suitable Heavy Duty Multi stand wire and cable PVC insulated Twisted Bright Annealed Copper 1100 Volts, IS: 1554/1998 size, Single core - 1.5 sq. mm. with PVC Tapes as per specification.	Nos.	
		Installation/ fitting of Compact Street lighting weather proof Luminary with 25W LED Lamp and suitable Heavy Duty Multistand wire and cable PVC insulated Twisted Bright Annealed Copper 1100 Volts, IS: 1554/1998 size, Single core - 1.5 sq. mm. with PVC Tapes as per specification.		
19		Supply of Compact Street lighting weather proof Luminary with 25W LED Lamp with suitable wires as per specification.	Nos.	
		Fixing and installation/fitting of Compact Street lighting weather proof Luminary with 25W LED Lamp with suitable wires as per specification.		
20	Indoor PDN work	Supply of various electrical items including suitable wires,PVC gang box, PVC bend , PVC Tee, Cable clip, etc as per tender specifications for providing per point connection of fan, LED tubelight, socket, other appliances	Per Point	
		Fitting/fixing of various electrical items including suitable wires,PVC gang box, PVC bend , PVC Tee, Cable clip, etc as per tender specifications for providing per point connection of fan, LED tubelight, socket, other appliances		

Certified that rates quoted above are as per the requirement, specifications, and terms & condition mentioned in the tender document.

Above rates are FOR anywhere in the State of Chhattisgarh inclusive of roadworthy packing, loading, unloading, all types of incidental expenses, insurance, duties and any other job required to properly execute the work with 01 year warrantee as mentioned in the tender document. The GST payable on the bill produced for payment to CREDA shall be paid in addition to above quoted price as per rate of GST applicable at the time of billing.

(No other cost will be claimed above the price quoted)

1. Work shall be confirming to BIS specifications. All the required safety measures shall be taken care of.
2. Testing to the satisfaction of competent authority of CREDA after completion of work is included in the quoted rate.
3. All the electrical works should be done, as per the provision of Indian Electricity Act.

Name of the authorized Signatory:

Signature of the Authorized Signatory:

Seal of Company:

Date:

M.Completion cum Performance Certificate

This is to certify that M/s _____ (With Full Address), has successfully completed the work of PDN Work/CR/Fencing/material Supply in _____ State, as per following details :-

S. No.	Location/Site	District	Work Order No. & Date	Work Type (PDN/CR/fencing/ Material Supply)	Number of sites	Installation Date
Total						

This certificate is being issued against the request of M/s _____, for their intent for participation in the following Bid:-

S. No.	Bid Number
1	10372/CREDA/HOR/RE-3/SPVPP-PDN/2018 DATED 25-07-2018 (CREDA)

The Workmanship and performance of the PDN Work are found satisfactory.

**Seal & Signature of Concern
Department/ Govt. Organization**