Government of India
Central Public Works Department
O/o Executive Engineer (E)
CPWD, Jaipur

NOTICE INVITING TENDERS

NIT No. : **76/EE(E)/CPWD/Jaipur/2026-27/AE(E)-Alwar**

Name of Work: **Upgradation of MV Panels of 11/0.4 kV Substations at CISF, MPRTC, Behror, Dist. Kotputli-Behror (Raj.)**

ESTIMATED COST : Rs. 89,69,494/-

SECURITY DEPOSIT : 2.5% of Tenderer Amount

EARNEST MONEY : Rs 1,79,390/-

TIME ALLOWED : 03 Months

Executive Engineer (E)
CPWD, Jaipur

Addition.....Nil..... Deletion…...Nil…..……. Correction.....…Nil…..……. Overwriting..….Nil…..........

Sr. D/M (E) AE(E)P

Annexure 'A' CPWD

INVITING NOTICE e-TENDER

INFORMATION AND INSTRUCTIONS FOR BIDDER FOR e-TENDERING FORMING PART OF BID DOCUMENT AND TO BE POSTED ON WEBSITE

The Executive Engineer (E), Jaipur Central Electrical Division, CPWD, Sector-10, Vidhyadhar Nagar, Jaipur (Phone No.0141-2233688) on behalf of the President of India invites online **Percentage Rate E-Tenders** on single bid system from contractors of CPWD who are approved and eligible for Building & Roads category in appropriate class, for the following work:

S N.	**NIT NO.**	**Name of work & Location**	Estimated cost put to tender	Earnest Money	Period of completion	Last date & time of submission of bid, original EMD, copy of receipt for deposition of original EMD and other Document as specified in the press notice	Time & date of opening of Price bid
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1	76/EE(E)/CPWD/Jaipur/2026-27/ AE(E)-Alwar	Upgradation of MV Panels of 11/0.4 kV Substations at CISF, MPRTC, Behror, Dist. Kotputli-Behror (Raj.)	Rs. 89,69,494/-	Rs 1,79,390/-	03 Months	Upto 3.00 PM 24/11/2026*	At 3:30 PM 24/11/2026*

1. The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he consider himself eligible and he is in possession of all the documents required.

2. The intending bidders are required to update their profile in CPWD e-tender portal and to upload their bids well in advance of last date of submission of tender. Any issue related to updating profile / uploading tender can be resolved through the concerned Executive Engineer/Assistant Engineer (Phone No. 0141-2233688 E-Mail ID jced-cpwd-rj@gov.in) or ERP help line no. 18001803286 or e-mail Id cpwd.support@techmahindra.com. The e-tendering bidders are also advised not to wait to raise any issues till the last date of submission of bid in their own interest.

3. Information and Instructions for bidders posted on website shall form part of bid document.

4. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be

Addition.....Nil..... Deletion…...Nil…..……. Correction.....…Nil…..……. Overwriting.....Nil…..

Sr. D/M (E) AE(E)P

complied with and other necessary documents can be seen and downloaded from website **www.etender.cpwd.gov.in** and www.eprocure.gov.in free of cost.

5. But the bid can only be submitted after depositing of original EMD either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission, and uploading the mandatory scanned documents such as Demand Draft or Pay order or Banker`s Cheque or Deposit at call Receipt or Fixed Deposit Receipts and Bank Guarantee of any Scheduled Bank towards EMD in favour of Executive Engineer as mentioned in NIT, receipt for deposition of original EMD to division office of any Executive Engineer, (including NIT issuing EE/AE) C.P.W.D and other documents NIT issuing EE/AE) as specified.

6. Those contractors not registered on the website mentioned above, are required to get registered beforehand. If needed they can be imparted training on online bidding process as per details available on the website.

7. Stamp duty tax applicable as per Govt. of Rajasthan, Finance Department (Tax Division), Jaipur vide Notification N. एफ–2(31)एफ.डी./टैक्स/2019–253 दिनांक 06.11.2020 under GCC Clause 34.

8. The intending bidder must have valid class-III digital signature to submit the bid.

9. On opening date, the contractor can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.

10. Contractor can upload documents in the form of JPG format and PDF format.

11. Contractor must ensure to quote rate of each item. The column meant for quoting rate in figures appears in pink colour and the moment rate is entered, it turns sky blue. In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0".

    Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO).

List of Documents to be scanned and uploaded within the period of bid submission:-

(i) Treasury Challan /Demand Draft / Pay order or Banker`s Cheque / Deposit at Call Receipt/ FDR/ Bank Guarantee of any scheduled Bank against EMD,and hard copy of the same EMD have to be deposited physically in Division Office of any Executive Engineer inviting bids or division office of Executive Engineer, CPWD within the period of Bid submission. The same should also be Scanned and Uploaded by the intending bidders.

(ii) Copy of receipt for deposition of original EMD issued from division office of any Executive Engineer, CPWD (including NIT issuing EE/AE), CPWD.

(iii) **Enlistment Order** of the Contractor in CPWD in Composite Category, if applicable and valid on the date of opening of tender. Enlistment order issued by enlistment authority, with validity duly extended, in favour of the CPWD contractor shall only be considered.

Addition.....Nil..... Deletion…...Nil…..…… Correction.....…Nil…..…….. Overwriting..….Nil…..........

Sr. D/M (E) AE(E)P

(iv) Copy of certificate of compulsory ERP Training obtained by enlisted contractor either himself or his authorized representative.

(v) GST Registration Certificate if already obtained by the bidder.

If the bidder has not obtained GST registration as applicable, then he shall scan and upload following under taking along with bid documents.

"If work is awarded to me, I/we shall obtain GST registration certificate, as applicable, within one month from the date of receipt of award letter or before release of any payment by CPWD, whichever is earlier, failing which I/we shall be responsible for any delay in payments which will be due towards me/us on account of the work executed and/or for any action taken by CPWD or GST department in this regard"

(vi) Letter of transmittal /submission of bid as per **Annexure-1.**

(vii) **Any other document as specified in the NIT.**

Executive Engineer (E)
C.P.W.D., Jaipur

Addition.....Nil..... Deletion…...Nil…..……. Correction.....…Nil…..……. Overwriting..….Nil…..........

Sr. D/M (E) AE(E)P

केन्द्रीय लोक निर्माण विभाग

कार्यालय ज्ञापन

No. DG/Manual-2024/20

ISSUED BY THE AUTHORITY OF DIRECTOR GENERAL, CPWD

Vidyut Bhawan, New Delhi Dated: 27.02.2026

Sub: Modification in Para 5.2 for CPWD Works Manual 2024.

Following modification is made in Para no. 5.2 for CPWD Works Manual 2024:

Existing Provision	Modified Provision
5.2 Performance Guarantee Sl. No. 1 **2.** PG shall be 5% of the contract amount or as prescribed from time to time to be submitted in the form as prescribed in GCC. Performance Guarantee shall remain valid for a minimum period of sixty days beyond the date of completion of all contractual obligations as per GCC. In case of contracts where supplementary agreement is drawn, the fresh PG shall be obtained from the contractor @ 5% of the amount of the supplementary agreement or as prescribed from time to time. The PG received against the original work shall be released as per contract conditions.	**5.2 Performance Guarantee** **No Change** **2.** PG shall be 5% of the **Estimated cost put to tender (ECPT) or** contract amount **whichever is higher,** or as prescribed from time to time, to be submitted in the form as prescribed in GCC. Performance Guarantee shall remain valid for a minimum period of **six months** beyond the date of completion of all contractual obligations as per GCC. In case of contracts where supplementary agreement is drawn, the fresh PG shall be obtained from the contractor @ 5% of the amount of the supplementary agreement or as prescribed from time to time. The PG received against the original work shall be released as per contract conditions.
Sl. No. 3	**No Change**
4. No provision	**4. A bid will be treated as abnormally low if the quoted bid amount is lesser than 80% of the estimated cost put to tender.**
5. No provision	**5. Requirement of Additional Performance Guarantee (APG) : In case of abnormally low bids as defined above, the bidder shall be required to submit Additional Performance Guarantee (APG) in addition to the Standard Performance Guarantee (PG). The amount of Additional Performance Guarantee (APG) shall be equivalent to the difference between the 80% amount of ECPT and quoted amount. (e.g. if ECPT is A and quoted amount is 0.7A then the amount of APG shall be**

27/2/26 P. Jindal EE(Contract)

Addition.....Nil..... Deletion…...Nil…..……. Correction.....…Nil…..……. Overwriting..…..Nil…..

Sr. D/M (E) AE(E)P

	0.8A – 0.7A). **The Additional Performance Guarantee (APG) shall be in the prescribed format of Performance Guarantee and has to be submitted within the time frame prescribed for submission of Performance Guarantee. The other terms and conditions of release etc. of APG shall be same as that of PG.**

This is issues with the approval of DG CPWD.

27.02.2026

((चन्द्र पाल)
अधीक्षण अभियंता (सी एंड एम)
Chander Pal, SE (C&M)

Issued from file No. CSQ/CM/16(1)/2026 e-file 9212995 (DFA/ 9365789)

केलोनिवि तथा लोनिवि दिल्ली के सभी अधिकारियों को आवश्यक सूचना एवं कार्यवाही हेतु। (केलोनिवि वेबसाईट के माध्यम से)

27/2/26

D.P. Jindal
EE (Contract)

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting.....Nil…..

Sr. D/M (E) AE(E)P

Receipt of deposition of original EMD

(Receipt No. ……../date ……)

1	Name of work	:	Upgradation of MV Panels of 11/0.4 kV Substations at CISF, MPRTC, Behror, Dist. Kotputli-Behror (Raj.)
2	NIT No	:	76 /EE(E)/CPWD/Jaipur/2026-27/AE(E)-Alwar
3	Estimate Cost	:	**Rs. 89,69,494 /-**
4	Amount of Earnest Money Deposit	:	**Rs. 1,79,390/-**
5	Last date of submission of bid	:	**24/11/2026* upto 3:00 PM**
(# To be filled by EMD receiving EE)			
1	Name of Contractor	:	……..……#
2	Form of EMD	:	……..……#
3	Amount of Earnest Money Deposit	:	……..……#
4	Date of submission of EMD	:	……..……#

Signature, Name and Designation
Of EMD receiving Officer (EE/DDH)
Along with office stamp

(#To be filled by EMD receiving EE/DDH)

Note : The receipt can also be issued by any subordinate Gazetted authority as authorized by the Engineer-in-Charge/DDH.

Addition.....Nil..... Deletion…...Nil…..……. Correction.....…Nil…..……. Overwriting..….Nil…..

Sr. D/M (E) AE(E)P

FORM "B"

Undertaking regarding obtaining GST registration Certificate

If work is awarded to me, I/We shall obtain GST registration certificate, as applicable, within one month from the date of receipt of award letter or before release of any payment by the CPWD, whichever is earlier, failing which I/We shall be responsible for any delay in payments which will be due towards me/us on account of the work executed and/or for any action taken by CPWD or GST department in this regard.

Signature of Bidder(s) or an authorized Officer of the firm with stamp

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting..….Nil….....

Sr. D/M (E) AE(E)P

Annexure-1

INFORMATION REGARDING Bidder

LETTER OF TRANSMITTAL/Submission of Bid

From : (Bidders Name)

To

The Executive Engineer (Elect.)
CPWD, Jaipur.

Subject: Upgradation of MV Panels of 11/0.4 kV Substations at CISF, MPRTC, Behror, Dist. Kotputli-Behror (Raj.)

Having examined details given in Tender Notice and bid document for the above work, I/we hereby submit the bid with requisite information & documents.

1. I/We hereby certify that all the information and documents submitted with the bid are true and correct.

2. I / We have furnished all information and details necessary for eligibility and have no further pertinent information to supply.

3. I/We also authorize Executive Engineer, Jaipur Central Electrical Division, CPWD, Jaipur to approach individuals, employers, firms and corporation to verify our competence and general reputation.

4. Our Current Contact address, email and telephone number details are as under:

   Name of Bidder/Authorized Person of Bidder:

   Contact Address of Bidder:
   Email of Bidder:
   Telephone Number of Bidder:

Seal of bidder Date of submission :	Signature(s) of Bidder(s)

Addition.....Nil..... Deletion…...Nil…..……. Correction.....…Nil…..……. Overwriting..….Nil…..........

Sr. D/M (E) AE(E)P

CPWD-6 FOR e-TENDERING
GOVERNMENT OF INDIA
CENTRAL PUBLIC WORKS DEPARTMENT
NOTICE INVITING e-TENDER

The Executive Engineer (E), Jaipur Central Electrical Division, CPWD, Sector-10, Vidhyadhar Nagar, Jaipur (Phone No.0141-2233688) on behalf of the President of India invites online **Percentage Rate E-Tenders** on single bid system from contractors of CPWD who are approved and eligible for Building & Roads category in appropriate class, for the work of **"Upgradation of MV Panels of 11/0.4 kV Substations at CISF, MPRTC, Behror, Dist. Kotputli-Behror (Raj.) "**

The enlistment of the contractors should be valid on the last date of submission of tenders.

In case the last date of submission of tender is extended, the enlistment of contractor should be valid on the original date of submission of tenders.

1.1 The work is estimated to cost **Rs. 89,69,494/-** This estimate, however, is given merely as a rough guide.

1.1.1 The authority competent to approve NIT for the combined cost and belonging to the major discipline will consolidate NITs for calling the bids. He will also nominate Division which will deal with all matters relating to the invitation of bids.

For composite bid, besides indicating the combined estimated cost put to bid, should clearly indicate the estimated cost of each component separately. The eligibility of bidders will correspond to the combined estimated cost of different components put to bid.

2. Agreement shall be drawn with the successful bidders on prescribed Form No. CPWD 7/8 (or other Standard Form as mentioned) which is available as a Govt. of India Publication and also available on website **www.cpwd.gov.in**. Bidders shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.

3. The time allowed for carrying out the work will be **03 Months** from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.

4. The site for the work is available. **(Site available) √**

5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen from website **www.etender.cpwd.gov.in** and www.eprocure.gov.in free of cost.

Addition.....Nil..... Deletion…...Nil…..……. Correction.....…Nil…..……. Overwriting..….Nil…..

Sr. D/M (E) AE(E)P

6. After submission of the bid the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.

7. White submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of bid as notified.

8. When bids are invited in three stage system and if it is desired to submit revised financial bid then it shall be mandatory to submit revised financial bid. If not submitted then the bid submitted earlier shall become invalid.

9. Earnest Money in the form of Treasury Challan or Demand Draft or Pay order or Banker`s Cheque or Deposit at Call Receipt or Fixed Deposit Receipt (drawn in favour of **Executive Engineer (E), Jaipur Central Electrical Division, CPWD, Jaipur** shall be scanned and uploaded to the e-tendering website within the period of bid submission. The Original EMD should be deposited either in the office of Executive Engineer inviting bids or division office of any Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the Period of bid submission. The EMD receiving Executive Engineer (including NIT issuing EE/AE) shall issue a receipt of deposition of earnest money deposit to the bidder in a prescribed format (enclosed) uploaded by tender inviting Executive Engineer in the NIT.
This receipt shall also be uploaded to the e-tendering website by the intending bidder upto the specified bid submission date and time

10. A part of earnest money is acceptable in the form of bank guarantee also. In such case, minimum 50% of earnest money or Rs. 20 lacs, whichever is less, shall have to be deposited in shape prescribed above, and balance may be deposited in shape of Bank Guarantee of any scheduled bank having validity for six months or more from the last date of receipt of bids which is to be scanned and uploaded by the intending bidders.

Copy of documents as specified in the press notice shall be scanned and uploaded to the e-tendering website within the period of bid submission. However, certified copy of all the scanned and uploaded documents as specified in press notice shall have to be submitted by the lowest bidder only within a week Physical EMD of the scanned copy of EMD uploaded shall must have to be deposited in Division Office.

Online bids documents submitted by intending bidders shall be opened only of those bidders, whose original EMD deposited with any division of CPWD and other Documents scanned and uploaded are found in order.

The bid submitted shall be opened at **3:30 PM on 24/11/2026****

Addition.....Nil..... Deletion…...Nil…..……. Correction.....…Nil…..……. Overwriting..….Nil…..

Sr. D/M (E) AE(E)P

The bid submitted shall become invalid and e-Tender processing fee shall not be refunded if:

(i) The bidder is found ineligible.

(ii) The bidder(s) does not upload all the documents (including GST registration) as stipulated in the bid documents including declaration of EMD**.**

(iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest tenderer in the office of tender opening authority.

The contractor whose bid is accepted, will be required to furnish performance guarantee of 5% (Five Percent) of the bidded amount within the period specified in Schedule F. This guarantee shall be in the form of cash (in case guarantee amount is less than Rs. 10000/-) or Deposit at Call receipt of any scheduled bank / Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank /Pay order of any Scheduled Bank (in case guarantee amount is less than Rs. 1,53,505 /-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F'. including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The earnest money deposited along with bid shall be returned after receiving the aforesaid performance guarantee.

11. Intending bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is 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 bidders shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidders 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 bidders 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 stores, 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 the work.

12. The competent authority on behalf of the President of India does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. 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 bidders shall be summarily rejected.

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

14. The competent authority on behalf of President of India reserves to himself the right of accepting the whole or any part of the bid and the bidders shall be bound to perform the same at the rate quoted.

15. The contractor shall not be permitted to bid for works in the CPWD Circle (Division in case of contractors of Horticulture/Nursery category) responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). 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 gazette officer in the Central Public Works Department or in the Ministry of Urban Development. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.

16. No Engineer of Gazetted rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This 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 the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.

17. The bid for the works shall remain open for acceptance for a period of **Thirty (30) days** from the date of opening of bids in case of single bid system and 75 (seventy five) days from the date of opening of technical bid in case bids are invited on 2 or 3 bid system. Further (i) If any tenderer with draws his tenders or makes any modifications in the terms & conditions of the tender which is not acceptable to the department within 7 days after opening of tender (excluding date of opening of tender (excluding date of opening of tender) then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 50% of the earnest money absolutely. (ii) After 7 days of opening of tender the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 100% of the earnest money absolutely.

(iii) The bidders shall not be allowed to participate in the rebidding process of the work.

18. Forfeiture of Earnest Money – (i) If any tenderer with draws his tenders or makes any modifications in the terms & condition of the tender which is not acceptable to the department within 7 days after opening of tender (excluding date of opening of tender) then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 50% of the earnest money absolutely. (ii) After 7 days of opening of tender the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 100% of the earnest money absolutely.

19. This notice inviting Tender shall form a part of the contract document. The successful bidder/contractor, on acceptance of his bid by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of: -

a) The Notice Inviting Bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.

b) Standard C.P.W.D. Form 7/8 or other Standard C.P.W.D. Form as mentioned.

Executive Engineer (Elect)
CPWD, Jaipur

Addition.....Nil..... Deletion…...Nil…..……. Correction.....…Nil…..……. Overwriting..….Nil…......

Sr. D/M (E) AE(E)P

No. 54(PWD-6)/AB/JCED/CPWD/2026/ Dated: - 1

Copy to: -

1. Chief Engineer, CPWD, Nirman Bhawan, Sec-10, VDN, Jaipur for information.
2. Assistant Engineer(E), Jaipur Central Electrical Sub Division-I, CPWD, Jaipur.
3. Assistant Engineer(E), Jaipur Central Electrical Sub Division-II, CPWD, Jaipur
4. Assistant Engineer(E), Ajmer Central Electrical Sub Division, CPWD, Ajmer
5. Assistant Engineer(E), Bikaner Central Electrical Sub Division, CPWD, Bikaner
6. Assistant Engineer(E) P, Jaipur Central Electrical Division, CPWD, Jaipur.
7. Notice Board.
8. Cashier.
9. File No. Concern File

Executive Engineer (Elect.)
CPWD, Jaipur

Addition.....Nil..... Deletion…...Nil…..……. Correction.....…Nil…..……. Overwriting..….Nil…..........

Sr. D/M (E) AE(E)P

(**On non-judicial stamp paper of minimum Rs. 100)**
(Guarantee offered by Bank to CPWD in connection with the execution of contracts)
Form of Bank Guarantee for Earnest Money Deposit / Performance Guarantee/ Security Deposit/Mobilization Advance

1. Whereas the Executive Engineer …… (name of division) ……. CPWD on behalf of the President of India (hereinafter called "The Government") has invited bids under……. (NIT number) ……..…….…….…….…… dated ……. for…….……..……. (name of work) ……..…….…….…….…….…….……. The Government has further agreed to accept irrevocable Bank Guarantee for Rs. ……. ……. (Rupees ……..…….…….…….……only) valid upto ……..……..……. (date)* …… as Earnest Money Deposit from …….……. (name and address of contractor) ……..……. (hereinafter called "the contractor") for compliance of his obligations in accordance with the terms and conditions of the said NIT.

OR**

Whereas the Executive Engineer ……..……. (name of division) ……..…….. , CPWD on behalf of the President of India (hereinafter called "The Government") has entered into an agreement bearing number……..……. with ……..……. (name and address of the contractor) ……..……..……. (hereinafter called "the Contractor") for execution of work ……..…… (name of work) ……..……. The Government has further agreed to accept an irrevocable Bank Guarantee for Rs. ……..……. (Rupees……..……. only) valid upto……..……. (date) ……..……. as Performance Guarantee/Security Deposit/Mobilization Advance from the said Contractor for compliance of his obligations in accordance with the terms and conditions of the agreement.

2. We, ……..……..……. (indicate the name of the bank) ……..……..……. (hereinafter referred to as "the Bank"), hereby undertake to pay to the Government an amount not exceeding Rs. ……..……..……. (Rupees ……..……..……. only) on demand by the Government within 10 days of the demand.

3. We, ……..……..……. (indicate the name of the Bank) ……..……..……., do here by undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said Contractor. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. ……..……..……. (Rupees ……..……..……..only)

4. We, ……..……..……. (indicate the name of the Bank) ……..……..……., further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any Court or Tribunal, our liability under this Bank Guarantee

being absolute and unequivocal. The payment so made by us under this Bank Guarantee shall be a valid discharge of our liability for payment there under and the Contractor shall have no claim against us for making such payment.

5. We, ……..…….. (indicate the name of the Bank) ……..……..……., further agree that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligation here under to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said Contractor or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said Contractor or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. We, ……..…….. (indicate the name of the Bank) ……..……..., further agree that the Government at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor at the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee the Government may have in relation to the Contractor's liabilities.

7. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.

8. We, ……..…….. (indicate the name of the Bank) ……..……, undertake not to revoke this guarantee except with the consent of the Government in writing.

9. This Bank Guarantee shall be valid up to……. ……. unless extended on demand by the Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. ……..……. (Rupees ……..……..……. only) and unless a claim in writing is lodged with us within the date of expiry or extended date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged.
   Date ……

Witnesses:

1. Signature……..
   Name and address

Authorized signatory
Name
Designation
Staff Code No.
Bank Seal

2. Signature……..
   Name and address

Addition.....Nil..... Deletion…...Nil…..……. Correction.....…Nil…..……. Overwriting..….Nil…......

*Date to be worked out on the basis of validity period of 90 days where only financial bids are invited and 180 days for two/three bid system from the date of submission of tender.
**In paragraph 1, strike out the portion not applicable. Bank Guarantee will be made either for earnest money or for performance guarantee/security deposit/mobilization advance, as the case may be.

AFFIDAVIT

I / We have submitted a bank guarantee for the work _____

_____

(Name of work)

Agreement No. _____

Dated _____from _____

(Name of the Bank with full address)

to the Executive Engineer _____with a view

(Name of the Division)

to seek exemption from payment of performance guarantee in cash. This Bank guarantee expires on _____.

I / We undertake to keep the validity of the bank guarantee intact by getting it extended from time to time at my / our own initiative up to a period of _____ months after the recorded date of completion of the work or as directed by the Engineer in charge.

I / We also indemnify the Government against any losses arising out of non-encashment of the bank guarantee if any.

(Deponent)
Signature of Contractor

Note: The affidavit is to be given by the Executants before a first class Magistrate.

Addition.....Nil..... Deletion…...Nil…..……. Correction.....…Nil…..……. Overwriting..….Nil…......

Sr. D/M (E) AE(E)P

C.P.W.D.-7

GOVERNMENT OF INDIA
CENTRAL PUBLIC WORKS DEPARTMENT

STATE: Rajasthan ZONE: CE, Jaipur DIVISION : JCED

Percentage Rate Tender & Contract for Works

Tender for the work of: Upgradation of MV Panels of 11/0.4 kV Substations at CISF, MPRTC, Behror, Dist. Kotputli-Behror (Raj.)

(i) To be uploaded by 3:00 PM on 24/11/2026** to Executive Engineer (E), Jaipur Central Electrical Division, CPWD,Jaipur upload at website www.etender.cpwd.gov.in and www.eprocure.gov.in

(ii) To be opened in presence of tenderers who may be present at 3:30 PM on 24/11/2026** in the office of Executive Engineer (E), Jaipur Central Electrical Division, CPWD, Jaipur.

TENDER

I/We have read and examined the Notice Inviting Tender, Schedule A, B, C, D, E & F, Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, Clauses of Contract, Special Conditions, Schedule of Rate and other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the President of India within the time specified in Schedule 'F', viz. Schedule of Quantities and in accordance in all respects with the Specifications / Special conditions, Designs, Drawings and instructions in writing as referred to in this tender document and with such materials as are provided for, by and in respects in accordance with, such conditions so far as applicable.

I/we agree to keep the tender open for **30 (Thirty) days** from the due date of its opening in case of single bid system ~~**75 (Seventy Five) days** from the date of opening of technical bid in case tenders are invited on 2 /3 bid/ system for specialised work~~ and not to make any modification in its terms and conditions.

I/We have deposited EMD for the prescribed amount in the office of concerned Executive Engineer as per the bid document.

Addition.....Nil..... Deletion…...Nil…..……. Correction.....…Nil…..……. Overwriting..….Nil…..........

Sr. D/M (E) AE(E)P

A copy of earnest money deposit receipt of prescribed amount deposited in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (as prescribed) issued by a Commercial Bank is scanned and uploaded. If I/we fail to furnish the prescribed Performance Guarantee within prescribed period, I/we agree that the President of India or his successor in office shall without prejudice to any other right or remedy be at liberty to forfeit the said Earnest Money absolutely. Further if I/we fail to commence the work as specified. I/we agree that President of India or his successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said Performance Guarantee absolutely. The said Performance Guarantee shall be a guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form.

Further, I/We agree that in case of forfeiture of Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.

I / We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for tendering in CPWD in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

I/We hereby declare that I/we shall treat the tender documents, drawings and other records connected with the work as Secret / Confidential documents and shall not communicate information / derived there from to any person other than a person to whom I/we am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Dated: XX
Witness: - XX
Address: - XX
Occupation: - XX

Signature of Contractor .....
Postal Address: -

Telephone No.
Fax:-
E-Mail:-

Addition.....Nil..... Deletion…...Nil…..……. Correction.....…Nil…..……. Overwriting..…..Nil…..........

Sr. D/M (E) AE(E)P

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the President of India for a sum of Rs..... (Rupees.....

The letters referred to below shall form part of this contract agreement.

i) XXX Signature XXX

ii)XXX

iii) XXX

Dated: - .....

Executive Engineer
For & on behalf of the President of India.

XXX To be filled in by the Executive Engineer

XX To be filled in by the contractor

Addition.....Nil..... Deletion…...Nil…..……. Correction.....…Nil…..……. Overwriting..….Nil…..

ADDITIONAL CONDITION FOR MISUSE OF PAYMENT RECEIVED AGAINST ADVANCE PAYMENTS

1. Till the work is almost completed to the satisfaction of Engineer-in-charge,

   (i) Contractor shall not divert any advance payments or part thereof for any purpose other than needed for completion of the contracted work. All advance payments received as per terms of the contract (i.e. mobilization, secured against materials brought at site, secured against plant & machinery and / or for work done during interim stages, etc.) are required to be re-invested in the contracted work to ensure advance availability resources in terms of materials, labour, plant & machinery needed for required pace of progress for timely completion of work.

   (ii) All running account bills preferred by the contractor for advance payments shall be
   processed only if Engineer-in-charge is satisfied that up to date investments (excluding security deposit & performance guarantee, which are not considered as investments) made by the contractor against contracted work are more than the payments received. Accordingly, all running account bills shall be supported with an account of up-to-date payments received vis-à-vis up to date investments made on the work to enable engineer-in-charge to check to his satisfaction that the payments made by engineer-in-charge are property utilized only on the work and nowhere else."

COMMITTED PROGRAM OF COMPLETION FROM CONTRACTOR SIDE

1. On acceptance of work, contractor has to submit a committed program of completion keeping in the view of the prescribed mile stones, stipulated period of completion duly signed by him. The program submitted by contractor shall be monitor able in a format as may acceptable to Engineer-in-charge.
2. On receipt of the prescribed Performance Guarantee and aforesaid committed programme of completion necessary letter to commence the work shall be issued to contractor by Engineer-in-charge and the site of work would be handed over to contractor thereafter.

PART-"B"

SCHEDULES

SCHEDULE 'A'

Schedule of quantities — (i) Elect. Schedule attached at pages **67 To 76**

SCHEDULE 'B'

Schedule of materials to be issued to the contractor

S.No.	Description of item	Quantity	Rates in figures & words at which the material will be charged to the contractor	Place of issue
1	2	3	4	5

---------- ----------NIL ---------- ----------

SCHEDULE 'C'

Tools and plants to be hired to the contractor

S.No.	Description	Hire charges per day	Place of issue
1	2	3	4

---------- NIL ----------

SCHEDULE 'D'

Extra schedule for specific requirement/documents for the work, if any

---------- NIL ----------

SCHEDULE 'E'

Reference to General Conditions of contract:	General Conditions of Contract 2023 **Maintenance Works** for CPWD works amended up to last date of submission of bids.

Addition.....Nil..... Deletion…...Nil…..…… Correction.....…Nil…..……. Overwriting..….Nil…..........

Sr. D/M (E) AE(E)P

Name of Work : Upgradation of MV Panels of 11/0.4 kV Substations at CISF, MPRTC, Behror, Dist. Kotputli-Behror (Raj.)

Estimated cost of work : **Rs. 89,69,494 /-**

Earnest Money Deposit : **Rs. 1,79,390/-**

Performance Guarantee: (a) **5% (Five percent)** of tendered value **OR Estimated cost Put to Tender (ECPT) (whichever is higher)** as per **OM NO. DG/CON/Construction 2023/20 dated 27.02.2026.**

(b) Where the tendered amount is less than eighty percent (80%) of the Estimated Cost Put to Tender (ECPT), the Performance Guarantee, in addition to the requirement under (a) above, shall be increased by an amount equal to the difference between eighty percent (80%) of the ECPT and the tendered amount.

Security Deposit: 2.5% of the accepted tendered value of work

SCHEDULE 'F':

General Rules & Directions:-

	Officer Inviting Tender	**:**	**Executive Engineer (E) CPWD, Jaipur**
	Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3	**:**	Refer Clause-12
	Definitions:-		
2 (v)	Engineer-In-Charge	**:**	**Executive Engineer (E) CPWD, Jaipur or successor thereof**
2 (viii)	Accepting Authority	**:**	**Executive Engineer (E) CPWD, Jaipur**
2 (x)	Percentage on cost of materials and labour to cover all overheads and profits	**:**	15%
2 (xi)	Standard Schedule of Rates (Electrical)	**:**	DSR(E&M) 2025 for electrical works with up-to-date correction slips & Market rates
2 (xii)	Department	**:**	Central Public Works Department
9(ii)	Standard CPWD Contract (civil & electrical)		General Conditions of Contract 2023 for Maintenance works, CPWD Form-7 as amended / modified upto the previous date of submissionof Bid
Clause-1			

Addition.....Nil..... Deletion…...Nil…..…… Correction.....…Nil…..…… Overwriting..…Nil…..

Sr. D/M (E) AE(E)P

(i)	Time allowed for submission of performance guarantee, Programme Chart (Time and progress) and applicable Labour licenses, registration with EPFO, ESIC and BOCW Welfare Board including provident fund Code No. or proof of applying thereof from the date of letter of acceptance.		**07 days**
(ii)	Maximum allowable extension with late fee @ **0.1 % per day** of performance guarantee amount beyond the period as provided in (i) above		**03 days**
Clause-2	Authority for fixing compensation underclause-2.		**Executive Engineer (E), CPWD, Jaipur or his successor thereof.**
Clause-5	Number of days from the date of issue of letter of acceptance for reckoning date of start.		10 days

TABLE OF MILE STONES

S. No.	Description of Milestone (Physical & Financial)	Time allowed in days (from date of start)	Amount to be with-held in case of non-achievement of milestone

Time allowed for execution of work	:	03(Three) Months

	Authority to decide		
(i)	Extension of time for completion of work.	**:**	**Executive Engineer (E) CPWD, Jaipur**
(ii)	Re-scheduling of Mile stone	**:**	**Executive Engineer(E), CPWD, Jaipur or his successor thereof**
(iii)	Shifting of date of start in case of delayin handing over of site.	**:**	**Executive Engineer(E), CPWD, Jaipur or his successor thereof**

Addition.....Nil..... Deletion…....Nil…..……. Correction....…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

Proforma of Schedule:
Clause-5
Schedule of handing over of site:

Part	Portion of Site	Description	Time Period for handing over reckoned from date of issue of letter of intent
Part A	**Portion without any hindrance**	Full site	07 Days
Part B	**Portions with encumbrances**	NIL	Not Applicable
Part C	**Portions dependent on work of other agencies**	NIL	Not Applicable

Schedule of issue of Designs:

Part	Portion of Design	Description	Time Period for issue of design reckoned from date of receipt of tenders
Part A	**Portion already in NIT**	As per the scope of work mentioned in the bid document.	
Part B	**E&M Designs to be issued**	All required designs & drawings of services of E&M works covered in the scope of the work.	To be submitted by the contractor for approval of the Department as per NIT conditions and as per the milestones mentioned.

Clause-5.2	Nature of Hindrance Register (either Physical or Electronic)		**Online system**
CLAUSE 5.4	Schedule of rate of recovery for delay in submission of the modified programme in terms of delay days. Recovery to be made on per day of delay at the rate specified as under :-		As per table below

Sl. No.	Contract Value	Recovery (Rs)
I	Less than or equal to Rs 1 Crore	500
II	~~More than Rs 1 crore but equal to Rs 5 Crore~~	~~1000~~
III	~~More than Rs 5 crore but equal to Rs 20 Crore~~	~~2500~~
IV	~~More than 20 Crore~~	~~5000~~

Clause-6	Computerised Measurement Book (CMB) / Electronic Measurement Book (EMB) Mode of Measurement :		**EMB**

Addition.....Nil..... Deletion…...Nil…..……. Correction...…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

Clause-7	Gross work to be done together with net payment / adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment.		**Rs. 2.00 Lakh**
Clause-7A	Whether Clause-7A shall be applicable.		**Yes**
Clause-7B	Payment to Third Party		**Applicable**
CLAUSE 8A			
	Authority to decide compensation on account if contractor fails to submit completion plans.		**Executive Engineer (E) CPWD, Jaipur or his successor thereof**
Clause-10A	**List of testing equipment to be provided by the contractor at site lab**		As per requirement of work and instructions of Engineer-in-charge.
Clause-10B(ii)	Whether clause 10-B(ii) shall be applicable.		**No**
Clause-10C			**Not Applicable**
Clause-10CA			**Not Applicable**
Clause :10CC			**Not Applicable**
Clause-11	Specifications to be followed for Execution of work		(A) C.P.W.D. Specifications 2019 with correction slips upto the previous date of submission of Bid and as per manufacturer's specification i/c special conditions & particular specifications (for Civil items) (B) CPWD General Specifications for Electrical Works Part-I (Internal) 2023, Part–II (External) 2023 as amended up-to date, correction slip relevant IE Rules, BIS / IEC (for E&M items)
Clause-12	**Type of work**		**Maintenance Work**
	Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2C		**See Below**
12.2C	Deviation Limit beyond which clauses12.2C shall apply		**No Limit**
Clause-16	Competent Authority for deciding reduced rates		Chief Engineer-Jaipur or his successor thereof
Clause-18	List of mandatory machinery, tools & plants to be deployed by the contractor at site:		As per requirement of work and instructions of Engineer-in-charge.

Addition.....Nil..... Deletion…...Nil…..……. Correction.....…Nil…..……. Overwriting.....…Nil…..

Sr. D/M (E) AE(E)P

Clause 19C, 19D, 19G & 19K : Authority to decide penalty for each default			Executive Engineer (E) CPWD, Jaipur or his successor thereof
Clause-25			
(i)	Conciliator		SDG-Chandigarh
(ii)	Arbitrator Appointing Authority		CE-Jaipur
(iii)	Place of Arbitration		Member

	Requirement of Technical Staff		**Minimum experience (Years)**	**Designation of Technical Staff**	**Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Cl. 32**
S. No	**Qualification**	**Number**			**Figures**
1.	Graduate or Diploma Engineer	1	2 or 5 Years respectively	Project/Planning /Quality/Site/ Billing Engineer	Rs. 15,000/- Per month per person

Assistant Engineers retired from Government Services that are holding Diploma will be treated atpar with Graduate Engineers.

Diploma holder with minimum 10 years relevant experience with a repute construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.

Executive Engineer (E)
CPWD, Jaipur.

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

ELIGIBILITY CRITERIA FOR SPECIALISED E&M WORKS

The contractor shall have to associate other agency(s) for execution of each of the work(s), which fulfils the eligibility criteria as defined after taking prior approval. The contractor and the associated specialized agencies shall give required affidavit to confirm their association. Tender accepting authority may approve change of sub agency in case it is required during the currency of contract. However the contractor shall also be eligible to carry out himself any or all of these works without associating any specialized agency provided: -

a) He fulfills the prescribed eligibility criteria respectively for these work(s).

OR

EI Works	a) Certificate of registration of CPWD in appropriate class of composite category. b) Electrical contractor license **OR** undertaking that they will either obtain valid electrical license at the time of execution of electrical work **OR** associate contractor having valid electrical license of appropriate class.
Substation	Experience of having successfully completed works during last seven years ending previous day of last date of submission of application. Three similar works each of value not less than 40% (Rs. 35.87 lacs) of the estimated cost put to tender. OR Two similar works each of value not less than 60% (Rs. 53.81 lacs) of the estimated cost put to tender. OR One similar work of value not less than 80% (Rs. 71.75 lacs) of the estimated cost put to tender. Similar works means Supply, Installation, Testing and Commissioning of Substation Equipment's/ Replacement and Upgradation of Substation Equipment's.

Executive Engineer (E)
CPWD, Jaipur.

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

CONDITIONS FOR ENGAGEMENT OF ASSOCIATED AGENCIES FOR E&M WORKS

1. The lowest tenderer have to submit electrical contractor license and experience certificate issued by competent authority within two weeks of award of work in case he himself is eligible for carrying internal EI & other specialized E&M work as per eligibility criteria mentioned in **Schedule-F**, and if not, then he will associate specialized agencies as per eligibility criteria mentioned in **Schedule-F.** The main contractor shall submit the details of such specialized agencies to be associated in **Annexure-A** within two weeks of award of work. Following documents for association of electrical contractors for internal EI work or other specialized E&M Works shall be submitted by main contractor to EE(E), Jaipur Central Electrical Division, CPWD, Jaipur in charge for deciding the eligibility :-

A. Willingness from an eligible electrical contractors/specialized agency to get associated with the applicant for execution of the electrical component of works as per the conditions set out in the MOU as per the proforma given in **Annexure-B** to be signed between the contractor and the associated eligible electrical contractor/ specialized agency.

B. For association of Electrical contractor for electrical works: -
   (i) Copy of their registration documents with CPWD (if applicable)
   (ii) Copy of Electrical Contractor's License issued by competent authority
   (iii) Copy of Goods and Service Tax (GST) Registration
   (iv) Copy of ESIC and EPF Registration.

   OR

   For association of Electrical contractor for specialized E&M works: -
   (i) Copy of Completion Certificate as per eligibility criteria mentioned in Schedule-F issued by competent authority.
   (ii) Copy of Goods and Service Tax (GST) Registration
   (iii) Copy of ESIC and EPF Registration.

   (Copy of all above documents will be self attested by the main agency and associated agency.)

C. MOU signed on Rs. 100/- stamp paper with eligible electrical contractor/specialized agency meeting the eligibility criteria and same as specified for specialized works. The MOU in the enclosed form as per

Addition.....Nil..... Deletion…....Nil…..…… Correction.....…Nil…..…… Overwriting..…..Nil….....

Sr. D/M (E) AE(E)P

Annexure-C shall be signed by both the parties i.e. contractor as 1st party and associated electrical contractor as 2nd party.

2. In the event of the concerned E&M agency not performing satisfactorily or failure of associate to complete the E&M work, the contractor on the written direction of the department, shall remove the Associate deployed on the work and shall submit name of new associate who fulfill the conditions mentioned in NIT to execute the leftover work without any loss of time or variation in cost to the department in this regard. Contractor shall meet all the guarantee for the equipments already supplied for which payment has been released by the Deptt. in part. If any equipment supplied for the work, during the currency of the earlier Associate and paid partly by the Deptt., becomes redundant /not in a position to be installed and commissioned and put to beneficial use due to change in agency for execution of E&M work, the contractor shall be liable for replacement of the equipment(s) at no cost to Department**.** No change of Associated Electrical Contractor /Specialized Agency will be allowed without prior approval of the EE(E) Jaipur Central Electrical Division, CPWD, Jaipur.

3. The contractor/ specialized agency shall be responsible and liable for proper and complete execution of the Electrical work and ensure coordination and completion of both civil and electrical work.
4. The associate contractor/specialized agency along with contractor shall attend the inspection of the work by the Engineer-in-Charge of E&M works as and when required.
5. The associate or contractor/specialized agency shall sign a tripartite Agreement/Contract along with the main tenderer and the departmental officer, for technical compliance of specification, guarantee etc.
6. The associate or contractor/ specialized agency shall attend the inspection of the work by the Engineer-in-Charge of E&M works or as and when required.

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting..….Nil….....

Sr. D/M (E) AE(E)P

Annexure-A

PROPOSAL FOR ASSOCIATING ELECTRICAL AGENCIES for ELECTRICAL INSTALLATION

We hereby propose the following electrical agencies as per details mentioned against each. Their Willingness Certificates are also attached as per **Annexure-B**.

S No	Name of electrical contractor/ Firm	Category and class of registration in CPWD	Registration No.	Electrical License	Validity of registration	Consent letter attached (yes/No)
1.						
2.						
3.						

Note :- A copy of registration order shall be attached for each agency.

Contractor's signature

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

Annexure-B

WILLINGNESS CERTIFICATE

Name of work: **Upgradation of MV Panels of 11/0.4 kV Substations at CISF, MPRTC, Behror, Dist. Kotputli-Behror (Raj.)**

I hereby give my willingness to work as Associate Specialized Agency for electrical component of the above mentioned work.

I will execute the work as per specifications and conditions for the agreement and as per direction of the Engineer-in-Charge. Also I will engage full time technically qualified supervisor/engineer for the works. I will attend inspection of officers of the department as and when required.

Dated:

Signature of the Associate Specialized Agency

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

Annexure-C

Memorandum of understanding
Rs. 100/- Non-judicial stamp

This Memorandum of Understanding (MOU) is made on the _____ at _____

Between

M/s _____ (Main Contractor) having his registered office at _____ which expression shall unless repugnant to the subject or context include its administrators, successors and assigns.

And

M/s _____ (Associate contractor) registered in CPWD as class : _____ Electrical contractor and having his registered office at _____ which expression shall unless repugnant to the subject or context include its administrators, successors and assign.

Whereas, the Central Public Work Department, have issued tender papers to quote for the following work to M/s _____(Main Contractor).

Name of work : **Upgradation of MV Panels of 11/0.4 kV Substations at CISF, MPRTC, Behror, Dist. Kotputli-Behror (Raj.)**

Whereas, This Memorandum of Understanding has been entered into to execute the above work by the Main Contractor and Associate Contractor.

Whereas, both the parties have gone through and understood the various conditions and clauses of the tender and willingly agree to abide by them.

This MOU shall be valid till the duration of completion of above work and shall be extended if so required by the CPWD.

Now, therefore it is agreed between the parties here to as follows :-

1 The associated electrical contractor shall completely execute, perform and do all the works mentioned and described in the main agreement for its electrical components according to the specifications, terms and conditions etc. of the main agreement.

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

2 The associated electrical contractor shall execute and complete the works in all respect up to full satisfaction of the CPWD officers and attend to them during their inspection at site, meetings etc., whenever required by the CPWD officers.

3 The cost of electrical works executed by the associated electrical contractor will include the cost of all the materials, accessories, equipments, tools & plants, laborers technical persons required etc. in all respect.

4 The associated electrical contractor is responsible for getting recorded measurements and preparation, submissions & pursuance of payment of the bills of the work done for electrical portion of the main agreement.

5 **The rate will be as per the schedule enclosed.**

6 The Quantity will be as per actual measurement as received from CPWD to main contractor and the rate will be as per the mutually agreed.

7 The payment to associate contractor will be released after the payment to main contractor is made by the CPWD.

8 The technical staff required for the associate discipline shall be of associate contractor.

9 The guarantee of the installation after the completion of the work shall be responsibility of the associate electrical contractor as required by the CPWD.

10 There is Service Tax (GST) liability; work being related to the construction of the Central Govt. Deptt. However, if any liability of the Service Tax (GST) is imposed on the associated electrical contractor then it will be paid by main contractor.

11 Either party shall not repudiate the contract in mid way without the consent of each other. Otherwise it will be treated as breach of agreement for any reason whatsoever.

12 The main agency shall be solely responsible for deferment & rescheduling of each milestone fixed as per contract documents and in such eventuality, the consequences arising out of the same rests on main agency.

13 The main contractor only shall be responsible for getting extension of delay regularized and liability what so ever flowing out shall lies with them. There shall be no direct or indirect impact on associate contractor.

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

14 TDS shall be deducted by the main contractor as per Income Tax law from associated agency. In case liability of tax other than Income Tax (Such as GST, or any other mechanism formed) is levied on associated contractor then the main agency will reimburse it in full to associated agency.

15 The associated contractor shall be bound to execute work upto a deviation limit of 30% in quantities of items of work at the agreement rate. Beyond deviation limit the rates will be decided by main & Associated contractor on mutually agreed basis.

16 For the items such as extra items, substitute items and new items other than the items of main agreement, if any incorporated in the work, then the main contractor shall pay the full amount so approved to the associate contractor.

17 The validity of rates shall be _____ months after finalization & acceptance of MOU by the competent authority.

18 In case main contractor delays the payment to associated contractor after the payment is released by department to the main contractor then on receipt of delay in payment from associate contractor the CPWD shall directly make the payment to associated contractor.

19 The main contractor shall at their cost provide necessary requisite arrangement for storage of material.

20 Sand & cement used in the electrical work shall be provide by main contractor.

21 Security Deposit as deducted by the CPWD will be reimbursed by main contractor to associate contractor. However associated electrical contractor will deposit 2 ½ % of Agreement amount of Rs. _____ in shape of FDR towards S/D to be retained by main contractor which will refunded to electrical contractor after completion of electrical work.

22 The Income tax, Commercial tax and labour cess tax deducted by the CPWD from the bills of electrical work shall be reimbursed by the main contractor in favour of the associated electrical contractor accordingly.

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

In witness whereof we have put our hand seal on date _____.

Enclose :- Schedule of rates.

Signature
(Associate Contractor)
Address : _____
_____

Signature
(Major Contractor)
Address :

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting..….Nil….....

Sr. D/M (E) AE(E)P

TERMS AND CONDITIONS FOR INTERNAL AND EXTERNAL ELECTRICAL WORKS

General Commercial & Technical Conditions:

1.0 All the works shall be carried out as per CPWD General specification for Electrical Works, Part-I (Internal)-2023; Part-II (External) 2023, Part-IV (Sub-Station), amended up to date and should also comply with relevant provisions of the Indian Electricity Rules and Acts as applicable, amended up to date.

2.0 The contractor is advised to visit the site of work to have an idea of the execution of the work; failure to do so shall not absolve their responsibility to do the work as specified in agreement.

3.0 **Rates:**

3.1. The work shall be treated as on works contract basis and the rates tendered shall be for complete items of work inclusive of all taxes including GST, duties, and levies etc. and all charges for items contingent to the work, such as packing, forwarding, insurance, freight and delivery at site for the materials to be supplied by the contractor, watch and ward of all materials for the work at site etc.

3.2. Prices quoted shall be firm.

4.0 **Mobilization Advance:**
No mobilization advance shall be paid for the work, unless otherwise stipulated in tender papers for any individual works/ composite work.

5.0 **Completeness of Tender:**
All sundry fittings, assemblies, accessories, hardware items, foundation bolts, termination lugs for electrical connections as required, and all other sundry items which are useful and necessary for proper assembly and efficient working of the various components of the work shall be deemed to have been included in the tender, whether such items are specifically mentioned in the tender documents or not.

6.0 **Works to be done by the contractor:**
Unless and otherwise mentioned in the tender documents, the following works shall be done by the contractor, and therefore their cost shall be deemed to be included in their tendered cost: -

(i) Cutting and making good all damages caused during installation and restoring the same to their original finish.
(ii) Sealing of all floor openings provided by him for pipes and cables, from fire safety point of view, after laying of the same.
(iii) Painting at site of all exposed metal surfaces of the installation other than pre-painted items like fittings, fans, switchgear/distribution gear items, cubicle switchboard etc. Damages to finished surfaces of these items while handling and erection, shall however be rectified to the satisfaction of the Engineer-in-Charge.
(iv) Testing and commissioning of completed installation.
(v) Storage space for all equipments, components and materials for the work.

7.0 **Storage and Custody of Materials:**

The contractor has to make his own arrangement for the storage of the material at site & necessary watch and ward of the electrical installation during the execution of work till the same is handed over to the department. No extra payment will be made on this account. The storage space shall however be arranged by the department at site, if available.

The main contractor shall arrange for proper storage of the electrical fans and fittings at site and that double lock system shall be arranged for the fans and fittings after receipt at site until the time they are taken for installation. The contractor shall however be responsible for proper storage and safe custody of the same till their installation and handing over to the department.

8.0 **Electric Power Supply and Water Supply:**

Power and water supply will be arranged by the contractor at the site for installation and testing purpose.

Contractor will take due care to ensure safety of electrical installation during execution of work.

9.0 **Tools for handling and Erecting:**

All tools and tackles required for handling of equipments and materials at site of work as well as for their assembly and erection and also necessary test instruments shall be the responsibility of the contractor.

10.0 **Payment Terms:**

Payment shall be made as per the relevant clauses of form PWD 7/8 forming part of the tender documents.

11.0 **Co-ordination with other agencies:**

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

The contractor shall co-ordinate with all other agencies involved in the building work so that the building work is not hampered due to delay in his work. Recessed conduit and other works, which directly affect the progress of building work, should be given priority.

11.1. **Care of buildings:**

Care shall be taken by the contractor to avoid damage to the building during execution of his part of the work. He shall be responsible for repairing all damages and restoring the same to their original finish at his cost. He shall also remove, at his costs, all unwanted and waste materials arising out of his work, from the site.

12.0 **Structural Alterations to Buildings:**

(i) No structural member in the building shall be damaged/altered, without prior approval from the competent authority through the Engineer-n-charge.

(ii) Structural provisions like openings, cutouts, if any, provided by the department for the work, shall be used. Where these required modifications, or fresh provisions are required to be made, such contingent works shall be carried out by the contractor at his cost.

(iii) All such openings in floors provided by the department shall be closed by the contractor after installing the cables/conduits/rising mains etc. as the case may be, by any suitable means as approved by the Engineer-in-charge without any extra payment.

(iv) All chases required in connection with the electrical works shall be provided and filled by the contractor at his own cost to the original architectural finish of the buildings.

13.0 **Addition to an installation:**

Any addition, temporary or permanent, to the existing electrical installation shall not be made without a properly worked out scheme/design by a qualified Electrical Engineer to ensure that such addition does not lead to overloading, safety violation of the existing system.

14.0 **Work in Occupied Buildings: Deleted**

15.0 **Drawings:**

i) After award of the work, the firm will be required to submit the drawings for the proposed work including layout plan, conduit routes etc. Work will be carried out as per the approved drawings.

ii) The work shall be carried out in accordance with the drawings and the tender documents and also in accordance with modification thereto from time to time as approved by the Engineer-in-charge.

iii) All wiring diagrams shall be deemed to be 'Drawings' within the meaning of the term as used in Clause 11 of the conditions of contract (PWD 7). They shall indicate the main switch board, the distribution boards (with circuit numbers controlled by them), the runs of various mains and sub mains and the position of all points with their controls.

iv) All circuits shall be indicated and numbered in the wiring diagram and the points shall be given the same number as the circuit to which they are electrically connected.

16.0 **Conformity to IE act, IE Rules, and standards:**

16.1. All electrical works shall be carried out in accordance with the provisions of Indian Electricity Act, 2003 and Indian Electricity Rules, 1956 amended up to date (Date of call of tender unless specified otherwise). List of rules of particular importance to electrical installations under these General Specifications is given in Appendix C for reference.

17.0 **General requirements of components:**

17.1. **Quality of material:** All materials and equipments supplied by the contractor shall be new and must be in Original seal-pack. They shall be of such design, size and materials as to satisfactorily function under the rated conditions of operation and to withstand the environmental conditions at site.

18.0 **Inspection of materials and equipments:**

18.1. Materials and equipments to be used in the work shall be inspected by the departmental officers. Such inspection will be of following categories:

(i) Inspection of materials / equipments may be witnessed at the Manufacturer's premises in accordance with relevant BIS /Agreement Inspection Procedure.

(ii) To receive materials at site with Manufacturer's Test Certificate(s)

(iii) To inspect materials at the authorized dealer's go downs to ensure delivery of genuine materials at site.

(iv) To receive materials after physical inspection at site.

18.2. Adequate care to ensure that only tested and genuine materials of proper quality are used in work shall be ensured by firm. The firm shall ensure that:

(i) Material will be ordered & delivered at site only with the prior approval of the department to ensure timely delivery.

(ii) As and when the order is placed for the fittings/ fixtures, cables, switchgears, poles, rising main, other main items etc., its copy shall be endorsed to the CPWD Engineer-in-charge.

(iii) The firm will be required to procure material like exhaust fans, MCB's & DB's, switches & sockets, wires & cables, conduits and switchgears etc. directly from the manufacturer/ authorized dealers to ensure genuineness & quality and as per the approved makes only. Proof in this regard shall be submitted by the contractor if required by the department.

(iv) Inspection at factory or at go down of the manufacturer, as required, shall be arranged by the firm for a mutually agreed date.

(v) Delivery of material shall be taken up only with the consent of department, after clearance of the material.

(vi) Department shall reserve the right to waive inspection in lieu of suitable test certificate, at its discretion.

18.3. Similarly, for fabricated equipments, the contractor will first submit dimensional detailed drawings for approval before fabrication is taken up in the factory. Suitable stage inspection at factory also will be made to ensure proper use of materials, workmanship and quality control.

19.0 **Ratings of components:**

19.1. All components in a wiring installation shall be of appropriate ratings of voltage, current and frequency, as required at the respective sections of the electrical installations in which they are used.

19.2. All conductors, switches and accessories shall be of such size as to be capable of carrying the maximum current, which will normally flow through them, without their respective ratings being exceeded.

20.0 **Conformity to standards:**

20.1. All components shall conform to relevant Indian Standard Specifications wherever existing. Materials with ISI certification mark shall be preferred.

20.2. Relevant Indian Standards including amendments or revisions thereof up to the date of tender acceptance shall be applicable in the respective contracts for respective items, firm to ensure its compliance.

21.0 **Interchangeability:**

Similar parts of all switches, lamp holders, distribution fuse boards, Switch gears, ceiling roses, brackets, pendants, fans and all other fittings of the same type shall be interchangeable in each installation.

22.0 **Workmanship:**

22.1. Good workmanship is an essential requirement to be complied with. The entire work of manufacture/fabrication, assembly and installation shall conform to sound engineering practice.

22.2. Proper supervision/skilled workmen: The contractor shall be a licensed electrical contractor of appropriate class suitable for execution of the electrical work. He shall engage suitably skilled/licensed workmen of various categories for execution of work supervised by supervisors / Engineer of appropriate qualification and experience to ensure proper execution of work. They will carry out instruction of Engineer-in-charge and other senior officers of the Department during the progress of work.

22.3. Use of quality materials: Only quality materials of reputed make as specified in the tender will be used in work.

22.4. Fabrication in reputed workshop: Switch boards and LT panels shall be fabricated in a factory/workshop having modern facilities like quality fabrication, seven tank process, powder/epoxy paint plant, proper testing facilities, manned by qualified technical personnel. These shall be as per make / item approved.

23.0 **Testing:**

All testes prescribed in this General Specification, to be done before, during and after installation, shall be carried out, and the test results shall be submitted to the Engineer-in-charge in prescribed Performa, forming part of the Completion Certificate.

24.0 **Commissioning on completion:**

After the work is completed, it shall be ensured that the installation is tested and commissioned.

25.0 **Completion plan and completion certificate:**

25.1. For all works completion certificate after completion of work as given in Appendix –E of CPWD Specification shall be submitted to the Engineer-in-charge.

25.2. Completion plan drawing indicating the following, along with three copies of the same shall also be submitted.

(i) General layout of the building.

(ii) Locations of main switchboard and distribution boards, indicating the circuit numbers controlled by them.

(iii) Position of all points and their controls.

(iv) Types of fittings, viz. LED Light fixtures, pendants, brackets, bulk head, Ceiling fans, exhaust/fresh air fans etc.

(v) Name of work, job number, tender reference, actual date of completion, names of Division/ Sub-division and name of the firm who executed the work with their signature.

26. **INTERPRETING SPECIFICATIONS**

In interpreting the specifications, the following order of decreasing importance shall be followed in case of contradictions:

(a) Schedule of quantities

(b) Technical specifications

(c) Drawing (If any)

(d) General Specifications

(e) Relevant BIS or other international code in case BIS code is not available.

Executive Engineer (E)
CPWD, Jaipur.

Addition.....Nil..... Deletion…....Nil…..……. Correction...…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

TECHNICAL SPECIFICATIONS FOR IEI WORK

1.0 GENERAL

SCOPE OF WORK:
The specifications given below pertain to the internal electrical installation work and CPWD Specifications are to be followed.

2.0 POINT WIRING:

2.1 The wires used for the point wiring and power wiring shall be of 650 / 1100 Volts grade FRLS PVC insulated multi stranded copper conductor single core cables.

2.2 All mounting boxes for plate type accessories shall be of metallic construction and of the same make as that of the plate type switches and accessories.

3.1 COPPER AND ALUMINIUM CABLES

3.1.1. This specification covers the supply, installation, testing and commissioning of 1100 V grade cables.

3.1.2 The design, manufacture and performance of the cables should conform to the relevant IS.

4.0 CABLE WORK

The L.T. Power cables shall be XLPE insulated PVC sheathed type aluminum conductor armoured cable conforming to IS: 7098: 1988 (Part-I) with up-to date amendments whereas control cable shall be XLPE insulated and PVC sheathed copper conductor armoured/ unarmored cable conforming to IS:7098 (Part-I) 1988.

All the street light Cables shall be laid in 50mm dia. HDPE pipes, as per the direction of Engineer-In-Charge. Cable laying shall be carried out as per CPWD general specifications for electrical works (part-II External)-1994.

Cable tags shall be made out of 2mm thick aluminum sheets, each tag 1-1/2 inch in dia with one hole of 2.5mm dia, 6mm below the periphery. Cable designations are to be punched with letter/number punches and the tags are to be tied inside the panels beyond the glanding as well as below the glands at cable entries. Trays tags are to be tied at all bends. On straight lengths, tags shall be provided at every 15 metres.

Prior to installation, burying of cables, following tests shall be carried out. Insulation test between phases, phase & neutral, phase & earth for each length of cable.

a. Before laying.
b. After laying.
c. After jointing.

Prior to installation, the following tests shall be conducted in the presence of the Engineer-In-Charge.

a. Insulation Resistance Test (Sectional and overall).
b. Continuity Resistance Test.
c. Earth Test.

All tests shall be carried out in accordance with relevant Indian Standard code of practice and Indian Electricity Rules**.** The Contractor shall provide necessary instruments, equipments and labour for conducting the above tests & shall bear all expenses of conducting such tests.

5.0 MOULDED CASE CIRCUIT BREAKERS

5.1 The MCCBs shall comprise single units of triple pole/four pole construction as specified, shall be rated for 415 V AC.

5.2 All live parts shall be totally enclosed and shrouded with a heat resistant moulded insulating material housing. Operating mechanism shall be quick make, quick break and trip free type.

5.2.1 The MCCB shall be provided with the following features in microprocessor release:

a) Inverse-time-current tripping characteristics under sustained overload.
b) Instantaneous tripping on short circuit

5.2.2 MCCBs shall be of current limiting type.

5.2.3 The rated service breaking capacity (Ics) shall not be less than the ultimate short circuit breaking capacity (Ics = 100%Icu)

5.2.4 Variable Thermal setting shall be provided in all MCCB s with thermal magnetic Release.

5.2.5 All circuit breaker below 250 amps rating shall be provided with thermal magnetic release & circuit breakers of 250 amps rating and above shall

be provided with Microprocessor based release unless otherwise specified.

5.3 All MCCBs shall be provided with rotary handles and links for which nothing extra shall be paid.

6.0 Additional Conditions:

6.1 GUARANTEE/WARRANTEE

The installation will be handed over to the department after necessary testing and commissioning. The LED light luminaries/ fixtures provided under the contract shall be guaranteed for a period of 5 years. 50% of the performance guarantee shall be refunded to the contractor soon after the completion of the work and recording of the completion certificate. 50% of the performance guarantee shall be retained as security deposit. 50% of the performance guarantee retained as security deposit plus 2.5 % security deposit already deducted from running bills (1.5 + 2.5 = 4%) shall be refunded year wise proportionately from the date of completion/ handing over whichever is later. In this regard contractor shall furnish an undertaking and bond for Guarantee/Warrantee of 5 years. Warrantee for the other electrical fixtures shall be one (1) year. The equipments or components, or any part thereof, so found defective during guarantee period shall be forthwith rectified/ repaired or replaced free of cost, to the satisfaction of the Engineer-in-Charge. In case it is felt by the department that undue delay is being caused by the contractor in doing this, the same will be got done by the department at the risk and cost of the contractor. The decision of the Engineer-in-charge in this regard shall be final & building on the contractor.

6.2 The contractor shall submit the relevant test certificates at the time of supply of equipment/Material.

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Addition.....Nil..... Deletion…....Nil…..……. Correction...…Nil…..……. Overwriting..…Nil….....

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GENERAL AND COMMERCIAL CONDITIONS FOR LT PANEL & FEEDER PILLAR WORKS

1.0 GENERAL

This specification covers manufacture, testing as may be necessary before dispatch, delivery at site, all preparatory work, assembly and installation, commissioning putting into operation and final testing & commissioning of the equipments.

1.1 The work shall be executed as per CPWD General Specifications for Electrical Works Part – I, II & IV as amended up to date, relevant I.E. Rules, BIS/IEC and as per directions of Engineer-in-charge. These additional specifications/ conditions are to be read in conjunction with above and in case of variations; specifications given in the in the contract shall apply. However, nothing extra shall be paid on account of these additional specifications and conditions, as the same are to be read along with schedule of quantities for the work.

1.2 The tenderer should, in its own interest, visit the site and get familiarized with the site conditions before tendering.

1.3 No T & P shall be issued by the Department and nothing extra shall be paid on account of this.

1.4 Type of Contract: The work to be awarded by this tender shall be treated as indivisible works contract.

2.0 TERMS OF PAYMENTS

On account payments for part work (after stipulated and statutory deductions) as assessed by the Engineer – in-charge for the applicable items in the Contract shall be payable at part rates not exceeding the percentage indicated against the stages of work.

S.No.	Stage of work	Percentage of quoted rate
1.	Supply of material at site	50%
2.	Installation	70%
3.	Testing and Commissioning	90%
4.	Handing over	100%

3.0 Works to be carried out by CPWD

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Sr. D/M (E) AE(E)P

Unless otherwise mentioned in the tender specifications, the following works shall be carried out by the department.

(i) Space for accommodating all the equipments and components involved in the work. However, watch and ward shall be responsibility of the contractor.

4.0 Works to be done by the contractor

In addition to supply, installation, testing and commissioning of all the equipments, as per schedule of work, and specifications, the following works shall be deemed to be included within the scope of work to be executed by the contractor.

i) Tools and tackles required for handling and installation of equipments.

ii) Protection required for the equipments from rain, dust storm etc. during transportation i.e. polythene cover and tarpaulin.

iii) Necessary equipments for commissioning/site testing.

5.0 RATES

The rates quoted by the tenderer, shall be firm and inclusive of all taxes including GST, packing, transportation, handling etc. The tendered rates should also include charges for installation, testing, commissioning etc. at site including temporary construction of storage

5.1 The contractor has to carry out maintenance as per manufacturer's standards for a period of 12 months from the date of handing over for which nothing extra shall be paid.

6.0 COMPLETENESS OF TENDER

All sundry equipments, fittings, unit assemblies, accessories, hardware items, foundation, foundation bolts, painting, termination lugs for electrical connections, and all other items which are useful and necessary for efficient assembly and installation of equipment and components of the work shall be deemed to have been included in the tender irrespective of the fact whether such items are specifically mentioned in the tender documents or not.

7.0 STORAGE AND CUSTODY OF MATERIALS

The Store room of Electrical Inquiry may be used for storage of sundry materials and erection equipments or else the agency has to make its own

arrangements. No separate storage accommodation shall be provided by the department. Watch and ward of the stores and their safe custody shall be the responsibility of the contractor till the final taking over of the installation by the department.

8.0 CARE OF THE BUILDING

Care shall be taken by the contractor while handling and installing the various equipments and components of the work to avoid damage to the building. He shall be responsible for repairing all damages and restoring the same to their original finish at his cost. He shall also remove at his cost all unwanted and waste materials arising out of the installation from the site of work.

9.0 COMPLETION PERIOD

The completion period indicated in the tender documents is for the entire work of planning, designing, approval of drawings etc., arrangement of materials & equipments, delivery at site including transportation, installation, testing, commissioning and handing over of the entire system to the satisfaction of the Engineer-in-charge.

10.0 GUARANTEE

10.1 All equipments shall be guaranteed for a period of 12 months, from the date of taking over the installation by the department, against unsatisfactory performance and/or break down due to defective design, workmanship or material. The equipments or components, or any part thereof, so found defective during guarantee period shall be forthwith repaired or replaced free of cost, to the satisfaction of the Engineer-in-Charge. In case it is felt by the department that undue delay is being caused by the contractor in doing this, the same will be got done by the department at the risk and cost of the contractor.

The decision of the Engineer-in-charge in this regard shall be final & building on the contractor.

10.2 The tenderer shall guarantee among other things, the following:

(a) Quality, strength and performance of the materials used as per manufacturers standards.

(b) Safe mechanical and electrical stress on all parts under all specified conditions of operation.

(c) Satisfactory operation during the maintenance period.

11.0 POWER SUPPLY

Power Supply for the purpose of Installation of LT/Feedar Panel shall be arranged by the contractor themselves and nothing shall be paid on this account.

12.0 ACCEPTABLE MAKES OF VARIOUS EQUIPMENTS

The acceptable makes of various equipments/components/accessories have been indicated in the List of Acceptable Makes of equipments/ materials". The tenderer shall work out the cost of the offer on this basis.

13.0 Data Manual And Drawings To Be Furnished By The Tenderer.

13.1 With Tender: The renderer shall furnish along with the tender, detailed technical literature, pamphlets and performance data for appraisal and evaluation of the offer.

13.2 After award of work

The successful tendered would be required to submit the following drawings for approval of the department.

(a) General arrangement drawing of the LT Panels, Feeder Pillars & Meter Boards with complete dimensions.
(b) Single line diagram of LT Panels, Feeder Pillars & Meter Boards.
(c) Schematic drawing of LT including all safety interlocking.
(d) Details of foundations for the equipments and the weights of assembled equipments.
(e) Equipment details proposed to be procured for the execution of the work for the approval of the Engineer-in-charge.
(f) Cables rating & sizes, Layout and routes.
(g) Any other drawings necessary for the job.

The successful tendered should furnish well in advance three copies of detailed instructions and manuals of manufacturers for all items of equipments regarding installation, adjustments, operation and maintenance including preventive maintenance & trouble shooting together with all the relevant data sheets, spare parts catalogue etc. all in triplicate

14.0 The successful tendered should furnish well in advance three copies of detailed instructions and manuals of manufacturers for all items of equipments regarding installation, adjustments, operation and maintenance including preventive maintenance & trouble shooting together with all the relevant data sheets, spare parts catalogue etc. all in triplicate.

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting.....Nil….....

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15.0 EXTENT OF WORK

15.1 The work shall comprise of entire labour including supervision and all materials necessary to make a complete installation and such tests and adjustments and commissioning, as may be required by the department. The term complete installation shall not only mean major items of the plant and equipments covered by specifications but all incidental sundry components necessary for complete execution and satisfactory performance of installation with all layout charts whether or not those have been specifically mentioned in bill of quantity in the tender document. However, major equipment not covered in the scope of the work and required subsequently as an additional feature, not covered in the contract specifications, shall be paid extra. The decision of the engineer-in-charge in the matter shall be final and binding upon the contractor.

15.2 In addition to supply, installation, testing and commissioning of sub-station equipments, following works shall be deemed to be included within the scope of work to be executed by the renderer.

a) Minor works necessary for installation of equipments, foundation, making of opening in walls or in floors and restoring them to their original condition/ finish and necessary grouting etc. as reqd.

16.0 INSPECTION AND TESTING

16.1 All the equipments and fabricated items etc. shall be offered for initial inspection at manufacturer's works. All routine tests conforming to relevant IS shall be carried out in the presence of Engineer-in-Charge or his authorized representative. Contractor will give sufficient notice for the same. The department reserves the right to inspect or not to inspect the equipment at the works of the manufacturer. In the later case confirmation in writing will be issued by the department. The department will bear to &fro expenses of the officer deputed for carrying out inspection. However, nothing extra shall be paid for conducting routine test in the presence of department's representative.

Copies of all manufacturers' routine and type test, certificates of the equipments shall be furnished to the inspecting officer at the time of inspection at the factory.

After completion of work in all respect the contractor shall offer the installation for testing and operation.

17.0 Defect Liability Period:

17.1 All the equipments shall be guaranteed for a period of 12 monthsfrom the date of completion. Any defective materials and equipment shall be replaced free of cost at the direction of Engineer-in-Charge.

18.0 INTERPRETING SPECIFICATIONS

In interpreting the specifications, the following order of decreasing importance shall be followed in case of contradictions:

(a) Schedule of quantities
(b) Technical specifications
(c) Drawing (If any)
(d) General Specifications
(e) Relevant BIS or other international code in case BIS

19.0 COMPLIANCE WITH REGULATIONS AND INDIAN STANDARDS

19.1 All works shall be carried out in accordance with relevant regulation, both statutory and those specified by the Indian Standards related to the works covered by this specification. In particular, the equipment and installation will comply with the following:

(i) Factories Act.
(ii) Indian Electricity Rules.
(iii) B.I.S. & other standards as applicable.
(iv) Workmen's compensation Act.

19.2 Nothing in this specification shall be construed to relieve the successful tenderer of his responsibility for the design, manufacture and installation of the equipment with all accessories in accordance with currently applicable statutory regulations and safety codes.

20.0 INDEMNITY

The successful tenderer shall at all times indemnify the department, consequent on this works contract. The successful tenderer shall be liable, in accordance with the Indian law and regulations for any accident occurring due to any cause and the contractor shall be responsible for any accident or damage incurred or claims arising there from during the period of erection, construction and putting into operation the equipments and ancillary equipment under the supervision of the successful tenderer in so far as the latter is responsible. The successful tenderer shall also provide all insurance including third party insurance as may be necessary to cover the risk. No extra payment would be made to the successful tenderer on account of the above.

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Sr. D/M (E) AE(E)P

21.0 ERECTION TOOLS

No tools and tackles either for unloading or for shifting the equipments for erection purposes would be made available by the department. The successful tenderer shall make his own arrangement for all these facilities.

22.0 COOPERATION WITH OTHER AGENCIES

The successful tenderer shall co-ordinate with other contractors and agencies engaged in the construction of buildings, if any, and exchange freely all technical information so as to make the execution of this work/contract smooth. No remuneration should be claimed from the department for such technical cooperation. If any unreasonable hindrance is caused to other agencies and any completed portion of the work has to be dismantled and re-done for want of cooperation and coordination by the tenderer during the course of work, such expenditure incurred will be recovered from the successful tenderer if the restoration work to the original condition or specification of the dismantled portion of the work was not undertaken by the tenderer himself.

23.0 The work will be carried out with least disturbance during shifting & shut down taken in consultation with the client department.

24.0 MOBILIZATION ADVANCE

No mobilization advance shall be paid to the contractor.

25.0 INSURANCE AND STORAGE

All consignments are to be duly insured up to the destination from warehouse at the cost of the contractor. The insurance covers shall be valid till the equipment is handed over duly installed, tested and commissioned.

26.0 VERIFICATION OF CORRECTNESS OF EQUIPMENT AT DESTINATION

The contractor shall have to produce all the relevant records to certify that the genuine equipments from the manufacturers has been supplied and erected.

27.0 PAINTING

This shall include cost of painting of the entire installation. The major equipments shall be factory final finish painted. The agency shall be required to do only touching to the damages caused to the painting during transportation, handling & installation at site, if there is no major damage to the painting. However, hangers, supports etc. of bus trunking shall be painted with required shade including painting with two coats of anticorrosive primer paint at site.

TECHNICAL SPECIFICATIONS FOR LT PANELS

1.1 LT SWITCHBOARD (PANEL) AND SWITCHGEARS

This section covers the detailed requirements of Low Voltage switchboard for 415 volts, 3 phases, 50 Hz, 4 wire systems.

Standards and Codes
Updated and current Indian Standard Specifications and Codes of Practice will apply to the equipment and the work covered by the scope of this contract.
Low Voltage switchgear Assemblies IEC 61 439-1/2/ IS: 8623
Low Voltage switchgear & control gear IEC 60 947-1/2/IS 13947:1993

Part I	:	General rules
Part II	:	Circuit Breakers
Part III	:	Switches, disconnectors, switch disconnectors and fuse combination units
Part IV	:	Contactors and Motor starters
Part V	:	Control circuit devices and switching elements Degree of Protection of Enclosures for low voltage switchgear. IEC60529 /IS 2147: 1962

1.2 LT PANELS

The scope of this section covers design, manufacture, supply, installation, testing and commissioning of Power Distribution Panels including ACBs, MCCBs, MCBs rated up to 415-430 volts. The panel shall be fabricated i/c all switch as per cpwd specification for electrical work (part-I) and Sub-station work (Part IV) amended to date.

1.2.1. Basic Structure:

a) All electrical panels will be fabricated from 2mm thick CRCA sheet steel for robust construction properly supported with angles and channels.
b) Panels shall be totally enclosed, dust and vermin proof, fully compartmentalized, cubical design modular construction. The covers and doors shall be very well gasket with neoprene rubber gaskets so as to obtain dust proof enclosure.
c) The cubicle will be floor-mounted type unless specified otherwise.
d) The cabinet will be welded construction and not of jointing construction.

e) Door shall be made of 1.6mm/2mm sheet steel, with foamed seal polyurethane gasket, square section under tabular frame with punching in DIN pitch pattern.

1.2.2. Cubical Panel

The cubical panel shall be made out as per CPWD specification and as per relevant Indian Electricity Rules as amended till date.

The firm shall submit the drawing of cubical panel mentioning all the dimensions and schematic diagram along with detail and capacity of each switch gear. The cubical panel shall be fabricated only after approval of drawings from the Engineer-in-charge.

All incoming ACB`s shall have microprocessor-based releases with overload, short circuit, earth fault protections all with adjustable settings and also with adjustable time delays; alongwith adjustable instantaneous short circuit protection; RS485 communication port.

All outgoing and bus coupler MCCB`s of above 250 A capacity shall have microprocessor based releases with overload and short circuit protection with adjustable settings and also with adjustable time delays; along with adjustable instantaneous short circuit protection

Incomers and Bus coupler shall be mechanically inter locked

All metering CT’s and PT’s shall be cast resin type of accuracy class 1.0 Multi-function meter shall be LCD display of accuracy 1.0. All CT's shall be 15VA burden class.

All indicating lights shall be LED type only.

Air Circuit Breakers (ACBs): The ACBs shall comply to IEC 60947 Part I & II and IS 13947 Part I & II and shall be suitable for operation on 415 Volts, 50 Hz 3 Phase system.

Moulded Case Circuit Breaker: The Moulded case circuit breaker (MCCB) shall conform to latest IEC-60 947-2/ IS13947- 2. The circuit breaker shall comply with the isolation function requirement of IEC 60 947-2 section 7.1.2 to marked as suitable for isolation/ disconnection to facilitate safety of operating personnel while the breaker is in use.

Miniature Circuit Breakers (MCB): MCBs shall be hand operated, air break, quick make, quick break type conforming to applicable standards. MCB shall

comply with IS : 8828, 1996/IEC 898. MCB shall have minimum power loss (watts) per pole defined as per IS/IEC and the manufacturer shall publish the values.

Current Transformers: Current transformers shall be in conformity with IS: 2705 (part I,II& III)

Test At Manufactures Work: All routine tests specified in IS: 8623-1977 shall be carried out and test certificates produced to the Department.

The bus-bars will be insulated with heat shrinkable sleeves and properly supported. All live parts shall be shrouded by means of acrylic / steel /FRP sheets to ensure no accidental contact with live parts during maintenance and provide simultaneous inspection. The bus-bar supports will be designed to withstand short circuit current equivalent to 35 MVA at 415 volts. The bus-bars will be adequately insulated and protected to prevent accidental contact during operation and maintenance.

Each Panel shall be provided with an earth bus bar running along the entire length of the board. Material and size of the earth bus bar shall be as per CPWD specifications amended upto date.

1.3 FEEDER PILLARS

1.3.1 Outdoor type Feeder Pillars shall be suitable for 3 phase, 50Hz, 415 volts, A.C. system and shall generally conform to IS 5039. Rating and size of Feeder pillar shall be as per designed load and requirement.

1.3.2 The Feeder pillar shall be provided with degree of protection IP 65 as per IS : 2147.

1.3.3 Each door shall open to minimum 135 degrees. Locking on both the doors with two keys for each lock shall be provided with each pillar.

1.3.4 The enclosure shall be provided with ventilated louver cover with wire mesh, lifting hooks, supporting legs and double earth terminal with double washer.

1.3.5 Moulded case circuit breaker shall be provided for incoming and MCB shall be provided as per IS 8828-1978 for outgoing. Gland plate shall be 3mm thick with suitable number of flanged type brass cable glands of required sizes shall be provided.

1.3.6 All civil work for feeder pillar foundation shall form part of feeder pillar installation work. This shall include excavation, backfilling, brickwork, plastering and providing PVC sleeves. Cost of civil work shall deem to be included in quoted rates.

1.3.7 BUS BAR

i) The bus bars shall be air insulated and made of high conductivity, high strength aluminium alloy complying with the requirement of gradeE-91E of IS : 5082.

ii) Capacity of aluminium bus bars shall be considered as 1.3 Amp per sq.mm of cross section area of the bus bar and also conforming to Table -VI of CPWD specifications for Electrical Works (Part-I).

iii) The main bus bars shall have continuous current rating throughout the length of Feeder Pillars. The cross section of neutral bus bars shall be same as that of phase bus bar for busbars of capacity upto 200Amp; for higher capacity the neutral bus bar shall not be less than half (50%) the cross section of that the phase bus bars.

(iv) Busbars to be colour coded with PVC sleeves.

2.0 LT Switchgears

2.1 MOULDED CASE CIRCUIT BREAKERS (MCCB)

2.1.1 General

The Moulded case circuit Breaker (MCCB) shall confirm to the latest IEC 60947-2 and IEC 60 947-3-1989. MCCB's shall be suitable for rated operation voltage up to 415 VAC & rated insulation voltage up to 690 VAC.

MCCB's in AC circuits shall be of triple pole / four pole construction as per enclosed BOQ. The "ON", "OFF" and "TRIP" positions of the MCCB's shall be clearly indicated and visible to the operator when mounted as in service. Front of door operating handle shall be provided with pad lock and door interlock. Front of door operating handle shall be provided with door interlock defeat mechanism to facilitate inspection of the MCCB during 'ON' position. MCCB shall be suitable for Positive isolation / disconnection according to IEC 60947-1 & 2 for optimum user safety.

The Service short circuit Breaking capacity (Ics at 415 VAC) of all MCCB's shall be as specified in BOQ and shall have (Ics=100% Icu).

All MCCB should have "Class-II" front facia as per IEC 60664.

All circuit breaker below 250 amps rating shall be provided with thermal magnetic

Release& circuit breakers of 250 amps rating and above shall be provided with Microprocessor based release unless otherwise specified.

All MCCBs shall be provided with rotary handles, spreader links and phase barrier on both incoming & outgoing sides for which nothing extra shall be paid.

2.2 Miniature Circuit Breaker (MCB)

Miniature circuit breakers shall be of approved design and make and must be tested and validated as per IS/IEC 60898, IEC/EN 60898 and IEC 60947-2 standards.

MCBs shall be suitable for operation at 230V/415V, 50Hz supply. The MCB ratings shall be available from 1--125A in 1P/2P/3P/4P versions. The rated short circuit capacity acc to IS/IEC 60898 shall be of 10,000A. MCBs shall be offered with B, C or D tripping characteristics as per the BOQ requirements. The MCBs shall be suitable for mounting on a 35mm DIN rail.

MCBs shall carry ISI and CE marking.

MCBs shall ensure complete electrical Isolation of downstream circuit or equipment, when the MCB is switched OFF

3.0 CABLE WORK

The L.T. Power cables shall be XLPE insulated PVC sheathed type aluminium conductor armoured cable conforming to IS : 7098 : 1988 (Part-I) with up-to date amendments whereas control cable shall be XLPE insulated and PVC sheathed copper conductor armoured/ unarmoured cable conforming to IS:7098 (Part-I) 1988.

All the street light Cables shall be laid in 50mm dia. HDPE pipes, as per the direction of Engineer-In-Charge. Cable laying shall be carried out as per CPWD general specifications for electrical works (part-II External)-1994.

Cable tags shall be made out of 2mm thick aluminium sheets, each tag 1-1/2 inch in dia with one hole of 2.5mm dia, 6mm below the periphery. Cable designations are to be punched with letter/number punches and the tags are to be tied inside the panels beyond the glanding as well as below the glands at cable entries. Trays tags are to be tied at all bends. On straight lengths, tags shall be provided at every 15 metres.

Prior to installation, burying of cables, following tests shall be carried out. Insulation test between phases, phase & neutral, phase & earth for each length of cable.

a. Before laying.
b. After laying.
c. After jointing.

Prior to installation, the following tests shall be conducted in the presence of the Engineer-In-Charge.

a. Insulation Resistance Test (Sectional and overall).
b. Continuity Resistance Test.
c. Earth Test.

All tests shall be carried out in accordance with relevant Indian Standard code of practice and Indian Electricity Rules. The Contractor shall provide necessary instruments, equipments and labour for conducting the above tests & shall bear all expenses of conducting such tests.

Note : The cost of safely dismantling existing panel and installation of new panel i/c cable connection are included in the estimate and nothing shall be paid extra on this account to the contractor.

Executive Engineer (E)
CPWD, Jaipur

Addition.....Nil..... Deletion…....Nil…..……. Correction...…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

LIST OF APPROVED MAKES

If any make stated below does not comply with the technical specifications given in the tender then such a make cannot be supplied at this project.

LIST OF PREFERRED MAKES FOR ELECTRICAL WORK

S.No.	Material	Preferred Make
	ELECTRICAL INSTALLATIONS & GENERAL	
1	WIRES AND CABLES a) PVC INSULATED FRLS / HFFR COPPER CONDUCTOR SINGLE CORE CABLE b) 1.1 KV GRADE XLPE POWER CABLE AND CONTROL CABLE c) FIRE SURVIVAL CABLE d) 33KV/11 KV GRADE XLPE POWER CABLE e) COMMUNICATION CABLE f) SUBMERSIBLE CABLE	POLYCAB/ KEI/ HAVELLS/RR KABEL/ FINOLEX / BONTON / AGILON / PLAZA
2	a) MS CONDUIT AND ITS ACCESSORIES b) MS / GI PERFORATED CABLE TRAY	AKG /RMCON/ BEC / NIC
3	PVC CONDUIT AND ITS ACCESSORIES	AKG / BEC / NIC / POLYCAB / RMCON
4	GI RACEWAY	HONEYWELL / OBO BAPTERMAN / LEGRAND / HATHER / SCHNEIDER
5	MODULAR SWITCH & SOCKET	HAVELLS (CRABTREE MURANO) / SCHNEIDER (ZENCELO) / LEGRAND (MYRIUS), HONEYWELL (BLENZE PRO)
6	ANCHOR FASTENER	HILTI/ 3M/ FISCHER
7	CABLE LUGS AND BRASS GLAND	GRIPWEL / DOWELL/ COMET / 3M / REYCHEM / JAINSONS
8	a) CAT–6 UTP b) CAT-6A, UTP c) INFORMATION OUTLET d) UTP PATCH CORD e) FIBRE OPTICS CABLE	PANDUIT/ BELDEN / SYSTIMAX / LEGRAND / AGILON
9	UPVC PIPE / HDPE PIPE/DWC PIPE	REX / Dura plast / Zenduct / Gemini(Triputi)/ Duraline / Keshav Kripa Polyplast (LLP)
10	RACK FOR ALL (EPABX / AUDIO VIDEO / CCTV etc.)	PANDUIT/ APC INDIA / 3C3 / IMPULSE / NEXXUX / BELDEN / VALRACK
11	PAINT, PRIMER	ASIAN PAINT/ NEROLAC / BERGER/ ICI
12	MS PIPE, GI PIPE	SAIL/ TATA/ JINDAL (HISSAR)/SAIL
13	SERVER / DESKTOP	DELL / HP / IBM / LENOVO / PANASONIC
14	WI- FI SYSTEM & NETWORK SWITCHES	CISCO/ JUNIPER/ NEXXUUS / IMPLUSE / BELDEN / EXTREME
15	STRUCTURAL STEEL	TATA/ SAIL/ JINDAL HISSAR / APL-APOLLO
16	WATER SUPPLY, STP, DRAINAGE, SUBMERSIBLE PUMPS	KIRLOSKAR /KSB/ GRUNDFOSS/WILO/ XYLEM/ ARMSTRONG/LUVI
	DG SET	
1	DIESEL ENGINE	CUMMINS / CATERPILLER/PERKINS/ KIRLOSKAR OIL ENGINE LTD. / VOLVO PENTA

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting.....…Nil….....

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2	ALTERNATOR	STAMFORD/ KIRLOSKAR ELECTRIC / CROMPTON / LEROY SOMER
3	PROTECTION RELAYS & CT'S	LAURITZ KNUDSEN / SIEMENS/ SCHNEIDER ELECTRIC
4	BATTERY	EXIDE / AMARON/ AMARAJA
5	DG SET - ACOUSTIC ENCLOSURE & ASSEMBLER	KIRLOSKAR (JACKSON)/ SUDHIR / CUMMINS INDIA
6	AMF CONTROLLER	AS PER OEM
7	POWER/ AUXILLARYCONTACTOR/ CAPACITOR DUTY CONTACTOR / METERS INCLUDING DIGITAL METERS / INDICATING LAMP (LED TYPE) / PUSH BUTTON / STARTERS /OVERLOAD RELAY / TIMER	LAURITZ KNUDSEN/ SIEMENS/ SCHNIEDER ELECTRIC/ ABB / LEGRAND
	SUB-STATION	
1	33KV / 11 KV VCB/HT PANEL	ABB / SCHNEIDER ELECTRIC/ SIEMENS
2	DRY TYPE TRANSFORMER	KIRLOSKAR/ VOLTAMP/ ABB/CROMPTON GREEVES / ESENNAR
3	OIL TYPE TRANSFORMER	CROMPTON / KIRLOSKAR / ABB / ESENNAR
4	ACB	SCHNEIDER ELECTRIC – MASTERPACT NW (6.0A)/ LAURITZ KNUDSEN - U POWER OMEGA (MTX3.5)/ SIEMENS 3WJ ETU / ABB EMAX-2 (PR123)/ C&S (Winmaster 2)/ LEGRAND DMX3 MP 4.10
5	MCCB	SCHNEIDER – COMPACT NSX/ LAURITZ KNUDSEN - D-SINE/C&S(Winbreak 1) / ABB TMAX / LEGRAND DPX3 / SIEMENS 3VJ
6	MCB/ RCCB/ ISOLATOR	SCHNEIDER - ACTI9/ HAGER – NOVELLO+ / SIEMENS BETA GUARD / ABB SB200M / C&S (Win Trip 1) / LAURITZ KNUDSEN – EXORA / LEGRAND – DX3
7	MCB DB	HAGER (NOVELLO+) / SIEMENS (BETAGARD) /SCHNEIDER (ACTI-9)/ C&S (Epitome IK-09 IP-43 /ABB (ITUS) / LAURITZ KNUDSEN – EXORA / LEGRAND – EKINOX3
8	MAIN LT PANEL/ SUB LT PANELS/ CAPACITOR PANEL/ SYNCHRONIZING PANEL WITH ACCESSORIES/ STARTER PANEL/APFC Panel	NEPTUNE/ ADVANCE PANELS & SWITCHGEAR (P) LTD / ADLEC / TRICOLITE/ASPL/ENGINEERS & ENGINEERS / MILESTONE / SPC ELECTOTECH / R.P. CONTROLS/ Pristine
9	BUS DUCT, END FEED UNIT, TAP-OFF BOX (PLUG- IN TYPE)	SCHNEIDER ELECTRIC/ LEGRAND / LAURITZ KNUDSEN/RR
10	AIR INSULATED COMPACT RISING MAINS, END FEED UNIT, TAP-OFF BOX (PLUG-IN TYPE)	SCHNEIDER ELECTRIC/ LEGRAND / LAURITZ KNUDSEN/ C&S / GODREJ
11	HT, LT JOINTING KIT & TERMINATION KIT	REYCHEM / 3M / ABB
12	SOFT STARTERS	SIEMENS/ SCHNEIDER/ ABB / LAURITZ KNUDSEN
13	CT, PT	ADVANCE / KAPPA / AE

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting.....…Nil….....

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14	INDUSTRIAL SOCKET & PLUG	LEGRAND / SIEMENS / HAGER / ABB / SCHNEIDER
15	INDICATION LAMPS (LED TYPE) / PUSH BUTTON	SIEMENS / SCHNEIDER / ABB / LAURITZ KNUDSEN
	UPS	
1	UPS	SCHNEIDER (APC)/ EATON/EMERSON (VERTIV)/ PEGASUS/ ABB / NUMERIC
	LIGHTING, FIXTURES & FANS	
1	BLDC CEILING FAN / EXHAUST FAN / KITCHEN FRESH AIR/ WALL FAN	HAVELLS/ CROMPTON/ USHA /BAJAJ / ALMONARD
2	LED EXIT SIGNAGE	MR. LITE/ PROLITE / GLOLITE / 3M / AUTOGLOW
3	a) LED INDOOR LUMINAIRES b) LED DECORATIVE LIGHT LUMINAIRES c) LED STREET LIGHT d) BOLLARDS & OUTDOOR FITTINGS e) FAÇADE LIGHTING f) ARCHITECTURAL LIGHTING	PHILIPS/ REGENT/ LIGHTING TECHNOLOGY
4	MS DECORATIVE POLE /GI ORNAMENTAL POLE	PHILIPS / BAJAJ / HILITE/ TWINKLE LUXMAX / HAVELLS / LUSTER
5	POLYCARBONATE JUNCTION BOX WITH CONNECTOR	HENSEL / RITTAL/ SCHNIEDER / CAPE / NEPTUNE
6	SENSORS & TIMER FOR LIGHT CONTROL	PHILIPS / HONEYWELL / SCHNEIDER ELECTRIC / HAVELLS
	EPABX	
1	IP-PBX SYSTEM / IP PHONE	CISCO / CORAL / TADIRAN / MATRIX / SIEMENS / NEC
	FIRE ALARM SYSTEM	
1	a) ADDRESSABLE FIRE ALARM CONTROL PANEL b) ADDRESSABLE DETECTORS c) GRAPHIC USER INTERFACE SOFTWARE d) MONITOR & CONTROL MODULE e) RESPONSE INDICATORS f) MANUAL CALL BOXES & HOOTERS g) INPUT /OUTPUT DEVICES	EDWARDS / NOTIFIER (HONEYWELL) / SIEMENS / BOSCH
	PUBLIC ADDRESS SYSTEM	
1	a) PUBLIC ADDRESS SYSTEM CONSOLE AND ALL ACCESSORIES b) P.A. SPEAKERS c) AMPLIFIERS	BOSCH/ BIAMP/ HONEYWELL
	FIRE FIGHTING SYSTEM	
1	a) 2-WAY/4-WAY FIRE BRIGADE CONNECTION b) AIR RELEASE VALVE c) LANDING VALVE d) BRANCH PIPE e) FIRST AID HOSE REEL AND DRUM f) RRL HOSE PIPE g) FIRE MAN AXE	SAFEX/ NEWAGE/ LIFE GUARD / EXFLAME / MINIMAX / SUPEREX
2	DIESEL ENGINE (FIRE-FIGHTING)	CUMMINS/ KIRLOSKAR / CATER PILLER
3	FIRE EXTINGUISHERS	CEASEFIRE/ MINIMAX/ NEWAGE / SAFEX / KANEX
4	FLEXIBLE DROP & FLEXIBLE	LIFE GUARDS / VICTAULIC/ TYCO

Addition.....Nil..... Deletion…...Nil…..……. Correction.....…Nil…..……. Overwriting.....…Nil….....

Sr. D/M (E) AE(E)P

	COUPLINGS	
5	a) INSTALLATION CONTROL VALVE b) DELUGE VALVE SPRINKLER HEADS	TYCO / VICTAULIC / HD / HONEYWELL / NEWAGE / MINIMAX
6	SPRINKLER PANEL, CURTAIN SYSTEM PANEL PRESSURE RELEASE VALVE ZONE CONTROL VALVE (ZCV)	TYCO / HONEYWELL / HD / NEWAGE / EVERSAFE
7	ALL FIRE FIGHTING PUMPS	GRUNDFOSS / WILO / MATHER PLATT / KIRLOSKAR
8	ELECTRICAL MOTOR	ABB/ KIRLOSKAR ELECTRIC CO./ SIEMENS INDIA LTD / CROMPTON
9	THERMAL INSULATION FOR EXHAUST PIPE	UPTWIGA/ LLOYD INSULATION/ OWENS CORNING/ KIMMCO
10	M.S. FITTINGS	VS / DRP / VICTAULIC / UNIK
11	WELDING RODS	ADORE / ESAB/ MARGLAM
12	BUTTERFLY (MANUAL, GEAR OPERATED) VALVES, NON-RETURN VALVES, SLUICE VALVES, Y-TYPE STRAINER FOOT VALVE WITH STRAINER AIR RELEASE VALVE , BALL VALVES	AUDCO / ZOLOTO / SANT / HONEYWELL / ADVANCE / KIRLOSKAR
13	TAMPER SWITCH FOR BUTTERFLY VALVE	HONEYWELL/ POTTER/ RAPID CONTROL/ SYSTEM SENSOR/ PACIFIC FIRE
14	PRESSURE SWITCH FLOW TEST METER	DANFOSS/INDFOS/ VIKING/ DELTA CONTROL
15	PRESSURE GAUGE LIQUID FILLED	FEIBIG/ H. GURU/ EMERALD/ WAAREE
	HVAC	
1	SPLIT TYPE AC	HITACHI/ MITUSBISHI/ O-GENERAL
2	REFRIGERANT PIPING	MANDEV / MEXFLOW / RR SHRAMIK
3	CLOSED CELL NITRILE RUBBER INSULATION/ EPDM INSULATION	ARMAFLEX /AEROCELL / ALP
4	INLINE FANS	SYSTEMAIR/ KRUGER/GREENHECK/ HUMIDIN/ NICOTRAAIR
5	CHILLER	TRAIN/ TROX/ YORK/DAIKEN
6	CHILLER PUMP	ARMSTRONG/ GROUND FOSS/XYLEM
7	AIR HANDLING UNITS/ TREATED FRESH AIR UNITS	SYSTEMAIR/ EDGETECH/ TRANE/ VTS/ BALANCE/ ZECO / WAVES
8	AIR WASHER	SYSTEMAIR/ EDGETECH / TRANE/ VTS/ BALANCE/ ZECOW/ WAVES
9	AIR SEPARATOR	XYLEM/ EMERALD/ ANERGY/ KD AGENCIES
10	COOLING TOWERS (CTI/ CERTIFIED)	ADVANCE/ MARLEY/ PAHARPUR/ BELL
11	GI SHEETS DUCTING ETC	SAIL/ TATA/ JINDAL
12	CO2 SENSOR	SCHNEIDER/ HONEYWELL/ SIEMENS
13	PPR PIPE	JINDAL HISSAR / ASTRAL / FUSION
14	CENTRIFUGAL & AXIAL FANS VANE AXIAL IN-LINE FANS AND THEIR MOTORS	KRUGER/ GREENHECK/ NICOTRA/ WITH MOTOR FROM THEIR APPROVED OEM
15	VIBRATION ISOLATOR RUBBED PAD DUCT SUPPORT ARRANGEMENT	DUNLOP/ RESISTOFLEX/ GERB
16	GRILL DIFFUSER FIRE DAMPERS LOUVERS VOLUME CONTROL DAMPER	SYSTEM AIR/ CARRYAIRE/ COSMOS/ TRISTER / GREENHECK/ BALANCE
17	FLEXIBLE GROOVED FITTINGS,	VICTAULIC/ TYCOGRINNEL/ VIKING

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting.....…Nil….....

Sr. D/M (E) AE(E)P

	COUPLINGS	
18	PRE FABRICATED DUCT DUCT FLANGE (WITH GI SHEETS OF MAKES)	ZECO/ ROLLASTAR/ DUCTOFAB/ WAVES
19	VARIABLE FREQUENCY DRIVE	DANFOSS/ ABB / HONEYWELL/ SIEMENS / SCHNEIDER
20	ALUMINUM TAPE	JOHNSON/BIRLA-3M/NIPPON INDUSTRIES
	SOLAR POWER	
1	POWER CONDITIONING UNIT (PCU)	SMA(GERMANY)/DELTA/SCHNEIDER ELECTRIC/ABB/PANASONIC
2	SOLAR PV PANEL	TATA SOLAR/ WAAREE ENERGY/ADANI SOLAR
3	SOLAR INVERTERS	DELTA / ABB / SMA
	STP	
1	PLANT MANUFACTURER	GRANNUS WATER AND ENVIRONMENTAL SOLUTIONS PVT. LTD./ CIMERA ENGINEERS/ SPECTRUM ENGINEERING TECH PVT. LTD. / ION EXCHANGE / ZETA4/ WATERNEER
2	AIR BLOWER	EVEREST / BETA / ROBUSCHI
3	AIR DIFFUSERS	REHAU / SSI AERATION / MM AQUA
4	RAW SEWERAGE TRANSFER PUMP / SLUDGE RECYCLE PUMP / FILTER FEED PUMP / NON CLOG HORIZONTAL CENTRIFUGAL PUMP/ DE WATERING PUMP / DOSING PUMP/ SBR FEED PUMP/ FILTER FEED PUMP/ SLUDGE PUMP/ CHLORINE DOSING PUMP	ARMSTRONG / XYLEM / GRUNDFOS/ / WILO
5	FILTER PRESS	SACHINFILTECH / PHARMATECH / HITECH
6	TUBE SETTLER MEDIA /MBBR MEDIA	WELBRICK / PHARMATECH / MM AQUA
7	M.S. FILTER	WELBRICK / ION EXCHANGE / ASTHA / THERMAX / ZETA4
8	OZONATOR	CREATIVE/ OZONICS/ ORAPL / CHEMTRONICS / FARADAY
9	NON CLOGG HORIZONTAL SCREW TYPE FILTER PRESS PUMP	ROTO/ POSITIVE/ ROTAMAC/ TUSHACO
10	CENTRIFUGE	APOLLO/ WELBRICK/ GWSPL/ PHARMATECH / GEA
11	PRESSURE GAUGE	H GURU / FEIBIG / GLUCK / BAUMER
12	BUTTERFLY / DUAL PLATE CHECK VALVES	AUDCO / ZOLOTO / ADVANCE / CASTLE / SANT
13	PLC	DELTA/ SIEMENS/ SCHNEIDER
	AUDIO-VIDEO	
1	LED VIDEO WALL / LED DISPLAY	SAMSUNG/LG/ PANASONIC / SONY
2	PROJECTOR	CHRISTIE / BARCO / NEC
3	WIRELESS AND WIRED MICROPHONE BOUNDARY MICROPHONE GOOSNECK MICEOPHONE WIRELESS CHARGER FOR WIRELESS GOOSNECK MICEOPHONE ANTENNA & SPLITTER/ COMBINER	SHURE / SENNHEISER / AUDIO TECHNICA

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting.....…Nil….....

Sr. D/M (E) AE(E)P

4	DIGITAL PODIUM	AHA/ UNI/ BRONX
5	NETWORK VIDEO ENDPOINT	QSC/KRAMER/EXTRON/ LIGHTWARE/ CRESTRON/ LUMENS
6	FULL RANGE CEILING SPEAKERS 2 WAY SPEAKER – TYPE 1 & 2 SUBWOOFER SURROUND SPEAKER PASSIVE COLUMN ARRAY LOUDSPEAKER – TYPE 1 & 2	QSC/ BOSE / TW AUDIO
7	AMPLIFIER	QSC/ LAB GRUPPEN / POWER SOFT
8	DIGITAL SIGNAL PROCESSOR	QSC/ BOSE / SYMETRIX
9	DIGITAL IP BASED CHAIRMAN UNIT DIGITAL IP BASED DELEGATE UNIT WIRELESS DELEGATE UNIT WIRELESS CHAIRMAN UNIT WIRELESS CONFERENCE CONTROLLER	SENNHEISER/ SHURE / TELVIC
10	MATRIX SWITCHER, DISTRIBUTION AMPLIFER, TRANSMITTER & RECEIVER	LIGHTWARE/ EXTRON/ CRESTRON
11	TABLE MOUNT ENCLOSURE	KRAMER/CRESTRON/ LOGIC
12	PTZ CAMERAS	SONY/ LUMENS/ QSC/ PANASONIC
13	RECORDER & STREAMING SYSTEM	LUMENS/ MEDIA POINTE/ PANASONIC/ SONY
14	CONTROL TOUCH PANEL AND CONTROL SYSTEM	CRESTRON/QSC/EXTRON
15	SPEAKER & MICROPHONE CABLE	KRAMER / BELDONE / KRYSTAL
16	HDMI CABLE ACTIVE USB CABLE	CRESTRON/ EXTRON/ LIGHTWARE
17	VIDEO CONFERENCE SYSTEM	CISCO/ POLYCOM/ CRESTRON
	CCTV	
1	PTZ, BULLET, DOOM CCTV CAMERA, NVR	STQC CERTIFIED
	BOOM BARRIER	
1	BOOM BARRIER	DESIGNA / NEPTUNE / GODREJ
	FIRE SUPPRESSION SYSTEM	
1	FIRE SUPPRESSION SYSTEM	SVS BUILDWELL / SAFEX / LIFEGUARD
	WTP	
1	WTP	ZETA4 / WATERNEER / ION EXCHANGE

Note:

1. If approved make/brand of any material is not given in the list, the same will be approved by the NIT approving authority.
2. The contactor shall submitted samples & technical submittals of all material before procurement for approval & shall procure after approval directly from manufacturer and the Authorized dealers only.
3. Material not specified in attached list of acceptable makes shall be got approved from Engineer-in-charge & consultant before use on work. Decision of Engineer-in-charge & Consultant shall be final in this respect.
4. Either the model shall be got approved or Sample shall be submitted for approval by Engineer in Charge before confirming order to supplier.

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting.....…Nil….....

Sr. D/M (E) AE(E)P

5. Contractor shall normally not use more than two (except for Equipment's: Lifts, DG Set, Transformer, HVAC Equipment's, UPS, where only One make is allowed) out of the above preferred makes.

6. All items shall confirm to e-waste management and handling rules 2011issued by Min. of Environment and Forest, Government of India or ROHS (restrictions on use of Hazardous substances) / WEEE compliant as per EU norms or American norms. Certificate shall be submitted wherever applicable.

7. The material shall not be older by more than Six months from date of supply at site.

8. Proof of dispatch from factory/dealer shall always be submitted to Engineer-in- charge for verification.

Executive Engineer (E)
CPWD, Jaipur

Addition.....Nil..... Deletion…....Nil…..……. Correction.....…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

SCHEDULE OF WORK
(ELECTRICAL)

Addition.....Nil..... Deletion…....Nil…..……. Correction...…Nil…..……. Overwriting..….Nil….....

Sr. D/M (E) AE(E)P

SCHEDULE OF WORK

Name of Work:- Upgradation of MV Panels of 11/0.4 kV Substations at CISF, MPRTC, Behror, Dist. Kotputli-Behror (Raj.)

S. No.	Description of Item	Qty.		Rate	Unit	Amount
	(Panel: 01)					
1	Supplying, installation, testing and commissioning of Indoor, Floor mounted modular, sectionalised, compartmentalized, MV cubicle panel board of suitable size & depth fabricated from CRCA sheet steel of 2 mm thick for frame work, enclosure and doors, 3 mm thick for gland plates with stiffeners wherever required i/c mounting base frame consisting of MS C-Channel of size 75x40 mm, chemically treated sheet before painting for surface treatment and powder coated, with 4 nos. electrolytic grade high conductivity Aluminium busbar extensible type, DMC/SMC busbar supports, suitable for 3 phase 415V, 50Hz, AC supply i/c all connection and interconnections in panel board i/c providing and fixing the following switchgear mounted thereon complete with connections & testing etc. as required.					
	(I) BUS BARS					
	4 strip aluminium bus bars of minimum of 2500 Amps, 50 KA for 1 Sec. capacity with heat shrinkable coloured sleeves and including DMC/SMC bus bars supports at required intervals complete for cross section, size supports at their spacing etc. for with standing fault level of 25 MVA for 1 Sec. The size of bus bar shall be provided considering the current density of aluminium bus bar 0.8 Amp. /Sqmm.					

Addition.....Nil..... Deletion…...Nil…..……. Correction...…Nil…..……. Overwriting..….Nil….....

Sr. D/M (E) AE(E)P

	(II) INCOMING					
	2000A, 4P, 50kA, 440 V, 50 Hz EDO type ACB conforming to IS/IEC 60947 P - 2:2003 and having adjustable over load short-circuit, Instantaneous, earth fault (LSIG) with separate LED indication for each type of fault shall confirm to EMI/ EMC test, LCD/LED display, last 10 trip history, provision of ZSI, Communication, Power metering module, Thermal memory, trip free mechanism, suitable for ambient 50 degree and utilization category B. In built electrical & mechanical anti pumping feature, 100% rated neutral. ACB shall have separate indication for service, test, isolation & maintenance position, Breaking capacity Icu = Ics = Icw (1 sec), Uimp - 12 KV, break time not more then 25 ms. Provision for electrical & mechanical interlock between ACBs, Min. electrical operation 10000 upto 2000 A rating and 5,000 for 2500 A to 4000 A. including making connections, testing etc. as required = 2 Nos.					
	(III) BUS COUPLER					
	2000A, 4P, 50kA, 440 V, 50 Hz EDO type ACB conforming to IS/IEC 60947 P - 2:2003 and having adjustable over load short-circuit, Instantaneous, earth fault (LSIG) with separate LED indication for each type of fault shall confirm to EMI/ EMC test, LCD/LED display, last 10 trip history, provision of ZSI, Communication, Power metering module, Thermal memory, trip free mechanism, suitable for ambient 50 degree and utilization catagary B. In built electrical & mechanical anti pumping feature, 100% rated neutral. ACB shall have separate indication for service, test, isolation & maintenance position, Breaking capacity Icu = Ics = Icw (1 sec), Uimp - 12 KV, break time not more then 25 ms.					

Addition.....Nil..... Deletion…...Nil…..……. Correction...…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

	Provision for electrical & mechanical interlock between ACBs, Min. electrical operation 10000 upto 2000 A rating and 5,000 for 2500 A to 4000 A. including making connections, testing etc. as required = 1 No.					
	(IV) OUTGOING-I					
	(a) 630 Amps FP MCCB 36KA having Microprocessor release adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 2 Nos. (b) 315A, FP MCCB 36KA having Microprocessor release adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 1 No. (c) 250A, FP MCCB, 36KA having Microprocessor release adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 4 Nos. (d) 200A, FP MCCB, 36KA having Microprocessor release adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 2 Nos. (e) 160A, FP MCCB, 36KA having Microprocessor release adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 1 No.					

Addition.....Nil..... Deletion…...Nil…..……. Correction...…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

	(V) OUTGOING-II					
	(a) 400 Amps FP MCCB 36KA having Microprocessor release adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 2 Nos. (b) 250A, FP MCCB 36KA having Microprocessor release adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 5 Nos. (c) 200A, FP MCCB, 36KA having Microprocessor release adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 3 Nos.					
	Note: 1. All the MCCB's shall be Ics = 100% Icu. 2. All the MCCB's shall have O/L+S/C (only for Microprocessor base release) 3. All MCCBs shall be connected through solid bus bar connection of suitable rating.	1	No.	4576937.00	Each	4576937.00
	(Panel: 02)					
2	Supplying, installation, testing and commissioning of Indoor, Floor mounted modular, sectionalised, compartmentalized, MV cubicle panel of suitable size & depth fabricated from CRCA sheet steel of 2 mm thick for frame work, enclosure and doors, 3 mm thick for gland plates with stiffeners wherever required i/c mounting base frame consisting of MS C-Channel of size 75x40 mm, chemically treated sheet before painting for surface treatment and powder coated, with 4 nos. electrolytic grade					

Addition.....Nil..... Deletion…...Nil…..……. Correction...…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

	high conductivity Aluminium busbar extensible type, DMC/SMC busbar supports, suitable for 3 phase 415V, 50Hz, AC supply i/c all connection and interconnections in panel board i/c providing and fixing the following switchgear mounted thereon complete with connections & testing etc. as required.					
	(I) BUS BARS					
	4 strip aluminium bus bars of minimum of 2500 Amps, 50 KA for 1 Sec. capacity with heat shrinkable coloured sleeves and including DMC/SMC bus bars supports at required intervals complete for cross section, size supports at their spacing etc. for with standing fault level of 25 MVA for 1 Sec. The size of bus bar shall be provided considering the current density of aluminium bus bar 0.8 Amp. /Sqmm.					
	(II) INCOMING					
	2000A, 4P, 50kA, 440 V, 50 Hz EDO type ACB conforming to IS/IEC 60947 P - 2:2003 and having adjustable over load short-circuit, Instantaneous, earth fault (LSIG) with separate LED indication for each type of fault shall confirm to EMI/ EMC test, LCD/LED display, last 10 trip history, provision of ZSI, Communication, Power metering module, Thermal memory, trip free mechanism, suitable for ambient 50 degree and utilization category B. In built electrical & mechanical anti pumping feature, 100% rated neutral. ACB shall have separate indication for service, test, isolation & maintenance position, Breaking capacity Icu = Ics = Icw (1 sec), Uimp - 12 KV, break time not more then 25 ms. Provision for electrical & mechanical interlock between ACBs, Min. electrical operation 10000 upto 2000 A rating and 5,000 for 2500 A to					

	4000 A. including making connections, testing etc. as required = 2 Nos.					
	(III) BUS COUPLER					
	2000A, 4P, 50kA, 440 V, 50 Hz EDO type ACB conforming to IS/IEC 60947 P - 2:2003 and having adjustable over load short-circuit, Instantaneous, earth fault (LSIG) with separate LED indication for each type of fault shall confirm to EMI/ EMC test, LCD/LED display, last 10 trip history, provision of ZSI, Communication, Power metering module, Thermal memory, trip free mechanism, suitable for ambient 50 degree and utilization category B. In built electrical & mechanical anti pumping feature, 100% rated neutral. ACB shall have separate indication for service, test, isolation & maintenance position, Breaking capacity Icu = Ics = Icw (1 sec), Uimp - 12 KV, break time not more then 25 ms. Provision for electrical & mechanical interlock between ACBs, Min. electrical operation 10000 upto 2000 A rating and 5,000 for 2500 A to 4000 A. including making connections, testing etc. as required = 1 No.					
	(IV) OUTGOING-I					

Addition.....Nil..... Deletion…...Nil…..……. Correction...…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

	(a) 630 Amps FP MCCB 36KA having Microprocessor release having adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 2 Nos. (b) 400A, FP MCCB 36KA having Microprocessor release adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 1 No. (c) 250A, FP MCCB, 36KA having Microprocessor release adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 4 Nos. (d) 200A, FP MCCB, 36KA having Microprocessor release adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 1 No. (e) 160A, FP MCCB, 36KA having Microprocessor release adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 2 Nos.					
	(V) OUTGOING-II					

Addition.....Nil..... Deletion…...Nil…..……. Correction...…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

	(a) 630 Amps FP MCCB 36KA having Microprocessor release adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 2 Nos. (b) 400A, FP MCCB 36KA having Microprocessor release adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 1 No. (c) 250A, FP MCCB, 36KA having Microprocessor release adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 4 Nos. (d) 200A, FP MCCB, 36KA having Microprocessor release adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 1 No. (e) 160A, FP MCCB, 36KA having Microprocessor release adjustable O/L and S/C protection, extendable rotary handle and Spreader links, neutral link, Aux. trip contact block, LED indication lamp for R,Y,B with 2A protection SPMCBs = 2 Nos.					
	Note:1. All the MCCB's shall be Ics = 100% Icu. 2. All the MCCB's shall have O/L+S/C (only for Microprocessor base release)3. All MCCBs shall be connected through solid bus bar connection of suitable rating.	1	No.	4592557.00	Each	4592557.00

Addition.....Nil..... Deletion…...Nil…..……. Correction...…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P

3	Credit cost of old Panels complete with dismantling etc. as required.					
3.1	Non-essential Panel	2	Jobs	-100000.00	Each	-200000.00
					Total	8969494.00

Executive Engineer (E)
CPWD, Jaipur

Addition.....Nil..... Deletion…...Nil…..……. Correction...…Nil…..……. Overwriting..…Nil….....

Sr. D/M (E) AE(E)P