INDIAN INSTITUTE OF TECHNOLOGY DELHI

HAUZ KHAS, NEW DELHI - 110016

NOTICE INVITING TENDER

NAME OF WORK	:	**Design, Supply, Installation, Testing and Commissioning of PLC automation for 4 x 2000 KVA HT DG set and HT distribution panels at Main and Bharti Substations, IIT Delhi.**
ESTIMATED COST	:	**Rs. 86,94,664.00**
EMD	:	**Rs. 1,73,893.00**
N.I.T. No.	:	**0600/43/IITD/EW/EE(ED-1)/2024-25**
Date of Opening	:	**15.11.2024**

Name of work: Design, Supply, Installation, Testing and Commissioning of PLC automation for 4 x 2000 KVA HT DG set and HT distribution panels at Main and Bharti Substations, IIT Delhi.

NIT for the above work has been prepared with the following:

1	Amount of NIT	:	Rs.86,94,664.00
2	Earnest money	:	Rs.1,73,893.00
3	Completion time	:	6 Months
4	Last date of submission (on line)	:	14.11.2024 upto 15:00 Hrs.
5	Date of opening	:	15.11.2024 at 15:00 Hrs.
6	Form of NIT	:	IITD – 8
7	Schedule applicable	:	Market Rate, DSR-2022
8	Material stipulated	:	As per Schedule of Work
9	Chargeable head	:	Renovation (Research Facility And Housing)/ 35.01.02(IOE)
10	Estimate no.	:	IITD/DB/0600
11	Work code no.	:	2021/006/0600
12	NIT No.	:	0600/43/IITD/EW/EE(ED-1)/2024-25
13	Type of work	:	Works of upgradation/ Maintenance.

Certified that this NIT contains 1 to 56 pages.

NIT amounting to Rs. 86,94,664.00 is approved.

D/Man (Planning Unit) JE [E]S/Stn. Executive Engineer (ED-1)

Institute Engineer

C … Nil I ….. Nil O …… Nil

D'Man AEE / AE / JE EE(ED-1)

INDIAN INSTITUTE OF TECHNOLOGY DELHI

HAUZ KHAS, NEW DELHI – 110016

NOTICE INVITING E-TENDER

IITD/WORKS (SP-4793)/2024

Executive Engineer (ED-1), Indian Institute of Technology Delhi, Hauz Khas, New Delhi – 110016, Ph. No. 011-2654 8437 on behalf of Board of Governors invites online Item Rate Tender from enlisted contractors of appropriate class from CPWD, MES, BSNL, Railways and specialized agency having authorization from OEM for Providing and fixing of DG sets and its automation:

1	Name of work	**:**	**Design, Supply, Installation, Testing and Commissioning of PLC automation for 4 x 2000 KVA HT DG set and HT distribution panels at Main and Bharti Substations, IIT Delhi.**
2	NIT No.	**:**	**0600/43/IITD/EW/EE(ED-1)/2024-25**
3	Estimated Cost (Rs.)	**:**	**86,94,664.00**
4	Earnest Money Deposit (Rs.)	**:**	**1,73,893.00**
5	Security Deposit	**:**	**2.5% of Tendered Value**
6	Period of completion	**:**	**6 Months**
7	Last date & time of bid submission	**:**	**Upto 3 PM of 14.11.2024**
8	Performance Bank Guarantee	**:**	**5 percent of the tendered amount**

The bid forms and other details may be downloaded from Central Public Procurement Portal (http://eprocure.gov.in/eprocure/app). Aspiring bidders who have not enrolled / registered in e-procurement should enrol / register themselves before participating through web site http://eprocure.gov.in/eprocure/app. The portal enrolment is free of cost. Bidders are advised to go through instructions provided at "Instructions for online bid submission."

Bidders can access quotation / tender documents on the website (for searching in the NIC site), kindly go to quotation search option and type 'IIT'. Thereafter, click on "GO" button to view all IIT quotations. Select the appropriate quotation / tender and fill them with all relevant information and submit the completed Quotation / Tender document online on the website http://eprocure.gov.in/eprocure/app as per the schedule given in the next page.

No manual bids will be accepted. All bids (both Technical & Financial) should be submitted in the e-procurement portal.

Executive Engineer (ED-1)
For & on behalf of BOG, IIT Delhi

C … Nil I ….. Nil O …… Nil

D'Man AEE / AE / JE EE(ED-1)

Ch. Head : Renovation (Research Facility And Housing)/ 35.01.02(IOE)
Work Code : 2021/006/0600

Copy to:-
1. Junior Engineer
2. D.A. (Works Accounts)
3. D.R. (A/C)
4. A.R. (Store Purchase Section)
5. Notice Board
6. Website Administrator, IIT Delhi
7. Office copy

INDEX

C … Nil I ….. Nil O …… Nil

D'Man AEE / AE / JE EE(ED-1)

SCHEDULE

1	Name of organisation	**:**	Indian Institute of Technology Delhi
2	Tender / Quotation type (open / limited / EOI / auction / single)	:	Open
3	Tender / Quotation category (services / goods / works)	**:**	Goods & Works
4	Type of Contract (work / supply / auction / service / buy / empanelment / sell)	**:**	Work
5	Form of contract (IITD – 7/8)	**:**	IITD – 8
6	Work Category (civil / electrical / fleet management / computer systems)	**:**	Electrical
7	Is multi-currency allowed?	**:**	No
8	Date of publishing / issue / start	**:**	07.11.2024 at 15.00 Hrs.
9	Document download start date	**:**	07.11.2024 at 15.00 Hrs.
10	Document download end date	**:**	14.11.2024 at 15.00 Hrs.
11	Date & time of pre-bid meeting	**:**	No pre-bid meeting be held
12	Venue of pre-bid meeting	**:**	Not applicable
13	Last date & time of uploading of bids	**:**	14.11.2024 at 15.00 Hrs.
14	Date & time of opening of Technical bids	**:**	15.11.2024 at 15.00 Hrs.
15	Tender fee	**:**	**NIL**
16	Earnest Money Deposit (EMD) Rs.	**:**	**1,73,893.00**
17	Mode of payment of EMD & Tender Fee	**:**	Can be paid through RTGS/NEFT. IIT Delhi Bank details are as under: Name of the Bank A/C : IITD Revenue Account SBI A/C No. 10773572622 Name of the Bank : State Bank of India, IIT Delhi, Hauz Khas, New Delhi-110016 IFSC Code : SBIN0001077 MICR Code 110002156 Swift No. : SBININBB547 (This is mandatory that UTR Number is provided in the on-line quotation/bid. (Kindly refer to the UTR Column of the Declaration Sheet at Annexure-II) **OR** Demand Draft favouring **Registrar, IIT Delhi** Payable at SBI, IIT Delhi Branch. **Scanned copy of DD needs to be uploaded alongwith the Technical Bid.** Original DD shall have to be submitted to the tender inviting authority by the bidder as and when required after opening

C … Nil I ….. Nil O …… Nil

D'Man AEE / AE / JE EE(ED-1)

			of bid.
17	Bid without EMD / Non-submission of original DD	**:**	To be considered as UNRESPONSIVE and bid shall summarily be rejected
18	No. of bids / covers (1 / 2 / 3 / 4)	**:**	**2**
19	Bid Validity days (180/120/90/60/30)	**:**	90 days (From last date of Submission of bid)
20	Address for communication	**:**	Executive Engineer (Electrical), Works Department, MZ-136, Main Building, IIT Delhi, Hauz Khas, New Delhi – 110016
21	Contact No.	**:**	011-26548437 / 011-26591463
22	e-mail address for communication	**:**	aashish@admin.iitd.ac.in

INSTRUCTIONS FOR ONLINE BID SUBMISSION

As per the directives of Department of Expenditure, this quotation / tender document has been published on the Central Public Procurement Portal (URL: http://eprocure.gov.in/eprocure/app). The bidders are required to submit softcopies of their bids electronically on the CPP portal, using valid Digital Signature Certificates (DSC). The instructions given below are meant to assist the bidders in registering on the CPP portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP portal.

More information useful for submitting online bids on the CPP portal may be obtained at http://eprocure.gov.in/eprocure/app

REGISTRATION

1. Bidders are required to enrol on the e-procurement module of the Central Public Procurement portal (URL: http://eprocure.gov.in/eprocure/app) by clicking on the link, “click here to enrol”. Enrolment on the CPP portal is free of charge.
2. As part of the enrolment process, the bidders will be required to choose a unique user name and assign a password for their accounts.
3. Bidders are advised to register their valid e-mail address and mobile number as part of the registration process. These would be used for any communication from the CPP Portal.
4. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (class 2 or class 3 certificates with signing key usage) issued by any certifying authority recognised by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.) with their profile.
5. Only one valid DSC should be registered by a bidder. Please note that bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse.
6. Bidder then logs into the site through the secured log-in by entering their user ID / password and the password of the DSC / eToken.

SEARCHING FOR TENDER DOCUMENTS

1. There are various search options built in the CPP portal to facilitate bidders to search active tenders by several parameters. These parameters could include tender ID, organisation name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a

number of search parameters such as organisation name, form of contract, location, date, other keywords etc. to search for a tender published on the CPP portal.

2. Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. The tenders can be moved to the respective "My Tenders" folder. This would enable the CPP portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
3. The bidder should make a note of the unique Tender ID assigned to each other, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS

1. Bidder should take into account any corrigendum published on the tender document before submitting their bids.
2. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bids. Please note the number of covers in which the bid documents have to be submitted. Any deviations from these may lead to rejection of the bids.
3. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF formats. Bid documents may be scanned with 100 dpi with black & white option.
4. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor's certificates, etc.) has been provided to the bidders. Bidders can use "My Space" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

SUBMISSION OF BIDS

1. Bidder should log into the site well in advance for bid submission so that h e / she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
2. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
3. Bidder has to select the payment option as "on-line" to pay the tender fee / EMD as applicable and enter details of the instrument. Whenever, EMD / Tender fees is sought, bidders need to pay the tender fee and EMD separately on-line through RTGS (Refer to Schedule, Page no. 3)

4. A standard BOQ Format has been provided with the tender document to be filled by all the bidders. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. Bidders are required to download the BOQ file, open it and complete the white coloured [unprotected] cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it online, without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected.

   OR

   In some cases financial bids can be submitted in PDF format as well (in lieu of BOQ).

5. The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
6. All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorised persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done.
7. The uploaded tender documents become readable only after the tender opening by the authorised bid openers.
8. Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
9. Kindly add scanned PDF of all relevant documents in a single PDF file of compliance sheet.

ASSISTANCE TO BIDDERS

1. Any queries relating to tender document and the terms and conditions contained therein should be addressed to the tender inviting authority for a tender or the relevant contact person indicated in the tender.
2. Any queries relating to the process of online bid submission or queries relating to CPP portal in general may be directed to the 24 x 7 CPP Portal Help Desk. The contact number of the helpdesk is 18002337315.

GENERAL INSTRUCTIONS TO THE BIDDERS

1. The tenders will be received online through portal https://eprocure.gov.in/eprocure/app. In the technical bids, the bidders are required to upload all the documents in PDF format.
2. Possession of a valid class II / III Digital Signature Certificate (DSC) in the form of smart card / e-token in the company's name is a prerequisite for registration and participating in the bid submission activities through https://eprocure.gov.in/eprocure/app. Digital Signature Certificates can be obtained from the authorised certifying agencies, details of which are available in the website https://eprocure.gov.in/eprocure/app under the link "Information about DSC".
3. Tenderers are advised to follow the instructions provided in the "Instructions to the tenderer" for the e-submission of the bids online through the Central Public Procurement Portal for e-procurement at https://eprocure.gov.in/eprocure/app.

INFORMATION & INSTRUCTION TO BIDDERS FOR E-TENDERING

Executive Engineer (ED-1), Indian Institute of Technology Delhi, Hauz Khas, New Delhi – 110016, Ph. No. 011-2654 8437 on behalf of Board of Governors invites online **Item Rate** Tender from enlisted contractors of appropriate class from CPWD, MES, BSNL, Railways and specialized agency having authorization from OEM for Providing and fixing of DG sets and its automation.

Sr. No.	NIT No.	Name of Work & Location	Estimated cost put to bid (Rs.)	Earnest money (Rs.)	Tender Fee (Rs.)	Period of completion	Last date & time of submission of bid	Time & date of opening of Technical Bid	Time & date of opening of Financial Bid
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	0600/43/IITD/EW/EE(ED1) /2024-25	**Design, Supply, Installation, Testing and Commissioning of PLC automation for 4 x 2000 KVA HT DG set and HT distribution panels at Main and Bharti Substations, IIT Delhi..**	86,94,664.00	1,73,893.00	NIL	6 Months	Upto 3 PM of 14.11.2024	15.11.2024at 15 PM	To be decided after assessing Technical Bids

1. The successful bidder shall be required to submit a performance guarantee of 5% of the tendered amount in the form of Bank Guarantee or F.D.R. from a Nationalized / Scheduled Bank within fifteen days of issue of letter of intent before award of work. In case of failure by the Contractor to submit the performance guarantee within the specified period, full earnest money will be forfeited by the Institute and the tender shall be treated as null and void. EMD shall be refunded after submission of PBG. **The performance guarantee shall be initially valid up to the stipulated date of completion (i.e. 60 days) plus sixty days beyond that.**

2. Contractors who fulfil the following requirements shall be eligible to apply. Joint ventures are not accepted.

a. Should have satisfactorily completed the works as mentioned below during the last Seven years ending **previous day of last date of submission of bids.**

i. **Three** similar works each costing not less than **Rs.34,78,000.00**, or **two** similar works each costing not less than **Rs.52,17,000.00**, or one similar work costing not less than **Rs.69,56,000.00** (all figures rounded to nearest thousand)

C … Nil I ….. Nil O …… Nil

D'Man AEE / AE / JE EE(ED-1)

3. **Earnest money (**EMD) shall have to be deposited / submitted as stipulated in the schedule.

4. The value of executed work shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum; calculated from the date of completion to last date of submission of financial bid.

5. **Similar work means providing and fixing of DG sets and its automation.**

6. **Work means** work done with some Central Government Department / State Government Department / Central Autonomous Body / *State Autonomous Body* / Central Public Sector Undertaking / *State Public Sector Undertakin*g / *City Development Authority / Municipa*l *Corporation of City formed under any Act by Central / State Government and published in Central / State Gazette*.

7. Completion certificates are required to be got issued by an officer not below the rank of Executive Engineer of similar works completed by the Firm. The work experience certificates submitted by the bidders shall clearly indicate that:

   a. The similar work executed shall be **as per '5' above**

   b. The completed cost of the work

   c. Actual date of completion of the work

8. IITD is committed to follow the principle of transparency, equity and competitiveness in public procurement. Before submission of bid, **each bidder should sign integrity pact at respective places** and submit the bid. **If duly signed integrity pact is not submitted by bidder, such bid shall not be considered.**

9. **The intending bidder must read the terms and conditions [both commercial & Additional] & IITD - 6 carefully** which will be the part of the Contract. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.

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

11. 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 can be seen and downloaded from website e-procure.gov.in free of cost.

12. But the bid can only be submitted after submission of EMD as prescribed in the schedule.

13. Copy of all mandatory documents as desired in the NIT shall be scanned and up-loaded to the e-Tendering website within the period of bid submission. However, certified / original copy of all the scanned and up-loaded documents shall have to be submitted by the lowest bidder only within a week physically in the office of e-tendering authority. During scrutiny of technical bids, if required, bidders may be asked to submit original documents for cross checking.

14. Online bid documents submitted by intending bidders shall be opened only of those bidders, who has submitted prescribed EMD and other documents scanned and uploaded are found in order.

15. Those contractors not registered on the website mentioned above, are required to get registered beforehand. Bidders should refer “Instruction for Online Bid Submission” given earlier for further assistance.

16. When bids are invited in two / three stages systems and if it is desired to submit revised financial bid it shall be mandatory to submit revised financial bid. If not submitted then the bid submitted earlier shall become invalid.

17. The department reserves the right to reject any prospective application without assigning any reason and to restrict the list of qualified contractors to any number deemed suitable by it, if too many bids are received satisfying the laid down criterion.

18. Contractors must ensure to quote rate of each item.

19. The bid submitted shall become invalid if:

a. The bidder is found ineligible.

b. The bidder does not upload all the documents (including GSTIN registration) as stipulated in the bid document including the undertaking / declaration if any.

c. EMD not deposited as specified

d. Not registered with EPFO & ESIC

C … Nil I ….. Nil O …… Nil

D’Man AEE / AE / JE EE(ED-1)

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

1. Annexure – 1 duly filled in and got signed.
2. Annexure – 2 duly complied and got signed.
3. Annexure – 3 duly complied and got signed.
4. Proof of EMD deposit / Scanned copy of DD submission (favouring 'Registrar, IIT Delhi')

   The following undertaking on firm's letter head shall be uploaded by the bidder I scanned copy of DD/FDR is uploaded by the bidder: "The exact physical EMD (as uploaded) shall be deposited by me / us with the authority inviting tender, in case I/we become the lowest tenderer, within a week of the opening of financial bid, otherwise, IITD may reject the tender and also take actions to debar me/ us from tendering in any form in IIT Delhi".
5. In case of Authorized Agency Bid specific, Tender Specific Authorization Certificate by the OEM on the Letter Head of OEM, to be uploaded during the online submission of Bid (Not required for OEM).
6. Certificate of work experience as desired (vide clause 5 above)
7. Certificate of GST Registration of the State in which the work is to be taken up, if already obtained by the bidder. If the bidder has not obtained GST registration in the State in which the work is to be taken up, or as required by GST authorities then in such a case the bidder shall scan and upload following undertaking along with other bid documents.

   "if work is awarded to me, I/we shall obtain GST registration certificate of the State, in which work is to be taken up within one month from the date of receipt of award letter or before release of any payment by IIT Delhi, whichever is earlier, failing which I/we shall be responsible for any delay in payments which will be due towards me/us on a/c of the work executed and/or for any action taken by IIT Delhi or GST department in this regard."
8. Affidavit as per provision of the clause 1.2.2 of IITD-6 [To be submitted on stamp paper and date of affidavit and purchase of stamp paper shall not be earlier than the publication of NIT. NIT number, name of work shall invariably be written on the **1st page** of the Affidavit.]
9. Acceptance to execute INTEGRITY PACT [see integrity pact]
10. IITD 7 / 8 duly signed
11. Valid Electrical Licence.
12. Any other document as specified in the NIT

Executive Engineer [ED-1]
For & on Behalf of BOG, IIT Delhi

IITD – 6

INDIAN INSTITUTE OF TECHNOLOGY DELHI

NOTICE INVITING E-TENDER

12.0 Item rate tenders are invited on behalf of The Board of Governors, IIT Delhi, Hauz Khas, New Delhi - 110016 invites online Item Rate Tender from enlisted contractors of appropriate class from CPWD, MES, BSNL, Railways and specialized agency having authorization from OEM for Providing and fixing of DG sets and its automation for the work of **Design, Supply, Installation, Testing and Commissioning of PLC automation for 4 x 2000 KVA HT DG set and HT distribution panels at Main and Bharti Substations, IIT Delhi.**

12.1 The work is estimated to cost Rs.**86,94,664.00.** This estimate, however, is given merely as a rough guide.

12.1.1 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.

12.2 Intending bidder is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar works of magnitude specified below:-

12.2.1 Criteria of eligibility for submission of bid documents: Conditions for intending bidders / contractors

12.2.1.1 **Three** similar works each costing not less than **Rs.34,78,000.00**, or **two** similar works each costing not less than **Rs.52,17,000.00**, or one similar work costing not less than **Rs.69,56,000.00** in last 7 years ending previous day of last date of submission of bids. The value of executed work shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum; calculated from the date of completion to last date of submission of financial bid.

12.2.2 **To become eligible for issue of bid, the bidders shall have to furnish an affidavit as under: -** *"I / We undertake and confirm that eligible similar works(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 bidding in IIT Delhi 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 (Scanned copy to be uploaded at the time of submission of bid)"*

2.0 Agreement shall be drawn with the successful bidders on prescribed Form No. IITD 7/8 which is available as IIT Delhi Publication. Bidders shall quote their rates as per various terms and conditions of the said form which will form part of the agreement.

3.0 The time allowed for carrying out the work will be **6 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.

4.0 The site for the work is available.

5.0 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 the web Site **e-procure.gov.in.**

6.0 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 tender as notified.

7.0 While 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 tender as notified.

8.0 If it is desired to submit revised financial bid then it shall be mandatory to submit revised financial bid. If not submitted then the tender submitted earlier shall become invalid.

9.0 EMD shall have to be deposited / submitted as stipulated in the schedule of the NIT.

9.1 Copy of all 'mandatory documents' and other 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 physically in the office of tender opening authority.***

10.0 The bid submitted shall become invalid, if:

10.1 The bidder is found ineligible.

10.2 The bidder does not upload all the documents (including GSTIN Registration) as stipulated in the bid document**.**

10.3 EMD & Proper Affidavit not submitted as specified

10.4 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 bidder*** in the office of the bid opening authority.

11.0 The contractor whose bid is accepted will be required to furnish **performance guarantee of 5% (Five Percent)** of the bid amount within the period specified in Schedule F. This guarantee shall be in the form of Deposit at Call receipt of any scheduled bank / Banker' 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.1,00,000/-) or Government Securities or Fixed Deposit Receipts or irrevocable Bank 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.

12.0 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 subsoil (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 bidder 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 bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which 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.

13.0 The competent authority on behalf of the Board of Governors 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 bidder shall be summarily rejected.

14.0 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 for rejection.

15.0 The competent authority on behalf of the Board of Governors reserves to himself the right of accepting the whole or any part of the bid and the bidder shall be bound to perform the same at the rate quoted.

16.0 The contractor shall not be permitted to bid for works in the IITD 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 Gazetted officer in the IIT Delhi. Any breach of this condition by the contractor would render him liable to be debarred from bidding process in future in IIT Delhi.

17.0 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 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.

18.0 The bid for the works shall remain open for acceptance for a period of **ninety days from the date of opening of financial bids**, if any bidder withdraws his bid before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the bid which are not acceptable to the department, then the IIT Delhi shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the bidder shall not be allowed to participate in the re-bidding process of the work.

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

19.1 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.

19.2 Standard IITD Form –7/8 or other Standard IITD Form as applicable.

20.0 In case any discrepancy is noticed between the documents as uploaded at the time of submission of the bid online and hard copies as to be submitted physically in IIT Delhi, if so desired by the accepting authority, then the bid submitted shall become invalid and the IIT Delhi shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the bidder shall not be allowed to participate in the bidding process of the work.

21.0 GST or any other tax applicable in respect of inputs procured by the contractor for this contract shall be payable by the Contractor and Government will not entertain any claim whatsoever in respect of the same. However, component of GST at time of supply of service (as provided in CGST Act 2017) provided by the contract shall be varied if different from that applicable on the last date of receipt of tender including extension if any.

INTEGRITY PACT

To

……..,

……..,
……..

Sub: NIT No. **0600/43/IITD/EW/EE(ED-1)/2024-25** for the work of **"Design, Supply, Installation, Testing and Commissioning of PLC automation for 4 x 2000 KVA HT DG set and HT distribution panels at Main and Bharti Substations, IIT Delhi."**

Dear Sir,

It is hereby declared that IIT Delhi (IITD) is committed to follow the principle of transparency, equity and competitiveness in public procurement.

The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the Integrity Agreement, which is an integral part of the tender/bid documents, failing which the tender/bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected.

This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of the IITD.

Yours faithfully,

Executive Engineer (ED-1)

[TO BE SUBMITTED DULY SIGNED BY THE BIDDER ALONGWITH BID DOCUMENTS]

To

Executive Engineer (ED-I),
IIT Delhi, Hauz Khas,
New Delhi – 110016

Subject: Submission of Bid for the work of **"Design, Supply, Installation, Testing and Commissioning of PLC automation for 4 x 2000 KVA HT DG set and HT distribution panels at Main and Bharti Substations, IIT Delhi."**

Dear Sir,

I / We acknowledge that IIT Delhi is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

I / We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I / We will sign the enclosed integrity Agreement, which is an integral part of tender / bid documents, failing which I / We will stand disqualified from the tendering process. I / We acknowledge that THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE of this condition of the NIT.

I / We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by IITD. I / We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

I / We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, IITD shall have unqualified, absolute and unfettered right to disqualify the tenderer /bidder and reject the tender/bid is accordance with terms and conditions of the tender/bid.

Yours faithfully,

(Duly signed by authorized signatory of the Bidder)

[To be signed by the bidder and same signatory competent / authorized to sign the relevant contract on behalf of IITD]

INTEGRITY AGREEMENT

This Integrity Agreement is made at ..... on this ..... day of..... 20.....

BETWEEN

The Board of Governors, IIT Delhi, Hauz Khas, New Delhi - 16 represented through **Executive Engineer (ED-I)**, IIT Delhi
....., (Hereinafter referred as the '**Principal/Owner**',
(Address of Division)
'**Principal/Owner**', which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

.....
.....
(Name and Address of the Individual/firm/Company)
Through…….....
……. (Hereinafter referred
(Details of duly authorized signatory)
to as the "**Bidder/Contractor**" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

PREAMBLE

WHEREAS the Principal / Owner has floated the Tender (NIT No. **0600/43/IITD/EW/EE(ED-1)/2024-25**) (hereinafter referred to as "**Tender/Bid**") and intends to award, under laid down organizational procedure, contract for **"Design, Supply, Installation, Testing and Commissioning of PLC automation for 4 x 2000 KVA HT DG set and HT distribution panels at Main and Bharti Substations, IIT Delhi.."** (Name of work) hereinafter referred to as the "**Contract**".

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s) AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as "**Integrity Pact**" or **"Pact**"), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:

ARTICLE 1: COMMITMENT OF THE PRINCIPAL / OWNER

1. The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:

1.1. No employee of the Principal / Owner, personally or through any of his / her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

1.1.1. The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.

1.1.2. The Principal/Owner shall Endeavour to exclude from the Tender process any person, whose conduct in the past has been of biased nature.

2. If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PoC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

ARTICLE 2: COMMITMENT OF THE BIDDER(S) / CONTRACTOR(S)

1. It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government / Department all suspected acts of **fraud or corruption or coercion or collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.

2. The Bidder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:

2.1. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.

2.2. The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.

2.3. The Bidder(s) / Contractor(s) will not commit any offence under the relevant IPC/PoC Act. Further the Bidder(s) / Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal / Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

2.4. The Bidder(s) / Contractor(s) of foreign origin shall disclose the names and addresses of agents / representatives in India, if any. Similarly Bidder(s) / Contractor(s) of Indian

Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participate in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.

2.5. The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.

3. The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

4. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practices **means a wilful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests**.

5. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/ her reputation or property to influence their participation in the tendering process).

ARTICLE 3: CONSEQUENCES OF BREACH

Without prejudice to any rights that may be available to the Principal / Owner under law or the Contract or its established policies and laid down procedures, the Principal/Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Principal/Owner's absolute right:

1. If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days' notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. **Such exclusion may be forever or for a limited period as decided by the Principal/Owner**.

2. **Forfeiture of EMD/Performance Guarantee/Security Deposit**: If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/Contractor.

3. **Criminal Liability**: If the Principal/Owner obtains knowledge of conduct a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal / Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

ARTICLE 4: PREVIOUS TRANSGRESSION

1. The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
2. If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Principal/ Owner.
3. If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

ARTICLE 5: EQUAL TREATMENT OF ALL BIDDERS/CONTRACTORS/SUBCONTRACTORS

1. The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Sub-contractors/sub-vendors.
2. The Principal/Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
3. The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

ARTICLE 6: DURATION OF THE PACT

1. This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 6 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.
2. If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority of IIT Delhi.

ARTICLE 7: OTHER PROVISIONS

1. This Pact is subject to Indian Law, place of performance and jurisdiction is the Head Quarters of the Division of the Principal/Owner, who has floated the Tender.
2. Changes and supplements need to be made in writing. Side agreements have not been made.
3. If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by Board Resolution.
4. Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intensions.
5. It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Owner/Principal in accordance with this Integrity Agreement/ Pact or interpretation thereof shall not be subject to

arbitration.

ARTICLE 8: LEGAL AND PRIOR RIGHTS

1. All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

.....
(For and on behalf of Principal / Owner)

.....
(For and on behalf of Bidder / Contractor)

WITNESSES:

1. .....

(signature, name and address)

2. .....
(signature, name and address)

Place:

Dated :

IITD - 7/8

INDIAN INSTITUTE OF TECHNOLOGY DELHI

HAUZ KHAS, NEW DELHI - 110016

Percentage Rate Tender / Item Rate Tender & Contract for Works

Tender for the work of **"Design, Supply, Installation, Testing and Commissioning of PLC automation for 4 x 2000 KVA HT DG set and HT distribution panels at Main and Bharti Substations, IIT Delhi."**

1. To be submitted online by **Upto 3 PM of 14.11.2024**
2. To be opened on **15.11.2024 at 3 PM** online

e-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 & 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 Board of Governors, IIT Delhi within the time specified in Schedule 'F' viz., schedule of quantities and in accordance in all respect with the specifications, designs, drawing and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract and with such materials as are provided for, by, and in respect of accordance with, such conditions so far as applicable.

We agree to keep the tender open for ninety (90) days from the due date of its opening / ninety days from the date of opening of financial bid in case tenders are invited on 2/3 envelop system (**strike out as the case may be**) and not to make any modification in its terms and conditions.

A sum of **Rs. 1,73,893.00** is hereby deposited in IIT Delhi Revenue Account No. 10773572622 as earnest money / **A Demand Draft of Rs. 1,73,893.00** favouring Registrar, IIT Delhi has been scanned and uploaded with the Technical Bid. If I / We, fail to furnish the prescribed performance guarantee within prescribed period I / We agree that the said The Board of Governors, IIT Delhi, Hauz Khas, New Delhi - 16 or his successors, 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 The Board of Governors, IIT Delhi, Hauz Khas, New Delhi - 16 or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely, otherwise the said earnest money shall be retained by him towards security deposit 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 Earnest Money & 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

C … Nil I ….. Nil O …… Nil

D'Man AEE / AE / JE EE(ED-1)

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 IIT Delhi 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:

Signature of Contractor

Witness:

Postal Address

Address:

Occupation:

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for an on behalf of The Board of Governors, IIT Delhi, Hauz Khas, New Delhi - 110016 for a sum of (Rupees… .....).

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

(a)

(b)

(c)

For & on behalf of Board of Governors, IIT Delhi

Signature ……..

Dated: Designation …….

C … Nil I ….. Nil O …… Nil

D'Man AEE / AE / JE EE(ED-1)

PROFORMA OF SCHEDULES

SCHEDULE "A"

Schedule of Quantities (enclosed)

SCHEDULE "D"

Extra schedule for specific requirements / documents for the work, if any.

NIL

SCHEDULE "E"

Reference to General Conditions of Contract:

1	Reference to General Conditions of Contract	:	GCC for Maintenance work 2023 for CPWD works along with correction on slips/amendments issued upto last date of submission of bid.
2	Name of work	:	**Design, Supply, Installation, Testing and Commissioning of PLC automation for 4 x 2000 KVA HT DG set and HT distribution panels at Main and Bharti Substations, IIT Delhi.**
3	Estimated cost of work (Rs.)	**:**	86,94,664.00
4	Earnest Money (Rs.)	**:**	1,73,893.00
5	Performance Guarantee	**:**	5 percent of tendered value
6	Security Deposit	**:**	2.5 percent of tendered value

SCHEDULE "F"

GENERAL RULES & DIRECTIONS:

Officer inviting tender	**:**	Executive Engineer (Electrical)
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	**:**	**See Clause 12 below**

DEFINITIONS:

2 (V)	Engineer-in-charge	**:**	Executive Engineer (Electrical)
2 (viii)	Accepting authority	**:**	Institute Engineer
2 (x)	Percentage on cost of materials and labour to cover all overheads and profits	**:**	15 percent
2 (xi)	Standard Schedule of Rates	**:**	Market, DSR-2022 for Electrical Works

C … Nil I ….. Nil O …… Nil

			with corrected up to date of submission of bid.
2 (xii)	Department	:	Estate & Works, IIT Delhi
9 (ii)	Standard IITD Contract Form	:	PWD / IITD Form 7 / 8 as modified and corrected upto date, GCC 2023 for Miantenance work of CPWD with latest modifications.

CLAUSE 1

i)	Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance	:	15 days
ii)	Maximum allowable extension beyond the period provided in (i) above with late fees @0.1% per day of performance guarantee	:	10 days

CLAUSE 2

(i)	Authority for fixing compensation under Clause 2	:	Institute Engineer

CLAUSE 2A

(i)	Whether Clause 2A shall be applicable	:	No

CLAUSE 5

(i)	Number of days from the date of issue of letter of acceptance for reckoning date of start	:	10 days

TABLE OF MILE STONE(S):

Sr. No.	Description of Milestone (physical)	Time allowed in days (from date of start)	Amount to be with-held in case of non-achievement of milestone
(1)	(2)	(3)	(4)
	--- NOT SPECIFIED ----		

Time allowed for execution of work	:	6 Months

C … Nil I ….. Nil O …… Nil

D'Man AEE / AE / JE EE(ED-1)

Authority to decide:	**Extension of time**	**:**	Institute Engineer
	Rescheduling of milestones	**:**	Institute Engineer
	Shifting of date of start in case of delay in handling over of site.	**:**	Executive Engineer (Electrical)

CLAUSE 5

Clause applicable 5 / 5A	**:**	5

CLAUSE 6

MB applicable: Computerized Measurement Book (CMB) / Electronic Measurement Book (EMB)	**:**	CMB

CLAUSE 7

Gross work to be done together with net payment / adjustment of advances for materials collected, if any, since the last such payment for being eligible to interim payment	**:**	20 Lakhs

CLAUSE 7A

Whether clause 7A shall be applicable	**:**	No

CLAUSE 10A

List of testing equipment to be provided by the contractor at site lab					
1	**NIL**	**2**	**NIL**	**3**	**NIL**
4	**NIL**	**5**	**NIL**	**6**	**NIL**

CLAUSE 10B (ii)

Whether Clause 10 B (ii) shall be applicable (Yes / No)	**:**	No

CLAUSE 10 C

Component of labour expressed as percent of value of work	**:**	15 Percent

CLAUSE 10CC (Not Applicable)

Whether Clause 10 CC shall be applicable (Yes / No)	**:**	Not applicable

CLAUSE 11

Specification to be followed for execution of work	:	CPWD Specification 2023 **for Electrical works corrected slips & manufacturers Specifications upto the last date of bid submission/uploading of tender.** **Detailed nomenclature of items& specifications for market rate items as per Engineer-in-charge**

CLAUSE 12

12.2	Deviation limit beyond which clauses 12.2 & 12.3 shall apply for building work / Upgradation for providing and fixing E.I work	:	100%

CLAUSE 16

Competent authority for deciding reduced rates	:	Institute Engineer

CLAUSE 18

List of mandatory machinery, tools & plants to be deployed by the contractor at site					
1	**NIL**	**2**	**NIL**	**3**	**NIL**
4	**NIL**	**5**	**NIL**	**6**	**NIL**

CLAUSE 19 C

Authority to decide penalty for each default	:	Engineer-in-charge

CLAUSE 19 D

Authority to decide penalty for each default	:	Engineer-in-charge

CLAUSE 19 G

Authority to decide penalty for each default	:	Engineer-in-charge

CLAUSE 19 K

Authority to decide penalty for each default	:	Not applicable

CLAUSE 32 (i)

Requirement of Technical Representative for SITC (s) and recovery rate

Sr. No.	Minimum qualification of Technical Representative	Discipline	Designation (Principal Technical / Technical representative)	Minimum experience	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause 36 (i)	
						Figures	**Words**
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Graduate or Diploma Engineer	Electrical / mechanical	Technical Representative	5 years for Diploma and 2 years for Graduate	1	15,000	Fifteen thousand per month

Assistant Engineers retired from Govt. / IIT Delhi services that are holding Diploma will be treated at par with Graduate Engineers. Diploma holder with minimum 10 year relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.

CLAUSE 38

Authority to clause 38	:	Not applicable

C … Nil I ….. Nil O …… Nil

D'Man AEE / AE / JE EE(ED-1)

COMMERCIAL AND ADDITIONAL CONDITIONS

1. GENERAL

1.1. Location: **Main Sub-Station at IIT Delhi.**

1.2. The work shall be executed as per CPWD General Specifications for Electrical Works Part-I (Int.) 2023, Part-II (Ext.) 2023, as amended upto 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 these additional conditions shall apply. However, nothing extra shall be paid on account of these additional specification and conditions, as the same are to be read along with schedule of quantities for the work.

1.3. The tenderer should in his own interest visit the site and get familiarize with the site conditions before tendering.

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

2. COMMERCIAL CONDITIONS:

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

2.2. **Submission and opening of Tenders:**

2.2.1. The tender is in two parts:

2.2.1.1. Part-I -Technical cum Un-priced commercial Bid

2.2.1.2. Part-II-Price Bid

2.3. The tender shall be submitted online, duly completed as per NIT conditions within period of bid submission.

2.4. The tenderers are advised not to deviate from the technical specifications / item, commercial terms and conditions of NIT like terms of payment, guarantee, arbitration clause, escalation etc.

2.5. Technical cum un-priced commercial bid only shall be opened on the due date and time in the presence of tenderers or their authorized representative who wish to remain present.

2.6. Scrutiny/evaluation of the technical-cum-commercial bid shall be done by the department. In case, it is found that the technical-cum-commercial bid of a tenderer is not in line with NIT specifications/requirements and/or contains too many deviations, the department reserves the right to reject the technical bid of such firms(s) without making any reference to the tenderer(s).

2.7. Necessary clarifications required by the department shall have to be furnished by the tenderer within the time given by the department for the same. The tenderer will have to depute his representative to discuss with the officer(s) of the department as and when so

desired. In case, in the opinion of the department a tenderer is taking undue long time in furnishing the desired clarifications, his bid will be rejected without making any reference.

2.8. After obtaining clarification from all the tenders, the department will intimate the tenders whose technical cum commercial bids are acceptable.

2.9. The price bids of only those tenderers shall be opened whose technical bids are found to be technically acceptable. The time and date of opening of price bid shall be fixed after the technical cum unpriced commercial bid is accepted and intimated to them by post/Fax/e-mail.

2.10. The department reserves the right to reject any or all the price bids and call for fresh prices/tenders as the case may be without assigning any reason.

3. TERMS OF PAYMENTS

3.1. Payment shall be released after successful completion (Supply, Installation, Testing and satisfactory commissioning) of the work. However, R.A. bill may be preferred to the extent of prorata basis based on progress of overall work. Bidder should note that necessary documents (PAN card, cancelled cheque, GST Reg. proof and RTGS mandate form as per prescribed proforma of IIT Delhi) be submitted as soon as the work is awarded to them. Separate Contractor's Code shall be generated in IIT Delhi if the bidder is a new contractor to IIT Delhi ('Code' is perpetual in nature). Payment shall be processed after submission of Invoice and necessary documents / certificates (as mentioned in the NIT). There is a prevailing practice of pre-audit (for total tendered amount more than 3 lakhs) at IIT Delhi before releasing payment. Bidder shall have to comply all necessary documents as outlined in the Contract as to be desired by the Auditor and or by the Accountant. It may take one to two months in the whole process (from submission / acceptance of bill in CMB / MB by the contractor upto processing by Accounts section) to release payment subject to quick compliance of all submittals by the contractor. Applicable Taxes shall be got deducted from the bill as per prevailing orders of the Government. 'GST part of the bill' shall be released after submission of proof of payment of GST, i.e. B2B challan, etc. as may be, by the contractor.

4. AWARD OF WORK

4.1. Work shall be awarded to the successful bidder only after concurrence of the **Auditor of the Internal Audit Section** of the IIT Delhi as per extant Rules of the Institute.

5. SECURITY DEPOSIT

5.1. Security Deposit shall be deducted from each running bill and final bill to the extent of 2.5% of the gross amount payable. The security deposit shall be released on the expiry of guarantee/ Maintenance period stipulated in the contract i.e 01 Years.

6. PERFORMANCE GUARANTEE

6.1. The successful tenderer shall submit an irrevocable performance guarantee of 5% of the tendered amount in addition to other deposit mentioned elsewhere in the contract for his proper performance of the contract agreement within 15 days of issue of letter of acceptance

of tender. This guarantee shall be in the form of Demand Draft/Pay order of irrevocable bank guarantee bond of any schedule bank or the State Bank of India in the specified perform a of Government Security, fixed deposit receipt pledged in favour of **Registrar, IIT Delhi** or as specified in the letter of acceptance of tender. The performance guarantee shall be initially valid up to the stipulated date of completion plus 60 days. This bank guarantee shall be kept valid till the recording of completion certificate for the work by the competent authority. This shall be released after submission of fresh bank guarantee for the comprehensive maintenance. Fresh bank guarantee shall have to be submitted @5% of the contract amount of comprehensive maintenance for the whole period of maintenance plus 60 days beyond.

6.2. Income tax, GST, labour cess & other statutory deduction etc. shall be made at source as per the prevalent laws. The deduction of Security Deposit, Income Tax, etc., shall be done after calculation for the above due payment as per clause 3 above and net payment shall reduce accordingly.

7. RATES

7.1. The rates quoted by the tenderer, shall be firm and inclusive of all taxes (including works GST & labour cess), duties, levies, etc. and all charges for packing forwarding, insurance, freight and delivery, installation, testing and commissioning etc. at site including temporary construction of storage, risks overhead charges, general liabilities/ obligations.

8. COMPLETENESS OF TENDER

8.1. All sundry equipments, fitting, unit assemblies, accessories, hardware items, foundation bolts, 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 specially mentioned in the tender documents or not.

9. STORAGE AND CUSTODY OF MATERIAL

9.1. The agency has to make his own arrangement for storage. No separate storage accommodation shall be provided by the department Watch and ward of the storage and their safe custody shall be responsibility till the final taking over of the installation by the department.

10. CARE OF THE BUILDING

10.1. Care shall be taken by the contractor while handling and installing the various equipment 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 material arising out of the installation from the site of work.

11. COMPLETION PERIOD

11.1. 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.

12. GUARANTEE

12.1. The contractor shall guarantee the entire Design, Supply, Installation, Testing and Commissioning of PLC automation for 4 x 2000 KVA HT DG set and HT distribution panels at Main and Bharti Substations, IIT Delhi work as per specifications both for components and for system as a whole. All E.I work shall be guaranteed for One year from the date of commissioning against unsatisfactory performance and / or breakdown due to defective design, workmanship or material. The equipment or component, or any part thereof, so found defective during guarantee period shall be forthwith 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 contactor in doing this, the same will be got done by the department at the risk and cost of the contractor. The decision of Engineer-in-Charge in this regard shall be final & binding on the contractor.

12.2. The tenderer shall guarantee among other things, the following:

12.3. Quality, strength and performance of the material used as per manufacturer's standards.

12.4. Safe mechanical and electrical stress on all part under all specified conditions of operation.

12.5. Satisfactory operation during the maintenance period.

12.6. POWER SUPPLY

12.7. Power supply shall be made available by the department at one point near the site free of cost, if required. Further, the arrangement for tapping power supply from this point shall be made by the contractor.

13. EXTENT OF WORK

13.1. The work shall comprise of entire labour including supervision and all material necessary to make a complete installation and such tests and adjustment and commissioning as may be required by the department. The term complete installation shall not only mean major items of the plant and equipment's covered by the specification but all incidental sundry components necessary for complete execution and satisfactory performance of installation with all layout charts whether or not those have been mentioned in details in the tender documents in connection with this contract as this is a turnkey job.

14. VALIDITY

14.1. Tenders shall be valid for acceptance for a period 90 days of days from the date of opening of Technical Bid.

15. COMPLIANCE WITH REGULATIONS AND INDIAN STANDARDS

15.1. 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:

15.1.1. Factories Act

15.1.2. Indian Electricity Rules

15.1.3. B.I.S. & other standards as applicable

15.1.4. Workmen's compensation Act

15.1.5. Statutory norms prescribed by local bodies like fire department, CEA, Power Supply Co. etc.

16. INDEMNITY

16.1. 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.

17. ERECTION TOOLS

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

18. COOPERATION WITH OTHER AGENCIES AND OCCUPANTS OF THE BUILDING

18.1. The successful tenderer shall co-ordinate with other working contractors, if any and other occupants of different offices / Labs, etc., 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 or 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 work was not under taken by the tenderer himself.

19. MOBILIZATION ADVANCE

19.1. No mobilization advance shall be paid for this work

20. INTERPRETING SPECIFICATION

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

20.1.1. Schedule of quantities

20.1.2. Technical Specification

20.1.3. Drawing (if any)

20.1.4. General Specification for Electrical Works of CPWD (relevant Parts)

20.1.5. Relevant BIS or other international code in case BIS code is not available.

21. POLICY OF THE INSTITUTE

21.1. **Insti**tute has a policy against **sexual harassment** and is committed to providing an environment free from **sexual harassment of women** at the workplace. Contractor shall have to abide by the policy of the Institute with due diligence. Any violation on the part of the contractor shall be dealt with the extant rules of the Institute.

ANNEXURE - 1

<< Organization Letter Head >>

DECLARATION

I / We,_____hereby declare that all the information and data furnished by our organization with regard to this tender specification are true and complete to the best of our knowledge. I / we have gone through the specification, conditions and stipulations in details and agree to comply with the requirements and intent of specification.

1	Name & Address of the bidder	**:**	
2	Phone	**:**	
3	E-mail	**:**	
4	Contact person name	**:**	
5	Mobile number	**:**	
6	GSTIN number	**:**	
7	PAN number	**:**	
8	UTR no. [if deposited online] for EMD	**:**	
9	DD / FDR / Banker's Cheque No. [if uploaded scanned copy] for EMD	**:**	
	BANK DETAILS of the Bidder		
10	Bank name	**:**	
11	Branch address	**:**	
12	Branch telephone no.	**:**	
13	MICR Code of the bank	**:**	
14	IFSC code	**:**	
15	Bank Account no.	**:**	
16	Type of account	**:**	
17	Pl attach one cancelled cheque	**:**	

We further declare that our organization has not been blacklisted / delisted or put to any holiday by any Institutional agency / Govt. Department / Public Sector Undertaking in the last three years.

(Signature& name of the bidder)
Seal of the bidder

ANNEXURE – 2

(To be given on OEM's Letter head)

Sub: NIT No. **0600/43/IITD/EW/EE(ED-1)/2024-25** for the work of **"Design, Supply, Installation, Testing and Commissioning of PLC automation for 4 x 2000 KVA HT DG set and HT distribution panels at Main and Bharti Substations, IIT Delhi..**

SPECIFICATION FOR PLC-BASED CONTROL SYSTEM FOR DG SYSTEM AT IIT DELHI

The automation bidder shall supply the control system solution , as stipulated in this specification, with full design, and engineering, procure the software and hardware, software and hardware development, testing, shipping, supervise installation and commissioning, and startup of the control system.

The control shall be supplied as a completely pre-wired and tested system. The automation bidder to note that all accessories shall be supplied as completely assembled units to meet the functional and operational requirements specified herein.

The description of the design and components in this document shall be used as the basic design. The deviations that may appear from this specification shall be documented with justification for deviation and a description of compensating measures.

This specification must also be seen in relation to national rules and regulations that are applicable in the project location. This specification does not however relieve the contractor of his responsibility for the basic design and execution of the Automation Solutions per the scope of supply in the relevant chapters of this specification. The rules of good engineering practice and the relevant approved standards and regulations shall be observed

PLC System should be supplied for the DG system for the following work:

1. "There are 4 X 2000 KVA 11KV DG sets installed in the IIT campus recently. They are feeding to 2 Nos Main Grid S/s naming Main S/s and Bharti S/s.
2. There are 26 Nos feeders Interconnected through the Ring Main System. In these 2 Nos main Grid Incoming S/s, no voltage coil of breaker is bypassed.
3. When the main supply from the 11 KV Grid Shut Down or in case of a fault on these Panels the 4x2000 KVA DG sets take over the load.
4. During the Switching operation, a complete load of the 11 KV comes on the DG sets. There are various Transformer Feeders interconnected with these S/s.
5. Due to this the complete load of the transformer is fed on DG sets. Hence during the simultaneous switching of all the transformers, the DG set is unable to withstand the starting magnetizing of the Transformer. Breakers of these 2-grid incoming S/s switches to be operated sequentially so that starting magnetizing current can be dealt."
6.

Signal Details:

The considered PLC in the Main substation will be far from the Bharti substation around 25 meters and this PLC present in the Main substation should integrate a Bharti substation breaker feeder as well.

The system shall be designed with an extra 20% spare feeder count. I/O signal details mentioned

C … Nil I ….. Nil O …… Nil

are as below

- DI Signal details – Qty: 5 no. signals Per feeder

  DI – TCS healthy
  DI – CB Feedback
  DI -Trip status
  DI -Spare
  DI –Spare

- DO Signal details – Qty. 3 no. signals Per feeder

  DO – Stop
  DO -Start
  DO -Spare

In the calculated DI signal plus extra 30 no. of DI signals need to be considered

Communication, Cables & HMI:

The communication protocol of PLC should be Modbus TCP/IP.
The vendor should provide an Optional - 7-inch HMI Graphic system.
Panel: Panels should have Front & Rear access.

Interposing Relays: Relay coils should operate on ****** voltage and have a contact rating of ***** Voltage.

The programmable logic controller should comply following things:

- **Processor**
  - The automated platform shall have its CPU, I/O communication ports, and power supply.
  - A standalone CPU (Controller) shall be provided.
  - The standalone processor offered shall be a Solid-state microprocessor-based Rack rack-mounted controller with floating point processing capability. Din Rail Mounted System for the controller and remote IOs shall not be acceptable. The Controller shall be 32-bit and with a minimum 8 MB onboard memory. The processors must have an internal non-volatile memory to store application and data. The processor must also have a reserved slot for a removable cartridge so that the application and data backup can also be resident on a removable component
  - It must be possible to connect a PC (programming terminal) or a human-machine interface. Also, the CPU has on onboard USB Port for performing the maintenance operation
  - The range must provide processors with at least 3 built-in Ethernet ports featuring a web server complaint with various operating systems.
  - Device Network: Ethernet Ring topology with RSTP communication protocol with deterministic network.
  - The control system requires some form of defense of this Internet threat. IPSEC protocol shall provide both anti-replay, origin authentication, and integrity of data.
  - The CPU module shall be certified with the Achilles Level 2 Certification.
  - No battery supply is needed for non-volatile backup of the controller application.
  - The CPU module microprocessors shall be 600 MHz ARM-based microprocessors. It shall be a high-speed processor with fewer transistors to provide high-speed capabilities. The CPU shall have low energy consumption and the highest environmental robustness.
  - The controller simulator shall come as the standard software package, it should be included in the standard software. No separate Software Installation shall be acceptable in the system.
  - The system manages in all transparency and automatically the IP address swapping of the

Ethernet couplers.

- The processor must be equipped with ground connection contacts without additional cabling.
- It shall be possible to modify, add, or delete the application program online without affecting the outputs

➢ **Memory**

- Application memory execution shall be done through embedded memory.
- No battery supply shall be required for non-volatile backup.
- The processor must provide a minimum of 8 MB of on-board non-volatile memory.
- Feature to store the program, comments, and symbols in the Controller. The "empty terminal" functionality must be possible if IEC 61131 languages are used. It must be also possible to use the memory extension to back up files (production data, recipes, etc)

➢ **Communication**

- Synchronized and unsynchronized drops with Controller scan shall be managed over standard and open Ethernet communication without the use of any Software other than programming Software.
- Must provide exchanges of variables:
- Explicit exchanges (via function blocks integrated into the application)
- Implicit exchanges (Using cyclical variables generated by the single declaration of the device) Dedicated function blocks should be available.
- The Control System must be accessible via Ethernet (from a remote site) using a standard Internet browser or any other platform (android, iOS). These functions must not require any prior configuration or special software. In addition, the use of these functions must not affect the Controller scan time.
- The Controller must have serial links that support various types of communication: Modbus, ASCII or open protocols.

➢ **Change Configuration on The Fly**

The user shall be able to change the configuration online while the system is running normally without stopping the process such as:

- Adding the new IO modules.
- Deleting the IO modules.
- Hot swap faulty IO modules without stopping the process.
- Adding the new backplane.
- Adding the new control block.
- Deleting the unused control block.
- Change the parameters of the function block.

➢ **Standards and certifications**

- The offered System must conform to the main national and international standards covering electronic equipment for industrial control systems & FOLLOWING TYPE TEST REPORTS to be provided by the vendors
- The system MUST be Achilles level 2 or equivalent certification for IEC 62443 cyber security

Description of Type Test	**Test Std.**
Electromagnetic Compatibility (EMC)	
Electrostatic Discharge Immunity	IEC61000-4-2 Radiofrequency, Electro
Magnetic Field Immunity	IEC61000-4-3 Surge Immunity IEC 61000-4-5
Immunity to conducted disturbance by RF Field	IEC 61000-4-6
Environmental & Climatic Tests	
Dry Heat	IEC 68-2-2
Cyclic Damp heat	IEC 68-2-30
Steady State Damp Heat	IEC 68-2-78
Change of Temp.	

- The system must be able to secure communication between the Controller and engineering workstation / SCADA, if applicable, providing authentication and integrity of data.
- The internal firmware of the CPU must be digitally signed and encrypted.
- The integrity of the firmware must be checked before any application download and at the start-up of the system The integrity of the engineering software must be checked on demand.
- The system provides an access control list for each protocol and each connected IP address Any modification of the operating mode of the system (Run / Stop / Program modifications) must be authenticated in real-time memory Integrity Control.

➢ **Environment**

- EN 61131-2
- EN/IEC 61010-2-201
- UL 61010-2-201
- CSA C22.2 No 61010-2-201
- IACS E10
- EN/IEC 61000-6-5, interface type 1 and type 2

EN/IEC 61850-3, location G

CE & UL approved PLC System – Specifications

Sr. No.	Description	Specification
	Make	Schneider
	Control System Type	Standalone configuration
	Power Supply	Single Rack Based 24V DC.
	Specification	Local indication using LED
	CPU	The CPU microprocessor shall be a standard dual-core high-speed ARM-based microprocessor to process both the application on one core and the communications routine, in parallel, on the second core.
	Programming Memory & Data Memory	8 MB ON board memory
	Clock	Real-time clock (RTC)
	Communication Port	Ethernet IP / TCP IP

C … Nil I ….. Nil O …… Nil

Sr. No.	Description	Specification
		3 Nos 10/100 base Ethernet port, 1 Nos USB Port
	Communication	RS 232/RS 485 (External Card) wherever required
	Ethernet Services	FTP Server, SNMP, DHCP Client, IEC VAR Access, Modbus TCP Server/Client
	Web Services	Web Server
	Operating temperature	0 to 60 deg C.
	Storage temperature	-40 to 85 deg C
	Humidity	5- 95 % at 55 DegC Non-condensing
	Vibration	3 gn
	Shock Resistance	30gn
	Operating Altitude	0 – 2000m

- The hardware is a unique blend of rugged industrial Rack I/O, real-time multi-tasking software, and powerful communication capabilities. It shall be a locally intelligent unit having local memory and processor installed at a respective control and monitoring location in the network; The Control System hardware shall be programmable in SFC, IL, LD, ST & FBD in compliance with IEC 61131.
- The CPU shall have integrated flash memory (using NAND Flash technology) on its motherboard to back up the application, and keep the data intact and the general context of the controller. The NAND flash technology does not require a battery and provides a long storage period in the ideal working condition. No battery supply is needed for a non-volatile backup of the controller application.
- The make of the Logic Software for programming shall be the same as PLC make.
- Controller, IO Modules and Power Supply modules shall be rack mountable type, directly mounted in the rack to provide the required internal power supply for the Controller Modules and IO Modules. Power supply make should be same as PLC make

➢ **Rack-Based IO SYSTEM**

- IO Cards and Processor shall be of the Same Family.
- There must be a locating device for the modules, and automatic checking of conformity with the system software configuration to ensure that errors are avoided during module replacement.
- All modules shall have a display block for identifying module and channel faults: input, output, etc. These diagnostics are performed without using any special tools.
- The modules shall be fully configurable by setting parameters in the development and runtime software. The parameters shall be stored in the PLC application and shall be automatically reloaded by the CPU if a module is exchanged.
- The I/O cards shall be intelligent type and shall be connected to the terminals. I/O cards shall have built-in galvanic/optical isolation for input and output. The Isolation shall be provided between each of the channels or groups in the I/O rack.

IO Modules shall have the following minimum specifications: -

➢ **Digital Inputs**

* Channel Density -16/32 CH
* Supply-Internal power supply via rack
* Input interrogation voltage 24VDC
* LED indication to indicate the status of field signals, card healthiness, and communication healthiness shall be provided.
* Protection type-1 external fuse per group of channels 0.5 A fast blow reverse polarity protection
* Voltage detection threshold- < 14 V DC sensor fault,> 18 V DC sensor OK
* Input voltage range 24 VDC, Input current (max): 2.5mA @ 24 VDC/ channel
* Dielectric strength-1500 V AC at 50/60 Hz 1 minute, primary/secondary,500 V DC 1 minute, between a group of channels
* Shall have 2-wire / 3-wire proximity sensor compatibility.
* On-off delay times: 1.6 ms
* Confirming to IFC 61131-2 type I

➢ **Digital Output**

* Channel Density -16/32 CH
* Supply-Internal power supply via rack
* typical current consumption-125 mA at 3.3 V DC
* Protection type-Reverse polarity protection, External short-circuit protection, overload protection, overvoltage protection
* Output short-circuits protection-With 2 A external fuse
* insulation resistance- > 10 MOhm 500 V DC
* Confirming to IEC 61131-2 type I
* Load impedance- >=220 Ohm
* Dielectric strength-1500 V AC at 50/60 Hz 1 minute, output/ground, 1500 V AC at 50/60 Hz 1 minute, output/internal logic
* Maximum overload time-15ms

Value-added services:

QR Code-based Electrical asset management system:

The vendor shall supply suitable provision to provide easy access of installed base data (PLC Panel), their document repository including datasheets, and project documentation access portal via the QR code installed at PLC panel on subscription basis.

The features of the Electrical asset management system should be as follows:

(a) Consolidation of Assets & Information – This includes consolidation of asset's installed base data including life cycle information, warranty, maintenance profile, and contract status, and representation of data in the dashboard for better visibility, trackability, and transparency

(b) Digital Maintenance Manager & Work Permit Management– This module provides the planning and scheduling of maintenance of the assets based on the predefined maintenance

frequency, and maintenance checklist. It also digitalizes the Permit to Work creation, approval, and management process. The smart checklist is generated based on the type of component of Assets.

(c) Alarms & Events – This module generates alerts based on the various conditions of assets like maintenance due, done or deferred, obsolescence alerts, maintenance plans, PTW generation, approvals, task completion, audit trails, etc.

(d) Reports – This module generates the maintenance reports for every PTW automatically.

(e) Digital Logbook – This module provides the centralized document repository for the documents related to the assets. This ensures that you get the asset information at the right time and the right place.

Factory Acceptance Test (FAT):

- The supplier shall conduct the following tests during the FAT:

i) Visual Inspection of System Assembly
ii) Verification of Bill of Material
iii) Verify Panel Wiring
iv) Panel Power-Up Checks
v) Functional Checks by simulation

Technical Checklist

Equipement Description	Specification	Compliance [Yes/No]
GENERAL DATA		
Manufacturer		
Manufacturing Place		
Number of units		
Installation (outdoor, indoor)	Indoor	
Panel		
Application	Indoor	
Pre-wired	Panel wiring as per Wiring diagram	
Mounting	Floor Mounted	
Panel Access	Front & Rear	
STEEL SHEET THICKNESS	>= ___ mm	
PROTECTION CLASS	IP **	
MAXIMUM HEIGHT	_____ mm	
MAXIMUM WIDTH	_____ mm	
MAXIMUM DEPTH	_____ mm	
PAINT SHADE	RAL ****	
Minimum Distance for Operation And Maintenance:	1 Meter from Front as well as from rear side	
Cable outlet location	From bottom	
Interposing Relay		
Make		

C … Nil I ….. Nil O …… Nil

Coil Rating	__ Vdc/ac	
Contact Rating	_____Vdc/ac	
Switch		
Make		
No. of Ports	4 Nos.	
Supply	240 Vac	
Type of Switch	Managed	
Redundancy of ES & its inbuilt Power supply	Non-Redantant	
Topology	Star	
Protocol	RSTP	
Type of Port	RJ45	
Cable Type	Cat6e	
Power Supply		
Make		
Input	240Vac/110Vdc	
Output	24Vdc	
PLC [Standalone]		
Make		
Country of Origin		
Model		
Controller	32 bit	
Memory	min 8Mb	
CPU	The CPU microprocessor shall be standard dual core high speed ARM based microprocessor to process both the application on one core and the communications routine, in parallel, on the second core.	
Power supply	24Vdc	
Number of digital input	____ nos.	
Number of digital output	_____ nos.	
Number of analogic input/output	NA	
Communication Port	Ethernet IP / TCP IP	
	3 Nos 10/100 base Ethernet port, 1 Nos USB Port	
Communication	RS 232/RS 485 (External Card) wherever required	
Ethernet Services	FTP Server, SNMP, DHCP Client, IEC	
	VAR Access, Modbus TCP Server/Client	
Web Services	Web Server	
Operating temperature	0 to 60 deg C.	

C … Nil I ….. Nil O …… Nil

Storage temperature	-40 to 85 deg C	
Humidity	5- 95 % at 55 DegC Non-condensing	
Vibration	3 gn	
Shock Resistance	30gn	
Operating Altitude	0 – 2000m	
Redundancy of CPU, PS & I/O's	Non-Redantant	
Programming	IEC 61131	
Cyber Security	IEC 62443 Compliant	
CPU module	Achilles Level 2 Certification	
EMI/EMC	IEC 61000-4-2, 4-3, 4-5,4-6,	
Environment	IEC 68-2-2, 2-30,2-78,2-14	
Digital Inputs		
Channel Density	16/32 Channel	
Supply-Internal power supply via rack		
Input interrogation voltage	24VDC	
LED indication to indicate status of field signals, card healthiness and communication healthiness shall be provided		
Protection type-	1 external fuse per group of channels 0.5 A fast blow reverse polarity protection	
Voltage detection threshold-	< 14 V DC sensor fault,> 18 V DC sensor OK	
Input voltage range Input current (max)	24 VDC, 2.5mA @ 24 VDC/ channel	
Dielectric strength	1500 V AC at 50/60 Hz 1 minute, primary/secondary,500 V DC 1 minute, between group of channels	
Shall have 2-wire / 3-wire proximity sensor compatibility.		
On off delay times	1.6 ms	
Digital Output		
Channel Density	16/32 Channel	
Supply-Internal power supply via rack		
typical current consumption-	125 mA at 3.3 V DC	
Protection type-	Reverse polarity protection, External short-circuit protection, overload protection, overvoltage protection	
Output short-circuits protection-	With 2 A external fuse	
insulation resistance-	> 10 MOhm 500 V DC	

C … Nil I ….. Nil O …… Nil

D'Man AEE / AE / JE EE(ED-1)

Confirming to IEC 61131-2 type I		
Load impedance-	>=220 Ohm	
Dielectric strength-	1500 V AC at 50/60 Hz 1 minute, output/ground, 1500 V AC at 50/60 Hz 1 minute, output/internal logic	
Maximum overload time-	15ms	
HMI		
Screen Size	10 Inch	
No. of Ports	1	
Type of Ports	1 no. RJ45 & 2 no. Serial	
Communication protocol	Modbus TCP/IP	
Wire		
Patch Cords	Ethernet	
Hardwiring	Stranded copper cable	

(Signature& name of the bidder)

Seal of the bidder

Note: To be furnished on a 'Non-Judicial' stamp paper worth Rs. 200/-

ANNEXURE – 3

UNDERTAKING FROM PLC MANUFACTURER

(To be submitted prior to the supply of PLC)

We stand guarantee for availability of spares for the entire life of the PLC for a period of minimum…….....years after completion of the installation or handing over of the PLC whichever is later.

(Note: period shall be up to 10 years)

For M/S .....……,

……..

(Authorized signatory of PLC manufacturer)

Note: To be furnished on a 'Non-Judicial' stamp paper worth Rs. 200/-

GENERAL SPECIFICATIONS

1.0 The work shall be carried out as per CPWD general Specifications for Electrical Works Part – I, II & IV as amended upto date along with the following changes, relevant IE Rules and as per directions of Engineer-in-Charge. For electrical panels, CPWD General Specifications for Electrical Works Part- IV shall be applicable.

LIST OF APPROVED MAKES FOR SUPPLYING, INSTALLATION, TESTING & COMMISSIONING OF SUB-STATION EQUIPMENT AND HT CABLING WORKS NOT BELOW 11 KV VOLTAGE RATINGS

E & M Items

S. No.	Description	Approved Makes
01	MCB(10KA)/ Isolators & MCB DB with End Box.	Legrand /Havells/ Siemens/ Lauritz Knudsen / ABB/ Schneider/C&S.
02	MCCB	Legrand /Havells/ Siemens/ Lauritz Knudsen / ABB/ Schneider/C&S.
03	MCCB BOX	Legrand /Havells/ Siemens/ Lauritz Knudsen / ABB/ Schneider/C&S.
04	Modular type switch/ socket, TV socket, Fan Regulator.	Havells Crabtree / Lauritz Knudsen / ABB/ Wipro North West/Legrand(Arteor/ Myrius)/ Schneider (Zencelo).
05	Steel conduit pipe and Accessories (ISI)	BEC/ AKG/ NIC / Steel Krafts
04	PVC conduit pipe and Accessories(ISI)	BEC/ AKG/ NIC
05	Junction Boxes/ MS Boxes	Havells Crabtree / Anchor / North West / Legrand
06	Bushes	PVC/ Nylon
07	FRLS PVC insulated copper conductor cable	Polycab / Finolex / Havells/ KEI/ Universal
08	LED Light Fixture	Philips/ Trilux/ Bajaj/ Wipro/Crompton/ Havells/ Halonix
09	Ceiling Fans (BLDC) & Wall Fan	Havells/ Atomberg/ Bajaj/ Crompton/USHA.
10	Exhaust Fan/ Fresh Air Fan	Havells/ Bajaj/ Crompton/USHA.
11	Industrial type socket	Legrand /Havells/ Siemens/ Lauritz Knudsen / ABB/ Schneider/C&S.
12	DLP U-PVC channel & accessories	Schneider / Legrand
13	Modular Plate & Cover Plate	Havells Crabtree / Lauritz Knudsen / ABB/ Wipro North West/Legrand(Arteor/ Myrius)/ Schneider (Zencelo).
14	Distribution Board	Legrand /Havells/ Siemens/ Lauritz Knudsen / ABB/ Schneider/C&S.
15	XLPE Alumium/ Copper conductor Armoured cable	Havells/ Gloster/ Polycab/ Finolex/ RR kabel/ KEI/ Universal/ Rallison
16	Multifunction Meter	Lauritz Knudsen / AE/ Schneider/ Rishabh/ HPL
17	Ammeter	Lauritz Knudsen / AE/ Universal/ Rishabh/ Meco/ Kaycee/Enercom
18	Voltmeter	Lauritz Knudsen / AE/ Universal/ Rishabh/ Meco/ Kaycee/Enercom
19	Frequency Meter	Digitron/ AE/ Rishabh/ Meco/ Keltron.
20	CT's	Lauritz Knudsen /AE/ KAPPA/ Pragati/ Marshal
21	Selector Switches	Lauritz Knudsen /AE/ KAPPA/ Pragati/ Marshal
22	Contractors	Lauritz Knudsen / Seimens/ GE power/ Crompton/ Havells/Legrand
23	Push button & Pilor lamps	BCH/ Lauritz Knudsen / Seimens/ Vaishno
24	LED indicating Lights	Lauritz Knudsen / Siemens/ Kaycee/ Crompton/ Vaishno
25	GI Pipe	Jindal Steel/ Jindal Hisar/ Sail/ Tata
26	DW HDPE Pipe	Reliance/ Duraline/ Hasti
27	Cat 6 LAN Cable	Legrand/ Molex/ Amp
28	Air conditioners	Mitsubishi/ O general/ Hitachi/ Daikin/ Blue Star/ Carrier/ LG/ Lloyds/ Panasonic/ Voltas
29	Access Control System	Bosch/ Honeywell/ HID/ Nextwatch
30	Intruder Alarm Systerm	Ademco/ bosch/ DSC/ Honeywell

C … Nil I ….. Nil O …… Nil

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31	Cable raceway floor/ wall mounted & Accessories(MS/G.I)	Legrand/ AKG/ BEC/ ESSAR/ Honeywell/ Godrej.
32	Sandwitch Bus trunking/ Rising Main	C&S/ Lauritz Knudsen / Schneider/ ABB.
33	Telephone wire	Delton/ Finolex/ Havells/ Skytone
34	Occupancy Sensor	Wipro/ Schneider/ Honeywell/ Seimens/ Bosch
35	Gooseneck Microphone	Televic/ Beyerdynamic/ Bosch/ Bose/ Sennheiser
36	Amplifier	Crown/ Extrom/ Crestron
37	24 Port Switch	Cisco/ Netgear/ Hp/ Juniper
38	8 Port LIU	Legrand/ AMP/ Molex
39	16 Port Gigabit POE Switch	Netgear/ Juniper/ Cisco
40	HDMI/ USB Cable	AMX/ Crestron/ Manhatten
41	AV Speaker	JBL/ Bosch/ Bose/ Sony
42	CCTV Camera	Pelco/ Bosch/ Honeywell
43	DVR (Digital Video Recorder)	Bosch/ Honeywell/ Pelco
44	Fire Suppression System	Minimax/ Ceasefire/ Ansul
45	Fire Panel	Johnson Control (IFC)/ Notifier (UL) / Bosch (UL) / Mircom (UL) / Fike (UL).
46	PA System	Notifier/ Johnson Control/ Fike/ Cooper/ Bosch/ Honeywell
47	Addressable Heat/ Smoke detector/ Hooter/ RI/ Pullstation/	Johnson Control (IFC)/ Notifier (UL) / Bosch (UL) / Mircom (UL) / Fike (UL).
48	Conventional Heat/ Smoke detector/ Hooter/ RI/ Pullstation/	System Sensor/ Cooper/ GST/ Ravel/ Fike/ Essar/ Honeywell/ Bosch/ Bosch
49	Cable joint Kit	Raychem/ M-Seal/ Densons/ 3M
50	ACB	Lauritz Knudsen /Siemens/ Schneider/ ABB
51	Relay	Lauritz Knudsen /Siemens/ Schneider/ ABB
52	**PLC**	**Siemens / Schneider / Allen bradley / Mitsubishi**

C … Nil I ….. Nil O …… Nil

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BID SUBMISSION CHECK LIST

ONLINE BID SUBMISSION:

The Online bids (complete in all respect) must be uploaded online in **two** Envelops as explained below:-

Envelope – 1 (Following documents to be provided as single PDF file)			
Sl. No.	**Documents**	**Content**	**File Types**
1	**Technical Bid**	Annexure - 1 duly filled in and got signed	.PDF
2		Annexure - 2 duly complied and got signed	.PDF
3		Annexure - 3 duly complied and got signed	.PDF
4		EMD submission proof with undertaking	.PDF
5		In case of Authorized Agency Bid specific, Tender Specific Authorization Certificate by the OEM on the Letter Head of OEM, to be uploaded during the online submission of Bid (Not required for OEM).	.PDF
6		Certificate of work experience as desired	.PDF
7		Certificate of GST Registration with undertaking	.PDF
8		Affidavit as per provision of the clause 1.2.2 of IITD-6	.PDF
9		Acceptance to execute INTEGRITY PACT	.PDF
10		IITD 7 / 8 duly signed	.PDF
11		Valid Electrical Licence	.PDF
12		Any other document as specified in the NIT	.PDF
Envelope – 2			
Sl. No.	TYPES	Content	
1.	**Financial Bid**	Price bid should be submitted in BOQ format.	.EXL

C … Nil I ….. Nil O …… Nil

D'Man AEE / AE / JE EE(ED-1)

SCHEDULE OF QUANTITY

Name of work: Design, Supply, Installation, Testing and Commissioning of PLC automation for 4 x 2000 KVA HT DG set and HT distribution panels at Main and Bharti Substations, IIT Delhi.

Sl. No.	Description of item	Qty.	Unit	Rate	Amount
1	Supplying and laying of FRLS industrial multistranded copper conductor armored control cable of Following size, 1.1 KV grade, direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc. as required. etc. as required [conforming to I.S-7098(Part 1) 1988].				
1.1	24 core X 2.5 sq. mm	1500	Mtr.		
2	Supplying and laying and Fixing of RLS industrial multistranded copper conductor armored control cable of Following size, 1.1 KV grade, on wall surface as required.Upto 35 sq. mm (clamped with 1 mm thick saddle) [conforming to I.S-7098(Part 1) 1988.				
2.1	24 core X 2.5 sq. mm	600	Mtr.		
3	Supplying and making end termination with brass compression gland and tinned copper lugs for following size of PVC insulated and PVC sheathed / XLPE copper conductor cable of 1.1 KV grade as required.				
3.1	24 core X 2.5 sq. mm	80	Each		

C … Nil I ….. Nil O …… Nil

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4	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray (Galvanisation thickness not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
4.1	150 mm width X 50 mm depth X 1.6 mm thickness	200	Mtr.		
5	Fabrication, supplying, installation, testing and commissioning of Non- Redundant PLC control Panel of cubicle, construction of suitable size, floor mounted type, fabricating out of 1.6 MM thick CRCA sheet, with hinged, lockable doors, dust and vermin proof, Power coated of approved make after 07 treatment process, having Switchgear and accessories mounting and internal wiring, earth terminal numbering etc. complete in all respect, suitable for auto automatic sequential operation of HT VCB's in HT distribution panel as per specification comprising following accessories for proper running and switching of all VCB in a sequential manner and then switching off, load transfer to normal mode etc. as per requirement.				
	Plc panel [2000(H) x 800(W) x 1000(D)] (Front & Rear Access) - 01 Nos. M580 PLC controller -01 Nos. M580 PLC power supply 01 Nos. M580 PLC DI module- 32 channel digital input module with 20% spare input signals - 06 Nos. M580 PLC DO modules- 32 channel digital output module with 20% spare output signals - 03 Nos. CAT 5e Ethernet patch codes - as req.				

C … Nil I ….. Nil O …… Nil

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	Interposing relay panel for DO signal:- Relay cabinet [2000(H) x 1000(W) x 800(D)] -01 Nos. Interposing relay for DO coil rating, 24 V, DC and contact rating 110 V dc- 94 Nos. Terminals - Lots. Switch mode power supply - 02 Nos. Redundancy diode module - 01 Nos. Dummy panel for DI signals:- Dummy cabinet [2000(H) x 800(W) x 800(D)] -01 Nos. 32 channel digital input module - 01 Nos. 32 channel digital output module - 01 Nos. 5 metre CAT 5e ethernat patch cords - 05 Nos. PLC for logical operation of VCB's for load transfer from Main to DG and vice versa with settling time discrimination and suitable number of input and output along with providing and installation of software etc. as complete as required. **(Acceptable Make : Siemens / Schneider / Allen bradley / Mitsubishi)**	1	Each		
6	Supplying, installation, testing and commissioning of 24V, 25 Amp battery charger with trickle and boost charging facilities with automatic selection along with supplying and fixing of 02x12 Volts, 180 AH, SMF batteries etc. complete as required.	1	Each		
7	Supplying, installation, testing and commissioning of 02 kVA online 03 phase, UPS system, with 30 minute power backup including batteries, battery rack and interconnecting cable etc. as complete as required.	1	Each		
	Total				

JE[E] **EE[ED-1]**

C … Nil I ….. Nil O …… Nil

D'Man AEE / AE / JE EE(ED-1)