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Name of Work: Supply and installation of flag high mast with all allied works as required in the campus.

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NIT amounting to Rs. 7,88,422/- is approved.

**Executive Engineer
Electrical Division
IWD I.I.T., Kanpur**

PART-A

**INDIAN INSTITUTE OF TECHNOLOGY KANPUR
INSTITUTE WORKS DEPARTMENT
ELECTRICAL DIVISION
E-TENDER NOTICE**

NIT No. 42/Elect/2022/376

Dated: 27.12.2022

The Executive Engineer, IWD, I.I.T., Kanpur on behalf of Board of Governors of IIT Kanpur invites online percentage rate tenders for the following works from eligible electrical contractors:-

Sl. N	Name of work and location	Estimated cost put to tender (In Rs.)	Earnest Money (In Rs.)	Period of Completion	Last date & time of submission of tender	EMD Declaration, and other Documents shall be open online on	Time & date of opening of tender
1	Supply and installation of flag high mast with all allied works as required in the campus.	7,88,422/-	NIL with Bid Security Declaration (see Page 26)	20 Days	Upto 3:00 PM on 03.01.2023	At 3:00 PM on 04.01.2023	At 3:30 PM on 05.01.2023

The e-tender documents is available on <https://eprocure.gov.in/eprocure/app>.

(Vinay Kumar Tiwari)
Executive Engineer (Elect.)

Copy to:

1. Institute website: www.iitk.ac.in/iwd/tenderhall.htm
2. Notice Board

Information of e-Tendering for Contractors

1. The intending tenderer must read the terms and conditions of FORM-6 for e-Tendering carefully. He should only submit his tender if he considers himself eligible and he is in possession of all the documents required.
2. Information and Instructions for tenderer posted on website shall form part of tender document.
3. The tender 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 <http://eprocure.gov.in/eprocure/app> free of cost.
4. But the tender can only be submitted after uploading the mandatory scanned documents as per list given below.
5. Those contractors not registered on the website mentioned above, are required to get registered beforehand. If needed they can be imparted training on online bidding process as per details available on the website.
6. The following condition pertains to GST of Clause 37 & 38 of General Condition of contracts and corresponding amendments should be read as follows:-
 - a) The quoted rate should be exclusive of GST
 - b) The GST as applicable shall be paid extra. The total bid price quoted shall be inclusive of all statutory liabilities, taxes, cess, duties, levies as applicable under the prevailing statutes or levy by the statutory authorities/State/Central Government and payable by the bidder under the contract. All the GST benefits and credits on inputs as available to the bidder shall be taken into consideration in the quoted price and pass on the benefits/credits to the Corporation. Bidder shall also comply with the provision of Anti-Profiteering under GST act.)

BID DOCUMENT

Online bids (Technical & Financial) from eligible bidders which are valid for a period of **90** days from the date of Technical/financial Bids opening are invited and on behalf of the Executive Engineer, IIT, Kanpur for “**Supply and installation of flag high mast with all allied works as required in the campus.**”

Notice Inviting Tender No.	42/Elect/2022/376 Dated: 27.12.2022
Name of Work	Supply and installation of flag high mast with all allied works as required in the campus.
Estimated Cost	Rs. 7,88,422/-
Earnest Money	Nil with Bid Security Declaration page no. 28 (Attached)
Non-refundable Tender Processing fee (inclusive of GST@18%) through online transfer (NEFT/RTGS).	Tender Processing fee Rs. 2000/- Tender Processing fee Rs. 1500/- for having MSME/NSIC/Startup registration
Details of Institute Account for submitting tender processing fees	Bank Name: SBI IIT Kanpur Beneficiary Name: The Registrar IIT Kanpur A/C No. 30632766814 IFSC Code: SBIN0001161
Date of Publishing	27.12.2022
Clarification Start Date and Time	27.12.2022 (working days only)
Clarification End Date and Time	30.12.2022 15:30 hrs (working days only)
Queries (if any)	No queries will be entertained after clarification end date and time
Bid Submission Start Date	27.12.2022 (15:30 hrs)
Last Date and time of uploading of Bids	03.01.2023 (15:30 hrs)
Last Date and time of submitting, Bid Security Declaration and other documents online	03.01.2023 (15:30 hrs)
Date and time of opening of Technical, Bids	04.01.2023 (16:00 hrs)
Date and time of opening of Financial Bids	05.01.2023 (15.30 hrs) (Tentative)

- *Interested parties may view and download the tender document containing the detailed terms & conditions from the website <http://eprocure.gov.in/eprocure/app>*
- **(The bids have to be submitted online in electronic form on www.eprocure.gov.in only. No physical bids will be accepted.)**

INSTRUCTION FOR ONLINE BID SUBMISSION

The bidders are required to submit soft copies of their bids electronically on the Central Public Procurement (CPP) Portal ie <http://eprocure.gov.in/eprocure/app> , using valid Digital Signature Certificates. 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.

REGISTRATION

- (i) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL:<https://eprocure.gov.in/eprocure/app>)by clicking on the link “Online Bidder Enrollment” option available on the home page. **Enrolment on the CPP Portal is free of charge.**
- (ii) During enrolment/ registration, the bidders should provide the correct/ true information including valid email-id & mobile no. All the correspondence shall be made directly with the contractors/ bidders through email-id provided.
- (iii) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- (iv) For e-tendering possession of valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) is mandatory which can be obtained from SIFY /nCode/eMudra or any Certifying Authority recognized by CCA India on eToken/ SmartCard.
- (v) Upon enrolment on CPP Portal for e-tendering, the bidders shall register their valid Digital Signature Certificate with their profile.
- (vi) Only one valid DSC should be registered by a bidder. Bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse and should ensure safety of the same.
- (vii) Bidders can then log into the site through the secured login by entering their userID/ 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, organization 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 organization 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. These 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 tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS:

- (i) For preparation of bid Bidders shall search the tender from published tender list available on site and download the complete tender document and should take into account corrigendum if any published before submitting their bids.

After selecting the tender document same shall be moved to the 'My favourite' folder of bidders account from where bidder can view all the details of the tender document.

- (ii) Bidder shall go through the tender document carefully to understand the documents required to be submitted as part of the bid. Bidders shall note the number of covers in which the bid documents have to be submitted, the number of documents – including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- (iii) Any pre-bid clarifications if required, then same may be obtained online through the tender site, or through the contact details given in the tender document.
- (iv) Bidders should get ready in advance the bid documents in the required format (PDF/xls/rar/ formats) to be submitted as indicated in the tender document/schedule. **Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.**
- (v) Bidders can update well in advance, the documents such as experience certificates, annual report, PAN, EPF & other details etc., under "My Space/ Other Important Document" option, which can be submitted as per tender requirements. This will facilitate the bid submission process faster by reducing upload time of bids.

SUBMISSION OF BIDS:

- (i) Bidder should log into the site well in advance for bid submission so that he/ she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay.
- (ii) Bidder should prepare the **Bid Security Declaration** as per the instructions specified in the NIT/ tender document. Otherwise, the uploaded bid will be rejected.
- (iii) While submitting the bids online, the bidder shall read the terms & conditions (of CPP portal) and accepts the same in order to proceed further to submit their bid.

- (iv) Bidder shall digitally sign and upload the required bid documents one by one as indicated in the tender document.
- (v) Bidders shall note that the very act of using DSC for downloading the tender document and uploading their offers is deemed to be a confirmation that they have read all sections and pages of the tender document without any exception and have understood the complete tender document and are clear about the requirements of the tender document.
- (vi) Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document. For the file size of less than 1 MB, the transaction uploading time will be very fast.
- (vii) **If price quotes are required in XLS format, utmost care shall be taken for uploading Schedule of quantities & Prices and any change/ modification of the price schedule shall render it unfit for bidding.**

Bidders shall download the Schedule of Quantities & Prices i.e. Schedule-A, in XLS format and save it without changing the name of the file. Bidder shall quote their percentage rate in figures in the appropriate cell, thereafter save and upload the file in financial bid cover (Price bid) only.

If the template of Schedule of Quantities & Prices file is found to be modified/corrupted in the eventuality by the bidder, the bid will be rejected and further dealt as per provision of clause no 23.0 of ITB.

The bidders are cautioned that uploading of financial bid elsewhere i.e., other than in cover 2 will result in rejection of the tender.

- (viii) Bidders shall submit their bids through online e-tendering system to the Tender Inviting Authority (TIA) well before the bid submission end date & time (as per Server System Clock). **The TIA will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders at the eleventh hour.**
- (ix) After the bid submission (i.e. after Clicking “Freeze Bid Submission” in the portal), the bidders shall **take print out of system generated acknowledgement** number and keep it as a record of evidence for online submission of bid, which will also act as an entry pass to participate in the bid opening.
- (x) Bidders should follow the server time being displayed on bidder’s dashboard at the top of the tender site, which shall be considered valid for all actions of requesting, bid submission, bid opening etc., in the e-tender system.
- (xi) All the documents being submitted by the bidders would be encrypted using PKI (Public Key Infrastructure) encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology.

ASSISTANCE TO BIDDERS:

- (i) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contract person indicated in the tender. The contact number for the helpdesk is **0512-2597059 between 10:30 hrs to 17:00 hrs. The email id for the helpdesk is: vktiware@iitk.ac.in.**

Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24X7 CPP Portal Helpdesk. The 24 x 7 Help Desk Number 0120-4200462, 0120-4001002 and 0120-4001005. The helpdesk email id is support-eproc@nic.in

INSTRUCTION FOR e-PROCUREMENT

1. PREPARATION AND SUBMISSION OF BIDS :

- a. The detailed tender documents may be downloaded from <http://eprocure.gov.in/eprocure/app> till the last date of submission of tender. The Tender may be submitted online through CPP Portal <http://eprocure.gov.in/eprocure/app>
- b. The bidder should submit the bid online in two parts viz. Technical Bid and Financial Bid. Technical Bid should be upload online in cover- 1 and Financial Bid in “.Xls” should be upload online in cover-2

2. SUBMISSION OF THE BID : All interested eligible bidders are requested to submit their bids online on CPP Portal: <http://eprocure.gov.in/eprocure/app> as per the criteria given in this document:

- a. Technical Bid should be upload online in cover-1.
- b. Financial Bid should be upload online in cover-2

Both Technical and Financial Bid covers should be placed online on the CPP Portal (<http://eprocure.gov.in/eprocure/app>).

3. TECHNICAL BID: Signed and Scanned copies of the Technical bid documents as under must be submitted online on CPP Portal: <http://eprocure.gov.in/eprocure/app> .

List of Documents to be scanned and uploaded (Under Cover-1) within the period of bid submission:-

- Copy of Registration with the Department. The contractor should be registered in any of CPWD, BSNL, MES, PWD, Railways, Central PSUs/ State PSUs in the appropriate class
- Required Experience / completion certificates of similar nature of works.
- Registration Certificates of EPF & ESIC
- Scanned copy of ‘A’ class Electrical License.
- Scanned copy of solvency certificate
- Scanned copy of financial turnover during last 3 years.
- Scanned copy of GST Registration & PAN Card
- Scanned copy of Net-worth certificate by the Chartered Accountant
- Scanned Copy of Bid Security Declaration (Annexure A).
- Scanned copy of proof of tender fee submission as per the format (Annexure B) must be upload along with transection slip with due mentioned NIT No.

Note: No hardcopy of any documents will be accepted

Please note that no indication of the rates/amounts be made in any of the documents submitted with the TC-BID.

4. Financial Bid

- a. The currency of all quoted rates shall be Indian Rupees. All payment shall be made in Indian Rupees.
- b. In preparing the financial bids, bidders are expected to take into account the requirements and conditions laid down in this Tender document. The financial bids should be uploaded online as per the specified “.Xls” format i.e. Price Bid in Excel sheet attached as ‘.Xls’ with the tender and based on the scope of work, service conditions and other terms of the Tender document. It should include all costs associated with the Terms of Reference/Scope of Work of the assignment.
- c. Being an individual work contract no other tax is payable other than GST. The GST shall be paid extra as applicable.

5. Last Date for Submission of Tender:

- a. Online bids complete in all respects, must be submitted on or before the last date and time specified in the schedule of events.
- b. The IIT, Kanpur may, at its own discretion, alter/extend the last date for submission of tenders.

6. Bid Validity

- a. All the Bids must be valid for a period of **90 days** from the date of financial bid opening of the tender for execution of Contract. However, the quoted rates should be valid for the initial/ extended period of the Contract from the effective date of the Contract. No request will be considered for price revision during the original Contract period.
- b. A bid valid for a shorter period shall be declared as non-responsive.
- c. In exceptional circumstances, prior to expiry of the original time limit, the IIT may request the bidders to extend the period of validity for a specified additional period beyond the original validity of 90 days. The request and the bidders' responses shall be made in writing. The bidders, not agreeing for such extensions will be allowed to withdraw their bids without forfeiture of their Bid Security.

7. Modification / Substitution/ Withdrawal of bids:

- a. No Bid shall be modified, substituted or withdrawn by the Bidder after the Bid 's due Date.
- b. Any alteration/ modification in the Bid or additional information supplied subsequent to the Bid's due Date, unless the same has been expressly sought for by the Authority, shall be disregarded.

8. **Rejection of the Bid:** The bid submitted shall become invalid if:-
- a) The tenderer is found ineligible.
 - b) The tenderer does not upload all the documents as stipulated in the tender document.
 - c) **If any discrepancy is noticed between the documents as uploaded at the time of submission of tender and hard copies required after tender opening.**

NOTICE INVITING TENDER (FORM -6 FOR E-Tendering)

1. The Executive Engineer, IWD, I.I.T., Kanpur on behalf of Board of Governors of IIT Kanpur invites online percentage rate tenders for the following works from eligible electrical contractors: **Supply and installation of flag high mast pole with all allied works as required in the campus.**

1.1 The work is estimated to cost **Rs. 7,88,422/-** This estimate, however, is given merely as a rough guide.

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

2 Criteria of eligibility

The contractor should be registered in any of CPWD, BSNL, MES, PWD, Railways, Central PSUs/ State PSUs in the appropriate class.

Having satisfactorily completed 3 (three) similar works each of value 40% of the estimated cost or (two) similar works each of value 60% of the estimated cost or (one) similar work of value 80% of estimated cost during last seven years. Out of the above at least one work must be in the Central Govt. /Central autonomous bodies/central PSU/State PSU/ State Govt.

- a. Similar nature of work means: **“Supply and Installation of High Mast Pole of height at least 20 Mtr. or above height”**
- b. Having GST, ESI & EPF registration certificate of government authorities.
- c. Having ‘A’ Class electrical license.
- d. Details of average annual financial turnover of electrical works should be at least 100% of the estimated cost during the last 3 consecutive financial years by the certified Chartered Accountant.
- e. Having a bank solvency certificate of not less of 40% of estimated cost.
- f. **Should have Net worth certificate of minimum Rs. 3.15 Lacs issued by the certified Chartered Accountant.**
- g. **Scanned Copy of Bid Security Declaration.**
- h. **Scanned copy of proof of tender fee submission as per the format (Annexure B) must be upload along with transection slip with due mentioned NIT No.**
- i.

The value of executed works 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 the previous day of last date of submission of bids.

3. **After the award of the tender, the tenderer shall have to furnish an affidavit on non judicial stamp paper of Rs. 10.00 as under:**

“I/We undertake and confirm that eligible similar work(s) has /have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the light, then I/We shall be debarred for tendering in IIT Kanpur contracts in future forever. Also, if such a violation comes to light before date start of work, the Superintending Engineer shall be free to forfeit the entire amount of Performance Guarantee along with other procedures.”

4. Agreement shall be drawn with the successful tenderers on prescribed Form No. CPWD 7 (or other Standard Form as mentioned) which is available as a Govt. of India Publication

and also available on website www.iitk.ac.in Tenderers shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.

5. The time allowed for carrying out the work will be **20 Days** 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 tender documents.
6. The site for the work is available.*
7. The tender 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 on website <http://eprocure.gov.in/eprocure/app> or www.iitk.ac.in
8. After submission of the tender the contractor can re-submit revised tender any number of times but before last time and date of submission of tender as notified.
9. When tenders are invited in three-stage system and if it is desired to submit revised financial tender then it shall be mandatory to submit revised financial tender. If not submitted then the tender submitted earlier shall become invalid.
10. Copy of Enlistment Order and certificate of work experience wherever applicable and other documents if required and specified in this bid document shall be scanned and uploaded to the e-Tendering website within the period of tender submission.

Online tender documents submitted by intending tenderers shall be opened only of those tenderers, whose Bid Security Declaration Document & tender fee proof submission and other documents as mentioned are found in order.

Non Refundable E-tender Processing Fees is required to be submitted through online transfer (NEFT/RTGS) to the Institute account. Proof of submission as per the format (Annexure B) must be upload along with transection slip with due mention of NIT No. : in the CPP portal for valid tender submission. Details of Bank Account details can be found in (Annexure-C).

Annexure B

Format for proof of submission to be upload along with transaction slip.

No.	Name of Agency	GST Number of the Agency	Date of Transaction	Total Amount Transferred	UTR Number

Annexure C

Details of Institute Bank Account for submitting tender processing fees.

Bank Name	Beneficiary Name	A/C No.	IFSC Code
SBI IIT Kanpur	The Registrar IITK	30632766814	SBIN0001161

11. The tender submitted shall become invalid if:
 - i. The tenderer is found ineligible.
 - ii. The tenderer does not upload all the documents as stipulated in the tender document.
 - iii. **If any discrepancy is noticed between the documents as uploaded at the time of submission of tender and hard copies required after opening of the tender.**

The tender submitted shall be opened at 03:30 PM on **05.01.2023 (Tentative)**.

12. The contractor whose tender is accepted will be required to furnish performance guarantee of 3% (Three Percent) of the tendered amount within the period specified in Schedule "F". This guarantee shall be in the form of cash (in case guarantee amount is less than ` 10,000/-) or Deposit at Call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay order of any Scheduled Bank of any scheduled bank (in case guarantee amount is less than ` 1,00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. **In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', the contract would be liable to rejection by competent authority along with other procedures.**
13. Intending Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as 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 tender. A tenderers 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 tenderers 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 tender by a tenderers 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 and local conditions and other factors having a bearing on the execution of the work.
14. The competent authority on behalf of the Board of Governors, IIT, Kanpur does not bind itself to accept the lowest or any other tender and reserves to itself the authority to reject any or all the tenders received without the assignment of any reason. All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the tenderers shall be summarily rejected.
15. Canvassing whether directly or indirectly, in connection with tenderers is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable for rejection.
16. The competent authority on behalf of Board of Governors, IIT, Kanpur reserves to himself the right of accepting the whole or any part of the tender and the tenderers shall be bound to perform the same at the rate quoted.
17. The contractor shall not be permitted to tender for works in the IIT Kanpur 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 Kanpur. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.

18. No Engineer of Gazetted Rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the tender or engagement in the contractor's service.
19. The tender for the works shall remain open for acceptance for a period of **ninety (90) days** from the date of opening of tenders if any tenderer withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the department, the tenderers shall not be allowed to participate in the retendering process of the work.
20. This Notice Inviting Tender shall form a part of the contract document. The successful tenderers/contractor, on acceptance of his tender by the Accepting Authority shall within 07 days from the stipulated date of start of the work, sign the contract consisting of:-
 - a) The Notice Inviting Tender, all the documents including additional conditions, specifications and drawings, if any, forming part of the tender as uploaded at the time of invitation of tender and the rates quoted online at the time of submission of tender and acceptance thereof together with any correspondence leading thereto.
 - b) Standard C.P.W.D. Form 7 or other Standard C.P.W.D. Form as applicable.
21. The tender document will include following three components:

Part A:-

CPWD-6, CPWD-7 including schedule "A" to "F" for the major component of the work, Standard General Conditions of Contract for CPWD 2020, CPWD Works manual 2019 & SOPs 2019 as amended/modified up to **03.01.2023**.

Part B:-

General/specific conditions, specifications and schedule of quantities applicable to major component of the work.

Part C:-

- Schedule "A" to "F" for minor component of the work., General/specific conditions, specifications and schedule of quantities applicable to minor component(s) of the work.
- 21.1 The tenderers must associate himself, with agencies of the appropriate class eligible to tender for each of the minor component individually.
 22. The EPF & ESI contribution paid to the contract worker shall be reimbursed on actual basis.
 23. Protocols pertaining to COVID-19 to be followed at site by the contractor as decided by the Government of India time to time. Nothing extra shall be payable on this account.
 24. Construction equipment proposed to be deployed for the project and proof of its availability; equipment proposed to be purchased or leased.

25. Key personnel available and proposed to be engaged for management and supervision of the Project, their qualifications and experience. Valid certificates by a recognized University, technical Board, or Ministry of Government of India would only be taken cognizance of.

**Superintending Engineer
For & on behalf of the Board of Governors,
IIT, Kanpur**

PERCENTAGE RATE TENDER AND CONTRACT FOR WORK

- (A) **Tender for the work of:** | **Supply and installation of flag high mast with all allied works as required in the campus.**

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, Kanpur within the time specified in Schedule 'F', viz., schedule of quantities and in accordance in all respects with the specifications, designs, drawings 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 respects in accordance with, such conditions so far as applicable.

We agree to keep the tender **open for (90) ninety days from the date of opening of tender (financial bid)** and not to make any modifications in its terms and conditions.

If I/we, fail to furnish the prescribed performance guarantee or fail to commence the work within prescribed period I/we agree that the said Board of Governors, IIT, Kanpur or his successors in office shall without prejudice to any other right or remedy be at liberty to be debarred for participation in the re-tendering process of the work. Further, if I/we fail to commence work as specified, I/we agree that Board of Governors, IIT, Kanpur or his successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the performance guarantee absolutely and security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, up to maximum of the percentage mentioned in Schedule 'F' and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form.

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

I/We undertake and confirm that eligible similar work(s) has/ have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for tendering in IIT, Kanpur 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 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 _____ ** _____

Witness: **

Address: **

Occupation: **

**

Signature of contractor

Postal Address **

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the Board of Governors, IIT, Kanpur for a sum of Rs. _____ (Rupees _____)

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

- a) _____
- b) _____
- c) _____

For & on behalf of the Board of Governors, IIT,
Kanpur

Dated _____

Signature _____
Designation _____

Operative schedules shall be supplied separately to each intending tenderer)

SCHEDULE ‘A’

Schedule of Quantities:

SCHEDULE ‘B’

Schedule of materials to be issued to the contractor:

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

SCHEDULE ‘C’

Schedule of Tools and Plants to be hired to the contractor

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

SCHEDULE ‘D’

Extra schedule for specific requirements/document for the work, if any: **As attached in tender form.**

SCHEDULE ‘E’

Schedule of component of other Materials, Labour, POL etc. for price escalation on SITC part: **N.A.**

SCHEDULE ‘F’

Reference to General Conditions of contract.

Name of Work:	Supply and installation of flag high mast with all allied works as required in the campus.	
Estimated cost of the work:	Items of Work	7,88,422/-
Earnest money	Bid Security Declaration	
Performance Guarantee	3% of the tendered value of the work valid up to defect liability period, has to be submitted post award of work within stipulated time period as per Schedule-F .	

Retention Money.	3% of the tendered value of the work, will be deducted from each bill. Same would be released after successful completion of one (1) year defect liability period.
General rules and direction :	

Definitions:

2(v)	Engineer-in-Charge For Electrical items of work	Executive Engineer, Institute Works Department IIT, Kanpur
2(vi)	Accepting Authority	Superintending Engineer, Institute Works Department IIT, Kanpur
2(vii)	Percentage on cost of materials and labour to cover all overheads and profits	15%
2(viii)	Standard Schedule of Rates: Electrical Items of Work:	D.S.R. 2018 with up to date correction slips
2(ix)	Department:	Central Public Works Department
2(x)	Standard CPWD contract Form:	GCC 2020, SOPs 2019 ,CPWD form-7 as modified & corrected up to 03.01.2023 (Whether correction vide latest circulars are incorporated or not in this document).
Clause 1	i) Time allowed for submission of Performance Guarantee, programme chart (Time and Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW welfare board or proof of applying there off from the date of issue of letter of acceptance. ii) Maximum allowable extension with late fee @.01% per day of Performance Guarantee amount beyond the period as provided in i) above	03 Days, from the award of work 03 Days, after expiry of time period mentioned in Clause 1(i) above.
Clause 2	Authority for fixing Compensation under Clause 2	Superintending Engineer, Institute Works Department IIT, Kanpur. Or successor thereof
Clause 2	Whether Clause 2 shall be applicable	Yes
Clause 5	i) Number of days from the date of issue of letter of acceptance	03 Days

	for reckoning date of start	
	ii) Time allowed for execution of work	20 Days
Authority to decide	Extension of time	Superintending Engineer, Institute Works Department IIT, Kanpur
Clause 6		Applicable.
Clause 7	Gross work to be done together with net payment/Adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment	Not applicable Applicable
<i>Clause 7A</i>		
Clause 10A	Material to be provided by the contractor.	Applicable
Clause 10B (i),(ii), (iii),iv	Whether clause 10-B (ii) and 10-B (iii) shall be applicable.	Applicable
Clause 10 C	Component of labour expressed as percentage of value of work	Not Applicable
Clause 10 CA	Materials covered under this clause. Nearest material(other than cement, reinforcement bars and structural steel) for which All India Whole sale price Index is to be followed.	Not Applicable
	1. Cement (PPC)	Nil
	2. Steel	Nil
Clause 10 CC	Increase/Decrease in Price of materials/wages except Annual operation part	Not Applicable
Clause 11	Specification to be followed for execution of work:	
For electrical works	CPWD specifications 2013 internal and 2013 external electrical works CPWD Specifications <i>Part-I Internal - 2013, for electrical works</i> with up to date correction slips.(Hereinafter called CPWD specifications also)	
Clause 12		
12.2 & 12.3	Deviation limit beyond which clause 12.2 & 12.3 shall apply for building work	Not Applicable
Clause 16	Competent Authority for Deciding reduced rates:	

For electrical items of work

**Superintending Engineer,
Institute Works Department
IIT, Kanpur**

Clause 18 List of mandatory machinery, tools & plants to be deployed by the contractor at site.

Hydra Crane, Chain Pulley block, welding machine with safety kit, Gas cutter machine with safety kit, Hydro Testing Equipment, Ultra Sonic Flow meter, Multimeter, drill machine, crimping tools, spanner set, blower, welding torch, vacuum pump, air compressor, meggar etc.

Clause 32

Requirement of technical Representative(s)

Clause 36 (i)

Requirement of technical Representative(s)

Requirement of technical Representative(s)

Requirement of Technical Representative (S) and recovery Rate

Sl. No.	Minimum Qualification of Technical Representative	Discipline	Designation (Principal Technical / Technical representative)	Minimum Experience	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause 36(i)	
						Figures	Words
1.	B.Tech/ Diploma	Electrical	Graduate Engineer/ Diploma Engineer	5	1	Rs.15,000/- p.m	Fifteen Thousand per month

For supervision of electrical items of work, technical representatives of the respective disciplines will be required to be deployed.

MANDATORY REQUIREMENTS FOR THE TENDER

Name of Work: **Supply and installation of flag high mast with all allied works as required in the campus.**

- 1 Quality of the project is of utmost importance. This shall be adhered to be in accordance with the provisions of CPWD specifications and guidelines given in the relevant paras.
- 2 Contractor has to deploy required Plant and machinery on the project. In case the contractor fails to deploy the plant and machinery whenever required and as per the direction of the Engineer-in-charge, he (Engineer-in-charge) shall be at a liberty to get the same deployed at the risk and cost of the contractor.
- 3 The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of the contract and the Superintending Engineer/Executive Engineer may in his discretion, without prejudice to any other right or remedy available in law, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.
4. Before start of the work, the contractor shall submit the programme of execution of work and get it approved form the Engineer-in-Charge and strictly adhere to the same for the timely completion of the project work.
5. The contractor shall, at all times, carry out work on the running road in a manner creating minimum interference in the flow of traffic as per direction of Engineer-in-Charge.
6. The contractor shall carry out true and proper setting out of the work under the supervision of the Engineer-in-Charge or his authorized representatives and shall be responsible for the correctness of the positions, levels, dimensions and alignments of all parts of the Road. If at any time, during the progress of the work, any error appears or arises in the position, level, dimensions or alignment of any part of the work, the contractor on being asked to do so by the Engineer-in-Charge, shall rectify such error to the entire satisfaction of the Engineer-in-Charge. The supervision and/or checking by the Engineer-in-Charge or his authorized representative shall not relieve the contractor of his responsibility for the correctness of any setting out of any line or level. The contractor shall carefully protect and preserve all bench marks, pegs and pillars provided for the setting out of works.
7. All arrangements for traffic diversion during construction, including maintenance of diversion roads, shall be considered as incidental to the work and contractor's responsibility and nothing shall be payable to him in this respect.

8. The contractor shall take all necessary measures for the safety of traffic during construction and provide, erect and maintain such barricades including signs, markings, flags, lights and flagmen as necessary at either end of the excavation/embankment and at such intermediate points as directed by the Engineer-in-Charge for the proper identification of construction area. He shall be responsible for all damages and accidents caused due to negligence on his part.
9. The malba/garbage, removed from the site, shall be disposed off by the contractor at any suitable place as directed by Engineer-in-Charge.
10. The contractor or his authorized representative should always be available at the site of work to take instructions from departmental officers and ensure proper execution of work. No work should be done in the absence of such authorized representative.
11. Royalty at the prevalent rates and all other incidental expenditure shall have to be paid by the contractor on all the boulders, metal, shingle, earth, sand, bajri etc. collected by him for the execution of the work direct to the concerned Revenue Authority of the State or Central Government. His rates are deemed to include all such expenditure and nothing extra shall be paid.
12. Unless otherwise provided in the schedule of quantities, the rates tendered by the contractor shall be all inclusive and shall apply to all heights, depths, leads and lifts.
13. No claim for idle establishment & labour, machinery & equipments, tools & plants and the like, for any reason whatsoever, shall be admissible during the execution of work as well as after its completion.
14. Contractor shall supply, free of charge, all the materials required for testing. The testing charges shall be borne by the institute.
15. The contractor will have to make his own arrangement for obtaining electric connection(s) from the Institute/or install generators at the site of work for systematic & timely execution of work.
16. Nothing extra shall be paid for cartage of any material to the site of work.
17. **Sampling and Testing.** The contractor shall have to obtain and furnish test certificates issued by manufacturer to the Engineer -in-Charge in respect of High Mast Pole, national flag procured by him. The High Mast Structural Design procedure to IEC 60826, ACSE 48-11, other national / international and calculation of wind pressure IS 802 part-3 -1987 and other international standards.

STANDARDS OF HIGH MAST AND LIGHTING SYSTEM

- Fabricated masts sections are continuously tapered 16/18/20 sided cross sections for dove-tailed assembly confirming to BS EN 10025, customer specifications and design as per IS 875 pt III 2015. TR7, PLG 07 and other international design standards, WIND TUNNEL Tested design and type tested 16m High Mast for full scale loading.
- Fabricated mast section are single dip hot dip galvanized in a 14.3 m galvanization bath for galvanization thickness as per BS EN ISO 1461 or customer specification.
- Head frame capping section houses pulley arrangement with guides and stops for safe operation of wire ropes.
- Hot dip galvanized tubes and MS channel are used for lantern carriage design as per flood light quantities and arrangements.
- The bottom segments have design base plates and strengthen gussets and IS 2062 IS 226
- Vandal resistant, weather proof lockable access door at the mast base for parts like winch electrical motor, internal trailing cable, control switch.
- LM6 alloy pulley system with special self lubricated bush bearing on SS Shafts.
- Wire ropes GI or SS of required lengths are with copper alloy thimbles and steel thimbles for ease of assembly.
- Heavy duty single/ double drum winch, powered electric motor.
- EPR/PCP sheathed copper trailing cable with plug socket arrangement designed (optional telecom and power cable combination arrangement available).
- Quality accessories viz, foundation bolts, anchor plates etc. by ensures safe installation.
- Specially designed additional accessories used to avoid entangle between wire roped and cables.

NON INTEGRAL POWER TOOL

Motorized hand held or trolley mounted power tool for raising and lowering of High Mast Design carriage.

- Elimination of individual electric motors inside each High Masts.
- Ideally suited for installation having large number of High Masts like ports, Airports, Tank farms and other large open area lighting.

Performa of Bid Security Declaration

(To be submitted by bidder on its Company Letterhead (scanned copy) on
<http://eprocure.gov.in/eprocure/app>)

It is here by submitted that if I/We ----- (Name of bidder/firm/company) withdraw or modify the bids during period of validity, or if I/We ----- (Name of bidder/firm/company) are awarded the contract and I/We ----- (Name of bidder/firm/company) fail to sign the contract or to submit a performance security before the deadline defined in the tender documents, I/We ----- (Name of bidder/firm/company) will be suspended to take part in IIT Kanpur's tendering process for the period of two years from the date of occurrence of the above mentioned default."

Date:

Authorized Signatory

PART-B

QUALITY ASSURANCE OF THE WORK

1. The contractor shall ensure quality control measures on different aspects of construction including materials, workmanship and correct construction methodologies to be adopted. He shall have to submit quality assurance programme within two weeks of the award of work. The quality assurance programme should include method statement for various items of work to be executed along with check lists to enforce quality control.
2. The contractor shall get the source of all other materials, not specified elsewhere in the document, approved from the Engineer-in-Charge. The contractor shall stick to the approved source unless it is absolutely unavoidable. Any change shall be done with the prior approval of the Engineer-in-Charge for which tests etc. shall be done by the contractor at his own cost. Similarly, the contractor shall submit brand/ make of various materials not specified in the agreement, to be used for the approval of the Engineer-in-Charge along with samples and once approved, he shall stick to it.

3. **Other Laboratories :**

The contractor shall arrange carrying out of all tests required under the agreement through the laboratory as approved by the Engineer-in-Charge and shall bear all charges in connection therewith including fee for testing. The said cost of tests shall be borne by the contractor/department in the manner indicated below.

- i) By the contractor, if the results show that the test does not conform to relevant CPWD Specifications / BIS code or specification mentioned elsewhere in the documents.
- ii) By the department, if the results conform to relevant CPWD Specifications / BIS code or specification mentioned elsewhere in the documents.

If the tests, which were to be conducted in the site laboratory, are conducted in other laboratories for whatever the reasons, the cost of such tests shall be borne by the contractor.

Sampling of Materials:

4. Sample of building materials fittings and other articles required for execution of work shall be got approved from the Engineer-in-Charge. Articles manufactured by companies of repute and approved by the Engineer-in-Charge shall only be used. Articles bearing BIS certification mark shall be used in case the above are not available, the quality of samples brought by the contractor shall be judged by standards laid down in the relevant BIS specifications. All materials and articles brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-Charge which shall be preserved till the completion of the work.
5. The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material/work beyond set out tolerance limit shall be summarily rejected by the Engineer-in-Charge.
6. BIS marked materials except otherwise specified shall be subjected to quality test at the discretion of the Engineer-in-Charge besides testing of other materials as per the specifications described for the item/materials. Wherever BIS marked materials are brought to the site of work, the contractor shall if required, by the Engineer-in-Charge furnish manufacturers test certificate or test certificate from approved testing laboratory to establish that the material produced by the contractor for incorporation in the work satisfies the provisions of BIS codes relevant to the material and/or the work done.

7. The contractor shall procure all the materials at least in advance so that there is sufficient time to testing and approving of the materials and clearance of the same before use in work.
8. All materials brought by the contractor for use in the work shall be got checked from the Engineer-in-Charge or his authorized representative of the work on receipt of the same at site before use.
9. The contractor shall be fully responsible for the safe custody of the materials issued to him even if the materials are in double lock and key system.

ADDITIONAL TERMS AND CONDITIONS

1. Unless otherwise provided in the Schedule of Quantities/Specifications, the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the work and nothing extra shall be payable to him on account of the same. Extra payment for centering/shuttering, if required to be done for heights greater than 3.5 m shall however be admissible at the rates arrived at in accordance with clause 12 of the agreement, if not already specified.
2. Other agencies doing works related with this project may also simultaneously execute their works and the contractor shall afford necessary facilities for the same. The contractor shall leave such necessary holes, openings etc. for laying/burying in the work, pipes cables, conduits, clamps, boxes and hooks for fan clamps etc. as may be required for the other agencies. Nothing extra over the Agreement rates shall be paid for doing these.
3. Some restrictions may be imposed by the security staff etc. on the working and for movement of labour, materials etc. The contractor shall be bound to follow all such restrictions/instructions and nothing extra shall be payable on account of the same.
10. The contractor shall fully comply with all legal orders and directions of the Public or local authorities or municipality and abide by their rules and regulations and pay all fees and charges for which he may be liable in this regard. Nothing extra shall be paid/reimbursed for the same.
11. The building work shall be carried out in the manner complying in all respects with the requirements of the relevant bylaws and regulations of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer-in-charge and nothing extra shall be paid on this account.
12. If as per local Municipal regulations, huts for labour are not to be erected at the site of work, the contractor shall be required to provide such accommodation at a place as is acceptable to the local body and nothing extra shall be paid on this account.
13. The structural and architectural drawings shall at all times be properly co-related before executing any work. However, in case of any discrepancy in the item given in the schedule of quantities appended with the tender and Architectural drawings relating to the relevant item, the former shall prevail unless otherwise given in writing by the Engineer-in-charge.
14. For the purpose of recording measurements and preparing running account bills, the abbreviated nomenclature indicated in the publications Abbreviated Nomenclature of Items of DSR 2018 shall be accepted. The abbreviated nomenclature shall be taken to cover all the materials and operations as per the complete nomenclature of the relevant items in the agreement and relevant specifications.
15. In case of items for which abbreviated nomenclature is not available in the aforesaid publication and also in case of extra and substituted items for which abbreviated nomenclature are not provided for in the agreement, full nomenclature of item shall be reproduced in the measurement books and bill forms for running account bills.
16. For the final bill, however, full nomenclature of all the items shall be adopted in preparing abstract in the measurement books and in the bill forms.
17. The contractor shall take instructions from the Engineer-in-charge for stacking of materials. No excavated earth or building materials etc. shall be stacked/ collected in areas where other buildings, roads, services, compound walls etc. are to be constructed.

18. Any trenching and digging for laying sewer lines/water lines/cables etc. shall be commenced by the contractor only when all men, machinery's and materials have been arranged and closing of the trench(s) thereafter shall be ensured within the least possible time.
19. It shall be ensured by the contractor that no electric live wire is left exposed or unattended to avoid any accidents in this regard.
20. In case the supply of timber/steel frames/shutters for doors, windows etc. is made by some other agency, the contractor shall make necessary arrangements for their safe custody on the direction of the Engineer-in-charge till the same are fixed in position by him & nothing extra shall be paid on this account.
21. The contractor shall maintain in perfect condition, all portions executed till completion of the entire work allotted to him. Where however phased delivery of work is contemplated, these provisions shall apply separately to each phase.
22. The entire royalty at the prevalent rates shall have to be paid by the contractor on all the boulders, metals, shingle sand etc. collected by him for execution of the work, directly to the Revenue authority or authorized agents of the State Government concerned or the Central Government, as the case may be.
23. The contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by the departments and shall construct suitable godowns, yards at the site of work for storing all materials as to be safe against damage by sun, rain, dampness, fire, theft etc. at his own cost and also employ necessary watch and ward establishment for the purpose, at his own cost. Materials to be charged directly to work and stipulated for issue free of cost shall also be issued to the contractor as soon as those are received at site or at the stipulated place of issue. The provision of this para shall apply equally and fully to those as well.
24. All materials obtained from the Institute Works Department store or otherwise on receipt shall be got checked by the Engineer-in-charge of the work or his representations before use.
25. Registers for the materials to be issued by the department shall be maintained as required by the Engineer-in-charge and these shall be signed by the contractor or his authorized agent and representative of Engineer-in-charge on each day of transactions.
26. A penalty of 1% shall be charged if work is not done within due date.

Special condition for Safety at the Work Site

The contractor will identify one of the supervisors for taking care of implementation of Safety systems.

The Contractor should follow the following General Guidelines governing the safety rules as laid down under:

1. Smoking is strictly prohibited at workplace.
2. Nobody is allowed to work without wearing safety helmet. Chinstrap of safety helmet shall be always on. Drivers, helpers and operators are no exception.
3. No one is allowed to work at or more than three meters height without wearing safety belt and anchoring the lanyard of safety belt to firm support preferably at shoulder level.
4. No one is allowed to work without adequate foot protection.
5. Usage of eye protection equipment shall be ensured when workmen are engaged for grinding, chipping, welding and gas-cutting. For other jobs as and when site safety co-ordinator insists eye protection has to be provided.
6. All safety appliances like Safety shoes, Safety gloves, Safety helmet, Safety belt, Safety goggles etc. shall be arranged before starting the job. .
7. All excavated pits shall be barricaded & barricading to be maintained till the backfilling is done. Safe approach to be ensured into every excavation.
8. Adequate illumination at workplace shall be ensured before starting the job at night.
9. All the dangerous moving parts of the portable / fixed machinery being used shall be adequately guarded.
10. Ladders being used at site shall be adequately secured at bottom and top. Ladders shall not be used as work platforms.
11. Material shall not be thrown from the height. If required, the area shall be barricaded and one person shall be posted outside the barricading for preventing the tre-passers from entering the area.
12. Other than electricians no one is allowed to carry out electrical connections, repairs on electrical equipment or other jobs related thereto.
13. All electrical connections shall be made using 3 or 5 core cables, having a earth wire.
14. Inserting of bare wires for tapping the power from electrical sockets is completely prohibited.

15. A tools and tackles inspection register must be maintained and updated regularly.
16. Debris, scrap and other materials to be cleared from time to time from the workplace and at the time of closing of work every day.
17. All the unsafe conditions, unsafe acts identified by contractors, reported by site supervisors and / or safety personnel to be corrected on priority basis.
18. No children shall be allowed to enter the workplace.
19. All the lifting tools and tackles shall be stored properly when not in use.
20. Clamps shall be used on Return cables to ensure proper earthing for welding works.
21. Return cables shall be used for earthing.
22. All the pressure gauges used in gas cutting apparatus shall be in good working condition.
23. Proper eye washing facilities shall be made in areas where chemicals are handled.
24. Connectors and hose clamps are used for making welding hose connections.
25. All underground cables for supplying construction power shall be routed using conduit pipes.
26. Spill trays shall be used to contain the oil spills while transferring / storing them.
27. Tapping of power by cutting electric cables in between must be avoided. Proper junction boxes must be used.

Executive Engineer

SPECIAL TERMS & CONDITIONS

1. In the Contract (as hereinafter defined) the following definitions words and expressions shall have the meaning hereby assigned to them except where the context otherwise required.
 - i) Institute shall mean the Indian Institute of Technology (IIT), Kanpur
 - ii) The President shall mean the Board of Governor, IIT Kanpur.
 - iii) The Engineers In-charge, who shall administer the work jointly, shall mean the Executive Engineer (Electrical) for electrical works.
 - iv) Government or Govt. of India shall mean the Indian Institute of Technology represented by its Director.
 - v) The term Director General of Works shall mean the Chairman, Building & Works Committee of the Institute.
 - vi) Accepting authority shall mean the Director, IIT Kanpur or his authorized representative.
 - vii) Superintending Engineer shall mean the Superintending Engineer of the Institute, who as overall In-charge and head of the Institute Works Department shall direct the contract.
 - viii) Site Engineers shall mean the Sr.Assistant Engineer/Assistant Engineer & Jr. Engineer (Electrical) for Electrical works, appointed by the Institute Works Department.

2. Duties & Powers :

Site Engineers:

The duties of the Site Engineer(s) are to watch and supervise the works and the workmanship employed in connection with the works, and to test and examine any materials to be used. He shall have no authority to relieve the contractor of any of his duties or obligations under the contract nor, except as expressly provided here under, to order any work involving delay or any extra payment by the Institute, nor to make any variation in the works.

The Engineer-in-charge, from time to time in writing, delegate to the Site Engineer (s) any of the powers and authorities vested in them. Any written instruction or written approval given by the Site Engineer (s) to the contractor within the terms of such delegation (but not otherwise) shall bind the contractor and the Institute as though it had been given by the Engineer-in-charge / Architect provided always as follows:

- i) Failure of the Site Engineer (s) to disapprove any work or materials shall not prejudice the power of the Engineer In-charge / Architect to subsequently

disapprove such work or materials and to order the pulling down, removal or breaking up thereof.

- ii) If the contractor is dissatisfied because of any decision of the Site Engineer (s), he shall be entitled to refer the matter to the Engineer-in-charge / Architect, who shall thereupon confirm reverse or vary such decision.
3. The scope of contract comprises the construction, completion and maintenance of the works for (12) months after the completion and the provision of all labour, materials, construction of plant equipment and transpiration, temporary works and everything, whether of temporary or permanent nature required in and for such construction, completion and maintenance so far as the necessity for providing the same is specified in or reasonably be inferred from the contract. The contractors shall make his own arrangements for the store storage of materials, accommodation for his staff etc. and no claim for the temporary accommodation from the contractor shall be entertained.

The contractor shall carry out and complete the said work in every respect in accordance with this contract and as per the directions and to the satisfaction of the Engineer-in-charge/Architect. Issue of further drawings and /or written instructions, detailed directions and explanations which are hereinafter collectively referred to as instructions of the engineer-in-charge/ Architect's in regards to:-

- i) The variation or modification of the design, quality or quantity of works or the addition or omission or substitution of any work.
- ii) Any discrepancy in the drawings or between the schedule of quantities and /or drawings and/or specifications.
- iii) The removal from the site of any materials brought thereon by the contractor and the substitution of any other material thereof.
- iv) The dismissal from the works of any persons employed thereupon.
- v) The opening up for inspection of any work covered up.
- vi) The amending /making good of any defects.

The contractor shall forthwith comply with and duly execute any instructions of work comprised in such engineers-in-charge instructions, provided always that the verbal instructions and explanations given to the contractor or his representative upon the works shall, if involving a variation , be confirmed in writing by the contractor within seven days and is not dissented in writing within a further seven days by the Engineer-In-Charge/Architect, such shall be deemed to be instructions of the Engineer-In-charge/Architect within the scope of the contract.

4. **Contract Document:**

The several documents, forming the contract, are to be taken as mutually explanatory of one another and in case of ambiguities or discrepancies the same shall be explained and adjusted by the Engineer-In-Charge who shall thereupon issue to the contractor its interpretation directing in what manner the work is to be carried out. In case the contractor feels aggrieved by the interpretation of the Institute then the matter shall be referred to the Superintending Engineer and his decision shall be final, conclusive and bind on both parties.

The drawings etc. shall remain in the custody of the Institute. Two complete sets of drawings, specification and bill of quantities shall be furnished by the Engineer-In-Charge

to the contractor in such time which must not delay the progress of the construction and the Institute shall furnish copies of any additional drawings, which in their opinion may be necessary for the execution of any part of the work. One complete set shall be kept on the work site and the Engineer-In-Charge and his representatives shall be, at all reasonable times, have access to the same. The contractor shall study the drawings thoroughly before the commencement of work. In case of any discrepancy, the contractor shall seek clarification before proceeding with the works. Figured dimensions are in all case to be accepted in preference to the scaled sizes. Large scale details shall taken preference over small scale one.

The contractor shall give adequate notice in writing to the Engineer-in-charge of any further drawings or specification that may be required for the execution of the works or otherwise under the contract.

The Engineer-in-charge shall have full powers and authority to supply the contractor from time to time during the progress of the work such drawings and instructions as shall be necessary for proper execution and the contractor shall carry out and be bound by the same.

The successful tenderer shall be required to enter into an agreement with the Institute. The Bill of Quantities & rates filled by the successful tenderer in, the General Condition of the Contract for CPWD works 2020, CPWD Works Manual 2019 along with SOP's 2019 updated till last date of tender submission, CPWD specifications for Electrical works, the special conditions, additional specifications, negotiation letter and the award letter etc. shall form part of the agreement to be signed by the successful tenderer. The cost of stamp paper and stamp duty, required for the agreement, shall be borne by the contractor

5. Contract Agreement:

The contractor shall, when called upon to do so, enter into and execute a contract agreement in the form annexed as annexure 'A' with such modifications as may be necessary. The contract agreement, inclusive of its enclosures, shall remain in the custody of the Superintending Engineer, Institute Works Department, IIT Kanpur and the made available him as and when required contractor shall however be supplied, an attested copy there free of cost.

6. Canvassing in connection with tenders is prohibited and the tenders, submitted by the tenderers who resort to canvassing, are liable for rejection.
7. Tenderers shall have to sign the attached declarations and if the declaration is not found to represent a true statement of facts the contract is liable to be cancelled, and the contractor shall have no claim on the Institute.
8. Tenderers are not allow to make additions and alterations in the tender document. Any additions and alternations, if incorporated in the tender, shall be at the tender's risk since the modified tender is liable for rejection.

Conditional tenders violative of the spirit and the scope or the terms & conditions of the tender, are liable to be rejected without assigning any reasons. Tenders with any form of rebate shall be rejected summarily.

9. Water and electricity required for electrical works shall be supplied free of charge.

10. Stamps duty on the security money shall also be the born by contractor as per prevailing notification of U.P Govt.

11. Conditions for Electrical Works:-

- i. All chase cuttings in the wall, for recessed conduits & boxes and drilling the holes shall be done with power operated machines only. No chase shall be allowed to be cut manually with the use of hammer & chisel.
- ii. All cuttings in cement plaster and brick shall be made good by using cement mortar 1:3 (1 part cement, 3 part coarse sand)
- iii. The cut surfaces shall be repaired by an experienced mason only so as to match the repaired plaster with the original.
- iv. All such repaired surfaces shall be cured for 3 to 4 days to keep the surfaces wet, using water spray machine (hand/motor operated) and avoid unnecessary flooding of the area.

12. Payment shall be regulated as under

- a.) 75% of the tendered rate on receipt of materials at site.
- b.) 15% of the tendered rate on installation and connection.
- c.) 10% of the tendered rate on testing and commissioning.

13. The following drawings shall be get approved from the Engineer-In-Charge before starting the works with in seven days of award of work.

- i) G.A and schematic drawings of MV switchgear/distribution /conduit layout/wiring drawing, Fire Alarm panel showing material and size of sheet steel/bus bars / inter connections and make and ratings of switchgear i/c details of protection, metering, indicating and inter lock etc.
- ii) Conduit layout for lights, fans, socket outlets, telephone outlets, network & fire alarm system and sub mains showing size of conduits, no. of wires and size of wires in each run, location and size of accessories like junction boxes, ceiling boxes for hooks, draw boxes and switch boxed etc.
- iii) Cable routing drawings showing details of size, type and no. of cables and mode of installation.

14. Completion drawings:

On completion of works and before issuance of completion certificate, the contractor submit completion drawings in the form of three complete set of originals (reproducible) .

- i) As built GA and schematic drawings of MV panels, distributions boards, wiring, cable laying with sizes, earthling details, fire alarm panels, etc. showing material and size of sheet steel/bus bars/ connections and make and rating of switchgear i/c details of protection, meter indicating and interlocks etc.
- ii) Technical literature, test certificates and operation and maintenance manuals required

15. Works Inspection and Testing of Equipment:

Prior to dispatch of equipment the Institute reserves the right to inspect the same at the manufacturer's works and the contractor shall provide and secure every reasonable access and facility at the manufacturers works for inspection, for witness of all acceptance and

routine tests as per relevant Indian Standards. Contractor shall give a reasonable notice of about 15 days for the purpose of test, and witness of all major equipment's.

- i) Pre-commissioning test: All routine tests shall be carried out on the electrical equipment. Protective & measuring devices should be checked for calibration of MCCB's/MCB's, panel & cable meggering , earthing measurements etc.

16. Rates: The work shall be treated as on works contract basis and the rates tendered shall be for complete item of work and all charges for items contingent to the work, such as packing, forwarding, insurance, freight and delivery at site for the materials to be supplied by the contractor, watch and ward of all materials at the site, labour related expenses as per relevant labour laws, testing of materials/ samples etc. excluding Goods and Service Tax (GST).

17. Taxes & Duties:

Being an indivisible works contract, no other tax is payable . The GST shall be paid extra as per Govt. Norms.

18. The tender document contains 75 pages. of the tender document shall be removed, mutilated, detached or cancelled.

19. The work shall be executed on the basis of the following CPWD specifications:

i) Electrical Works :

- General specifications for Electrical Works Part-1 (Internal) 2013 with up to date corrections.
- General specifications for electrical works (external) 2013 with upto date corrections.
- General specifications for electrical works Part-VII (DG set) 2013 with upto date corrections.
- General specifications for electrical works Part-IV Sub-station- 2013 with upto date corrections.

20. For the purpose of clause 12 of the General conditions of contract the following schedule of rates shall be applicable.

i) Electrical Works: Based upon prevailing market rates.

21. The special conditions listed above shall take precedence over all above provisions of the contract. The General Condition of contract for CPWD works shall be generally followed including the clause 21 i.e. work shall not be sublet.

22. The contractor shall have to execute the work in such place and condition where other agencies will also be engaged for other works such as site grading, filling and leveling, interiors, landscape, and electrical and mechanical engineering works, etc. No claim shall be entertained due to work being executed in the above circumstances.

23. No contractor, to whom the provisions of the BOCW Act apply, shall be allowed to commence work on the campus unless he has produced the 'Registration Certificate' issued by the office of Dy. CLC (Central).

24. The contractor shall engage only such workers who are registered as beneficiaries with U.P. BOCW Welfare Board and in case of engagement of new workers, he shall ensure the submission of applications for registration of such workmen within appropriate time.

25. A certificate for administrative convenience shall be obtained from the contractor covered under BOCW Act whether he has engaged 10 or more workmen while working in the Institute and only thereafter, Cess @1% from the bills raised by him shall be deducted at source for all running works. Cess, so deducted shall be deposited with the BOCW Welfare Board.
26. As per clause 36 (I) of GCC: It should be noted that license wire man shall only be allowed for the wiring work.

INDIAN INSTITUTE OF TECHNOLOGY - KANPUR
ADDITIONAL SPECIFICATIONS FOR ELECTRICAL WORKS
MEDIUM VOLTAGE SWITCHGEAR

1. STANDARDS AND CODES

The following Indian Standard Specifications and Codes of Practice will apply to the equipment and the work covered by the scope of this contract. In addition the relevant clauses of the Indian Electricity Act 1910 and Indian Electricity Rules 1956 as amended upto date shall also apply. Wherever appropriate Indian Standards are not available, relevant British and/or IEC Standards shall be applicable.

BIS certified equipment shall be used as a part of the Contract in line with Government regulations. Necessary test certificates in support of the certification shall be submitted prior to supply of the equipment.

It is to be noted that updated and current Standards shall be applicable irrespective of those listed below.

Low voltage Switchgear and Control gear specifications IS 13947 : 1993

Part I – General

Part 2 – Circuit Breakers

Part 3 – Switch Fuse Units

Part 4 – Contactors and Motor Starters

Part 5 – Control Circuit Devices

Electrical Relays for power system protection IS 3231 : 1986

Low voltage Switchgear and Controlgear assemblies IS 8623 : 1993

Marking of Switchgear busbars IS 11353 : 1985

Degree of Protection of Enclosures for low voltage switchgear IS 2147 : 1962

Code of Practice for selection, installation and maintenance of Switchgear IS 10118 : 1982

2. SWITCH FUSE UNITS

2.1 Switch fuse units, incorporated in switchboards wherever required shall conform in all respects to IS 13947 : 1993. Switch fuse units shall be suitable for 415 Volts 3 Phase 50 HZ AC supply and shall be suitable for AC - 23 A duty.

Unit housing shall be of robust construction designed to withstand arduous conditions. Sheet steel used shall be given rigorous rust proofing treatment before fabrication and painting Units shall have double break per phase in order to isolate fuse links when the switch is in OFF position.

Operating mechanism of units shall be crisp and positive in action with quick- make and quick-break silver plated contacts. Operating handle shall be suitable for rotary operation

unless otherwise specified. Position of handle such as ON and OFF shall be clearly indicated.

All live parts inside the switch fuse units shall be shrouded to prevent any accidental contact.

All the terminals shall be liberally designed. All units above 100 A shall be provided with integral cable sockets.

All switch units shall be provided with suitable interlocks such that the door of the switchboard panel shall not open unless the switch is in OFF position. Provision for padlocking the switch in OFF position shall also be provided.

Routine and type tests as per IS 13947 : 1993 shall be conducted at works and test certificates furnished.

3. MOULDED CASE CIRCUIT BREAKERS

- i) Moulded case circuit breakers (MCCB) or fuse free breakers, incorporated in switchboards wherever required, shall conform to IS 13947 : 1993 in all respects. MCCBs shall be suitable either for single phase 240 Volts or 3 Phase 415 Volts AC 50 HZ supply.
- ii) MCCB cover and case shall be made of high strength heat resisting and flame retardant thermosetting insulating material. Operating handle shall be quick make/break, trip - free type. Operating handle shall have suitable ON, OFF and TRIPPED indicators. Three phase MCCBs shall have a common handle for simultaneous operation and tripping of all the three phases. Suitable arc extinguishing device shall be provided for each contact. Tripping unit shall be of thermal/magnetic type provided on each pole and connected by a common tripe bar such that tripping of any one pole causes three poles to open simultaneously. Thermal/magnetic tripping device shall have IDMT characteristics for sustained over loads and short circuits.
- iii) Contact trips shall be made of suitable arc resistant sintered alloy. Terminals shall be of liberal design with adequate clearances.
- iv) MCCBs shall be provided with following accessories, if specified in drawings/schedule of quantities :
 - Under voltage trip
 - Shunt trip
 - Alarm switch
 - Auxiliary switch
- v) MCCBs shall be provided with following interlocking devices for interlocking the door a switch board.
 - Handle interlock to prevent unnecessary manipulations of the breaker.
 - Door interlock to prevent door being opened when the breaker is in ON position
 - Deinterlocking device to open the door even if the breaker is in ON position.

MCCBs shall have rupturing capacity as specified in drawings/schedule of quantities.

4. METERING, INSTRUMENTATION AND PROTECTION.

The switchboard shall have required current and potential transformers as per schedule of quantities for metering and protection. The transformers shall comply to relevant ISS and class of accuracy required for metering and protection. Separate sets of CTs shall be provided for metering and protection.

4.1 Current Transformers

C/Ts shall conform to IS 2705 (part -I, II and III) in all respects. All C/Ts used for medium voltage application shall be rated for 1 kV. C/Ts shall have rated primary current, rated burden and class of accuracy as specified in schedule of quantities/drawings. Rated secondary current shall be 5A unless otherwise stated. Minimum acceptable class for measurement shall be class 0.5 to 1 and for protection class SP 10. C/Ts shall be capable of withstanding magnetic and thermal stresses due to short circuit faults of 31 MVA on medium voltage. Terminals of C/Ts shall be paired permanently for easy identification of poles. C/Ts shall be provided with earthing terminals for earthing chassis, frame work and fixed part of metal casing (if any). Each C/T shall be provided with rating plate indicating:

- Name and make
- Serial number
- Transformation ratio
- Rated burden
- Rated voltage
- Accuracy class

CTs shall be mounded such that they are easily accessible for inspection, maintenance and replacement. Wiring for CT shall be with copper conductor PVC insulated wires with proper termination works and wiring shall be bunched with cable straps and fixed to the panel structure in a neat manner.

4.2 Potential Transformer

PTs shall conform to IS 3156 (Part-I,II and III) in all respects.

4.3 Measuring Instruments

Direct reading electrical instruments shall conform to IS 1248 or in all respects. Accuracy of direct reading shall be 1.0 of voltmeter and 1.5 for ammeters. Other instruments shall have accuracy of 1.5. Meters shall be suitable for continuous operation between -10^o C and +50^oC. Meters shall be flush mounting and shall be enclosed in dust tight housing. The housing shall be of steel or phenolic mould. Design and manufacture of meters shall ensure prevention of fogging of instrument glass. Pointer shall be black in colour and shall have Zero position adjustment device operable from out side. Direction of deflection shall be from left to right. Suitable selector switches shall be provided for ammeters and volt meters used in three phase system. The rating type and quantity of meters, instruments and protective device shall be as per Schedule of Quantities /drawings

4.3.1 Ammeters

Ammeters shall be of moving iron type. Moving part assembly shall be with jewel bearings. Jewel bearings shall be mounted on a spring to prevent damage to pivot due to vibrations and shocks. Ammeters shall be manufacture and calibrated as per IS 1248

Ammeters shall normally be suitable for 5 A secondary of current transformers.

Ammeters shall be capable of carrying substantial over loads during fault conditions.

4.3.2 Voltmeters

Voltmeters shall be moving iron type range of 3 phase 415 volt voltmeters shall be 0-500. Volt meters shall be provided with protection fuse.

4.3.3 Watt meter

Wattmeter shall be of 3 phase electro dynamic type and shall be provided with a maximum demand indicator if required.

4.3.4 Power factor meters

3 phase power factor meters shall be of electro dynamic type with current and potential coils suitable for operation with current and potential transformers provided in the panel. Scale shall be calibrated for 50% lag - 100% - 50% readings. Phase angle accuracy shall be $+4^{\circ}$.

4.3.5 Energy and reactive power meters

Trivector meters shall be two element, integrating type, KWH, KVA, KVARH meters. Meters shall conform to IEC 170 in all respects. Energy meters, KVA, and KVARH meters shall be provided with integrating registers. The registers shall be able to record energy conception of 500 hours corresponding to maximum current at rated voltage and unity power factor. Meters shall be suitable for operation with current and potential transformers available in the panel.

4.4 Relays

Protection relays shall be provided with flag type indicators to indicate cause of tripping. Flag indicators shall remain in position till they are reset by hand reset. Relays shall be designed to make or break the normal circuit current with which they are associated. Relay contacts shall be of silver or platinum alloy and shall be designed to withstand repeated operation without damage. Relays shall be of draw out type to facilitate testing and maintenance. Draw out case shall be dust tight. Relays shall be capable of disconnecting faulty section of network without causing interruption to remaining sections. Analysis of setting shall be made considering relay errors, pickup and overshoot errors and shall be submitted to Engineer in charge for approval.

4.4.1 Over current relays

Over current relays shall be induction type with inverse definite minimum time lag characteristics. Relays shall be provided with adjustable current and time settings. Setting for current shall be 50 to 200 % insteps of 25%. The IDMT relay shall have time lag (delay) of 0 to 3 seconds. The time setting multiplier shall be adjustable from 0.1 to unity. Over current relays shall be fitted with suitable tripping device with trip coil being suitable for operation on 5 Amps.

4.4.2 Earth fault relay

Same as over current relay excepting the current setting shall be 10% to 40% in steps of 10%.

4.4.3 Under voltage relay

Under voltage relays shall be of induction type and shall have inverse limit operation characteristics with pickup voltage range of 50 to 90% of the rated voltage.

4.5 Power factor correction capacitors

Power factor correction capacitors shall conform to IS 2834 in all respects. Approval of insurance association of India shall be obtain if called for. Capacitors shall be suitable for 3 phase 415 volts 50 HZ supply and shall be available in single and three phase units of 5,10,15,20,25 and 50 kVAR sizes as per requirements. Capacitor shall be usable for indoor use, permissible overloads being as below.

- Voltage overloads shall be 10% for continuous operation and 15% for six hours in a 24 hours cycle.
- Current overloads shall be 15 % for continuous operations and 50% for six hours in a 24 hours cycle.
- Over load of 30% continuously and 45% for six hours in a 24 hours cycle.

Capacitors shall be hermetically sealed in sturdy corrosion proof sheet steel containers and impregnated with non inflammable synthetic liquid. Every element of each capacitory unit shall be provided with its own built in silvered fuse. Capacitors shall have suitable discharge device to reduce the residual voltage from crest value of the rated voltage to 50 volts or less within one minute after capacitor is disconnected from the source of supply. The loss factor of capacitor shall not exceed 0.005 for capacitors with synthetic impregnates. The capacitors shall withstand power frequency test voltage of 2500 volts AC for one minute. Insulation resistance between capacitors terminals and containers when a test voltage of 500 volts DC is applied shall not be less than 50 meg.ohms.

5. OUTDOOR TYPE DISTRIBUTION FEEDER PILLARS

The feeder pillar shall be of the floor mounting type, totally enclosed, and weather proof, conforming to ISI IP 54 incorporating phenolic moulded fuse fittings with high rupturing capacity cartridge fuse links having a certified rupturing capacity of not less than 35 MVA at 433 volts. The feeder pillar shall be suitable for 440 volts 3 phase 4 wires, 50 cycles AC supply.

The cubicle should be fabricated out of heavy gauge sheet steel of thickness not less than 2 mm thick with suitable side frame and stiffeners. Hinged doors of not less than 1.6 mm thick should be provided at the front and rear of the cubicle to provide access for installation, operation, tests and inspection. The rear door is provided to facilitate cable termination and the front door for inspection of fuses, to switch 'ON' and 'OFF' the switch as and when required. All doors should be fitted with dust excluding neoprene gaskets. The doors should also be fitted with suitable locking arrangement with lock to prevent unauthorized opening. The cubicle should be designed for mounting over cement concrete plinths by the roadside, and should be of substantial construction capable of withstanding the vibrations normally experienced due to vehicular traffic. The top of the feeder pillar is of slanting construction in all directions to prevent any collection of water due to rain. A gland plate is provided at the bottom of the feeder pillar (removable) for mounting the cable glands. The feeder pillar shall be fitted on an angle iron pedestal at the bottom covered with sheet metal from all the four sides which facilitates cable bending etc

specially with aluminium cables. Two lifting hooks shall be provided at the top. A door switch shall be provided in the feeder pillar so as to switch 'ON' and 'OFF' the lamp fixed in the brass batten holder below the top sheet of the pillar.

The sheet steel materials used in the construction of the cubicle should have undergone a rigorous rust proofing process comprising alkaline degreasing, descaling in dilute sulfuric acid solution and recognized phosphating process. After metal treatment, the interior of the cubicle should be painted with two coats of air-drying red lead primer followed by two coats of air drying anti-condensation paint. The exterior of the cubicle should be painted with two coats of staving red oxide primer followed by one coats of epoxy finishing paint. One final spray of epoxy paint shall be applied at the time of handing over the installation.

All the nuts, bolts shall be cadmium plated with spring washers. A minimum spacing from cable connection to the bottom of gland plate shall be 300mm.

The bus bars should be of electrical grade copper. They should be air insulated with adequate clearances between conductors and between conductors and earth. These should be colour coded to enable immediate identification of the phases and neutral. The current density for bus bars shall not be more than 1.0 amps per square mm. All bus bar joints and tapings should be of the clamped type as far as possible thereby avoiding drilling of holes on bus bars. The bus bars should be carried on supports made out of a suitable non-inflammable and non-hygroscopic material such as Hylam, Permali or Formics. Suitable insulating phase barriers should be provided to prevent accidental short-circuits during operation.

The fuse base contacts should be of copper comprising one top contact for bolting to the bus bar, one bottom contact for terminating the incoming or outgoing cable and a cable lug. The bottom contacts should be so designed that the cable tail from the cable gland to the cable lug is vertical and does not foul with any live parts in its run. The spacing between the respective fuse bases should not be less than 40mm.

The fuse carriers should be fitted as standard to all fuses to minimize accidental contact with live metal during inspection or maintenance. The carriers should be phenolic moulded, designed to accommodate HRC fuse-links and should incorporate a wedge action device for tightening the fuse-link to the base contact. This wedge action should be operated externally by insulated thumb screws giving uniformly high pressure contact ad ensuring cool running under full load conditions, with positive location of the fuse-link tags on the base contact. The fuse-link shall not work loose due to vibration occurring from vehicular traffic.

A viewing aperture should be provided on the carrier to facilitate location of a 'blown' fuse. The fuse carriers should also be easily withdrawable in service. The design of the carrier should be such that carrier components do not carry any current and the contact is decidedly between fuse-link tag and base contact.

When incoming links are called for it should be possible to fit the carriers with solid links in lieu of fuses.

SPECIFICATION FOR LT PANEL/ SWITCHGEAR

1. CONSTRUCTION:-

- i) Switchgear enclosure shall conform to the degree of protection IP4x minimum thickness of sheet metal used shall be 2 mm.
- ii) The switchgear shall comprise a continuous line up of single / Multi-tire cubicles. The installations of circuit breakers however shall be limited to the bottom two tires only.
- iii) The design shall be of fully compartmentalized execution with metal/ insulating portions. Working height shall be limited between 750 mm to 1800 mm from the floor level.
- iv) Each breaker shall be housed in a separate cubicle, complete with an individual front access door; each vertical section shall have a removable back cover. All doors & covers shall be gasketed.
- v) Switchgear cubicle shall be so sized as to permit closing of the front access door when the breaker is pulled out to ISOLATED position.
- vi) All switchgear, lamps & indicating instruments shall be flush mounted on the respective cubicle door whereas relays & other auxiliary devices of any may be mounted on a separate cubical.

2. BUS AND BUS TAPS

- i) The main buses & connections shall be of high conductivity aluminium alloy, as per IS : 5082 sized for specification current rating with maximum temperature limited to 85 degree C (i.e., 35 degree C rise over 50 degree C ambient). Bus bars shall be designed for a maximum current density of 0.8A/ sq.mm.
- ii) All bus connections shall have adequate contact pressure which should be ensure by means of two bolt connections with plain & spring washers locknuts. Bimetallic connections between dissimilar metals.
- iii) Bus connections shall be fully insulated for working voltage with adequate phase / ground clearances.
 - Insulating sleeves for bus bars & surrounds for joints shall be provided.
 - Bus insulator shall be flame-retardant, track resistant type with high creep age surface.
- iv) All buses & connections shall be supported & braced to with stand the stresses due to maximum short circuit current & also to take care of any thermal expansion.
- v) Bus-bars shall be sleeved in colour coded manner for easy identification & so located that the sequence RYB shall be from left to right, top to bottom of front to rear, when viewed from the front of switchgear assembly.

- vi) Bolted disconnected links shall be provided from all incoming & outgoing feeders for isolation of neutral, if necessary.

3. CIRCUIT BREAKER

- i) Circuit breaker shall be three poles, single throw, air breaker type with stored energy, trip free mechanism & shunt trip. The circuit breaker of the outgoing feeder shall have an in built microprocessor base release, short circuit, over current & earth fault protection release.
- ii) Circuit breakers shall be draw out type, having SERVICE, TEST & ISOLATED position with positive indication for each position along with in built relay unit.
- iii) Circuit breaker of identical rating shall be physically & electrically interchangeable.
- iv) Circuit breaker shall be motor wound spring charged mechanism, motor voltage should be 240 V AC. For motor wound mechanism, spring charging shall take place automatically after each breaker closing operation. One open close-open operation of the circuit breaker shall be possible after failure of power supply to the motor. Power supply for this motor shall be taken from the output of auto changeover.
- v) Mechanical safety interlocking shall be provided to prevent the circuit breaker from being racked in or out of the service position when the breaker is closed.
- vi) Automatic safety shutters shall be provided to fully cover the female primary disconnects when the breaker is withdrawn.
- vii) Each breaker shall be provided with an emergency manual trip, mechanical ON-OFF indicator, an operation counter & mechanism charge/ discharge indicator.
- viii) In addition to the auxiliary contacts required for normal breaker operation & indication, each breaker shall be provided with following for interlocking purpose:-
 - a) Position/ cell switch with 4 NO. + 4 NC contacts. These shall be available as spare for automation work.
Control Supply:- 230V AC for closing,
Tripping & indication lamps.
 - b) Auxiliary switch, with 6 NO+ NC contact, mounted on the stationary portion of the switchgear & operated mechanically by a sliding level from the breaker, in SERVICE position. These shall be available as spare for automation work.
- ix) Limit / auxiliary switches shall be convertible type, that is, suitable for changing NO contact to NC & Vice-Versa.

4. Name Plate

- Suitable name plate shall be furnished with each piece of equipment.
- Materials for name plate shall be plastic/lamicoid, 3mm thick, using white letters on black background.

5. Finish

- Except for supporting steel structures which shall be galvanized, all equipment shall be finished with an undercoat of high quality primer followed by two coats of synthetic enamel paints.
- The interior surface finish shall be as per manufacturer's standard. The shade of exterior surface finish will be battle ship gray shade 632 as per IS-5.
- Pre-treatment consisting of degreasing, derusting etc. shall be done on all fabricated parts before painting or galvanizing.
- Paints shall be carefully selected to withstand heat and weather conditions. The paint shall not scale-off or crinkle or get removed by abrasion due to normal handling.
- Sufficient quantities of all paints and preservatives required for touching up at sites shall be furnished.

6. Handling of cable drum and cable:

- Rolling of drum shall be avoided as far practicable. For short distance, the drums may be rolled they are rolled slowly and in proper direction as marked on the drum. In absence of any identification. The drums may be rolled in the same direction as it was rolled during taking up the cable.
- For unreeling the cable, the drum shall be mounted on jacks or on cable well. The spindle shall be strong enough to carry the weight without bending. The drum shall be rolled on the spindle slowly, so that cable should come out over the drum & not below the drum. While laying cable, cable shall be used at an interval of 2 meters. The cable shall be pushed over the roller by a gang of people positioned in between rollers. The cable shall not be pulled from the end without laying intermediate pushing arrangement. Bending radius shall not be less than what is specified by manufacturer.

7. Cable laying:

- Cables shall generally be installed in cable trays except for some short runs in buried formation or in conduit / pipe for protection or crossing. Multi core power cable laid on trays & riser shall be neatly dressed & clamped with fabricated 25 x 3 mm G.S flat or cable tray at an interval of maximum 1 meter for vertical / inclined run & 1.50 meter for horizontal run. Control cables may be laid in single layer with touching formation. Power & control cables shall be claimed in separate group. Power & control cables shall be no be laid in a common tray excepting in very special case where a gap of 150 mm shall be maintained between power & control cables.
- H.T & L.T power cables shall be laid in cable trays in single layer & with spacing equal to the diameter of cable.
- Control cable can be laid upto a maximum of three layers in each tray.
- Both power & control cables shall be clamped to the trays rungs by means of clamp made up to 25 x 3 mm fabricated G.S flat at an interval of 1500 mm for horizontal run & 1000 mm for vertical / inclined cable run.

- The cable trays shall be run with a vertical spacing of 300 mm cable trenches. A minimum of 300 mm clearance shall be provided between the top of tray & beams, cold piping, 500 mm clearance for hot piping / object to facilitate installation of cables in tray.
- Adequate pull boxes shall be provided in conduit run to facilitate. Cable pulling in long runs & also to ensure that there will be no more than 270 degree bend between the pull points.
- Cable tray shall be installed to accommodate cable manufacture's recommended maximum pulling tension & minimum bending radius.
- All opening in the floor & wall for cable access shall be sealed after installation of the cable system with non-inflammable materials.
- All floor/ wall for cable entry to the electrical equipment & accessories shall be sealed with non- inflammable material, after completion of cable installation. Thickness of such materials shall be equal to the thickness of floor / wall.

8. **Cable power & control:**

- The tender shall install & connect all power & control cable required for complete installation with in his scope of work. Type and size of power& control cable shall be as specified & as supplied under a separate sub section for power and control cable.
- In general all power and control cable shall be run in cable trays in cable trenches. Isolated runs of control cables shall be run in rigid conduit.
- Jointing of power cable should be avoided as per as possible. However, if any splicing of control cable is required to carry out interlock it will be done junction boxes not in the conduit or in the trays. Such junction boxes shall be in scope of tenderer.
- The contractor shall not installs cables with different voltage in the same cable tray.
- During cable installation care shall be taken so that actually binding radius of each cable is not less than the one recommended by the cable manufacturer.
- For cable buried directly underground their shall be a stone free sand cushion both above and below the cable run being held by brick wall support on two (2) sides. The excavated portion above the top sand cushion shall be covered by concrete precast slab supported on the side walls & finally filled up with standard back fill.
- Cables shall be pulled into the trenches in strict accordance with the cable manufacture's instruction. Cable route marker (encrypted type) shall have to be installed at regular intervals as per CPWD specifications.
- Tender shall furnish & install suitable solder less crimping type cable lugs at the termination of all wires & cables if not already furnished with the equipment.
- All exposed conduits & armoured cables shall be tagged with numbers that appear in the conduit & cable schedules as prepared by the tenderer. All conduits & armoured cable

shall be tagged at their entrance and / or exist from any piece of apparatus, junction box or pull box. Aluminum tags shall be used with the number engraved / punched on the tag. Tag shall suitably secured to the conduit or armoured cable.

- The cable tags shall also be provided at all bends and at interval of 30 M on straight run of cable in order to facilitate the identification.
- Laying termination & connection of all control cables for interlock, protection, indication & annunciation.

The tender shall prepare cable schedule & interconnection diagram & submit the same for approval of the Authority. Cable laying shall be started with the approval cable schedule & interconnection diagrams. Separate cables for each type of following services/ functions as applicable shall be used & laid along the run for each feeders.

- a) Power - designate as 'P'
- b) Control protection interlock, meeting, indication & annunciation designate as "C".

9. Filed Testing:

- Filed testing shall be required for all the equipment & accessories furnished, installed or connected by the tenderer to ensure proper installation, setting, connection & in accordance with the plans, specification and manufacturer's recommendations.
- Testing shall be conducted in presence of Owner's engineer with prior notice at least 2 weeks before commencement of any test.
- Filed testing work shall be done as per the latest edition of the relevant standards. All tests recommended by the equipment manufacturer shall be conducted. The tenderer shall submit the list of all filed tests to be conducted for all equipment & accessories for review / approval by the owner.
- Testing shall include any additional tests suggested by the owner that the deems necessary because of filed condition to determine that equipment, materials & system meet requirements of the specification.
- The tender shall depute qualified personal to conduit all testing & shall provide all labour and testing equipment required for & incidental to testing.
- The tender shall be responsible for any damage to equipment & material due to improper test procedure or test apparatus & shall replace to original condition of any damaged equipment or material.
- The tender shall maintain in quadruplicate a written record of all tests showing date, personal making the tests, equipment or material tested performed & result. Two copies of test records shall be given to the authority.

10 Commissioning:

After the satisfactory test is performed the equipment & material shall be put on trial operation by the tenderer. After successful trial operation, the equipment shall be put on performance tests initially at no load condition & finally with different loading conditions

TECHNICAL SPECIFICATION OF FLAG MAST

1. Scope of work:

The scope of this specification covers the supplying, transport, installation, testing and commissioning of the complete Flag system, using Raising and lowering type of flag mast towers, including the civil foundation work, as per details given in the Appendix -1 of technical bid.

2. Applicable standards:

- i) The applicable codes followed for high mast designs are as follows:
- ii) IS 875 Part-3 : Wind Loading
- iii) BS EN 10025: 1993 : High Tensile steel Sheets
- iv) BS EN ISO 1461 : Galvanization
- v) SABS 0225: 1991 High Mast natural frequency calculation
- vi) IS 2062 Mild steel
- vii) IS 3459 /2256 : Stainless steel wire rope
- viii) IS 325 : Motor

3. Flag Mast:

POLE:

Structure Details:

The Flag mast shall be continuously tapered, polygonal cross section (twenty sided) with the pulley box arrangement at the top. The structure gives good visual appearance and is based on proven design confirming to Indian Standard/TR-7, to give assured performance reliability and service.

The masts are constructed from steel conforming to IS 2062 or BSEN 10025 and cut and folded to form twenty sided section and its telescopically jointed and fillet welded. Mast section delivered to site shall not have any intermediate joints. The mast is provided with full penetrated flange, which is free from any lamination or incursion. The welded connection of the base flange is fully developed to the strength of the entire section, the base flange is provided with supplementary to the gussets between the bolts to ensure elimination of helical stress concentration. For metal protection of the mast, the entire fabricated mast is hot dip galvanized internally and externally in single dip. The external surface of the mast is also applied with suitable Poly Urethane paint. A vandal resistant, weather proof, lockable door of suitable size is provided at the base of high mast to access comfortably the components at the base compartment for normal operation & for maintenance.

Dynamic Loading of Mast:

The mast structure shall be suitable to sustain an assumed maximum reaction arising from a wind speed as per IS 875 (3 second gust), and are measured at a height of 10 meters above ground level. The designed life of the mast should be 25 years.

Raising & Lowering Mechanism:

Winch:

The winch shall be high speed completely self-sustaining without the need for brake shoe, springs or clutches. There is a permanent oil bath for self-lubrication. The drum are to be properly grooved to provide a perfect seat for wires ropes. The raising time of the flag shall not be more than 3 minutes. The winch is normally be operated by an electrical power tool however there should be provision for manual operation also by means of manual handle. The winches are type tested through reputed operation and the type test reports are submitted along with offer. A test certificate is to be submitted along with supplies.

Head Frame:

The hot dip galvanized head frame is to be designed as a capping unit of the mast is of welded steel construction and provided with guides and separators between the ropes and cable. The LM6 Aluminum pulleys with bush bearings mounted through stainless steel shaft shall be suitable to accommodate wire ropes and multi core trailing cable. The head frame is provided with guides and stops with PVC buffer for the docking of luminaires carriage. The pulley assembly is covered by a hot dip galvanized canopy.

Stainless Steel Wire Ropes:

The stainless steel wire ropes are generally be of 6 mm dia, 7/19 construction with central core being stainless steel only. The grade of wire ropes are in accordance to AISI 316. The breaking load of each rope is not less than 2350 Kg giving a factor of safety of more than 5 for the system at full load as per the Technical Report No. 7. The end construction of rope for the winch drum is fitted with copper telluric and for two continuous ropes, the end termination in luminaries carriage 3 are with stainless steel thimble and copper splicing and for others with stainless steel thimble and bull dog grips.

Other Accessories:

Lightening Finial:

One number of FRP ornamental finial (DOME) shall be provided for each flag mast on the head arrangement is to be provided.

Aviation Obstruction Lights: LED aviation lights are to be mounted on the lantern carriage to comply to the aviation norms where applicable. The connection for these aviation obstruction lights shall be made using 3C x 2.5 sq.mm copper un armoured cables.

Earthing Terminals:

Earth terminal using 12 mm diameter hot dip galvanized bolts are provided on the door stiffener of the mast for lighting and electrical earthing of the mast.

Feeder Pillar / Control Box:

Each mast shall be provided with a panel box, housing 32A TPN MCB incomer along with 2 no.9

A contactors & switches for forward / reverse operation of motor & to provide supply to the Poles. The box is constructed of 14 SWG CRCA sheet finished with two coats of red oxide primer & grey enamel paint of shade 631 of IS 5.

Poles With Flood Light Fittings:

Two numbers of 5 M Octagonal poles with suitable cable termination box and flood light fittings as per BOQ shall be provided to illuminate the national flag.

Hardware:

Hardware play a very important role on the overall performance of high flag mast systems. Hardware materials are to be chosen carefully so that there is no compromise on necessary to ensure full safety. Single & double grooves clamps & W.G clamps are mandatory to ensure the proper operation of raising & lowering system.

Electrical System, Cable and Cable Connections:

The power cable from base compartment to junction box at the top shall be 1.1 KV grade PVC insulated, PVC sheathed copper conductor of size minimum core x 2.5 Sq.mm wiring from junction box to aviation light is to be done using 3 core 2.5 sq.mm PVC insulated, PVC sheathed, copper conductor flexible cable.

Luminaries:

The flood light luminaries shall be of LED Type with 200 W rating based of IP 65 protection and output Led colour is of cool white. This flood light shall be installed on suitable pole on plinth with supply & laying of 3Cx2.5 sq.mm copper cable for the individual wiring of the luminaire.

PU Painting:

Flag Mast shall be finished with polyurethane (PU) paint over galvanized surface after application of primer coat.

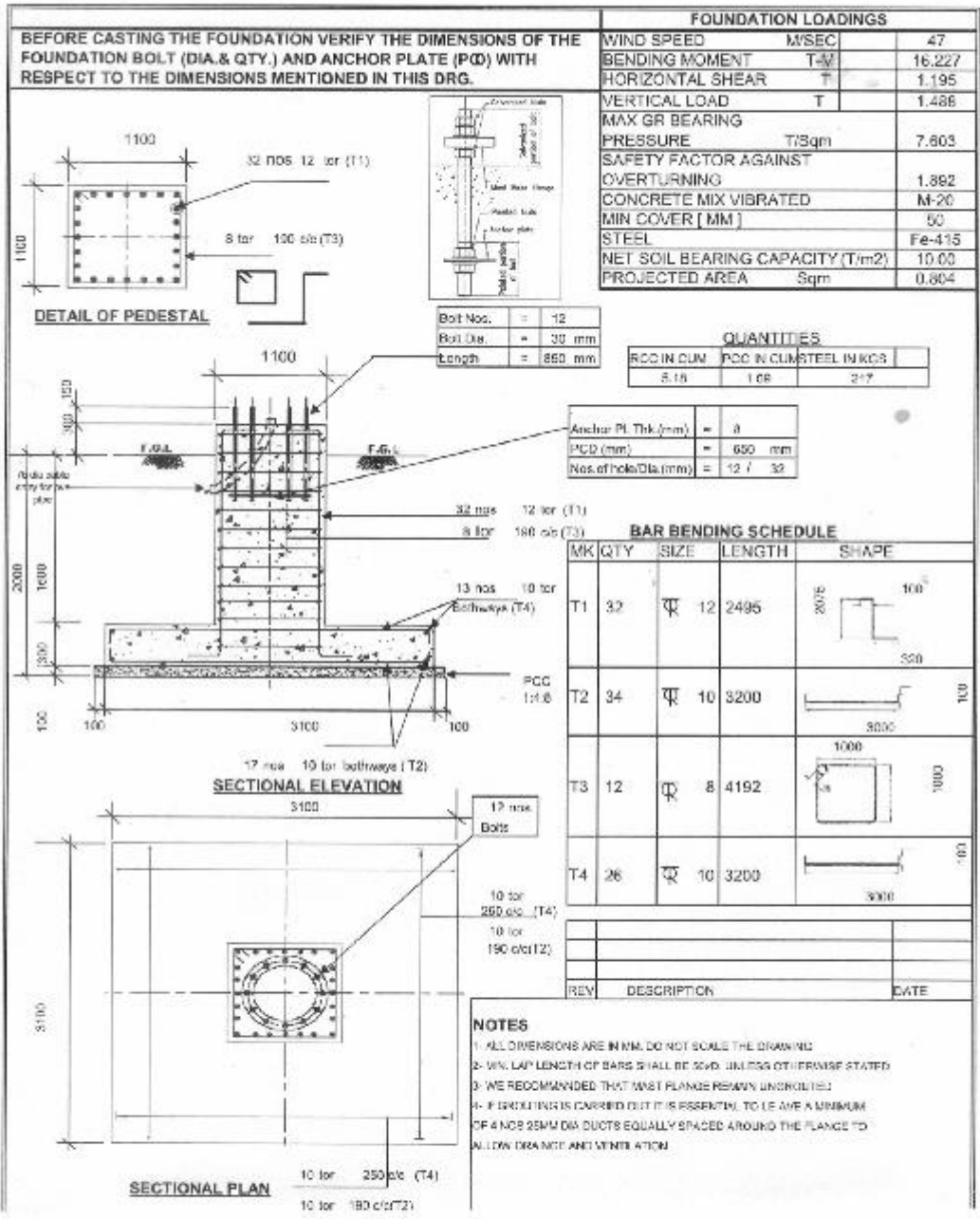
Flag:

The National Flag of size 20 feet x 30 feet in 100% knitted polyester (140 GSM) as per relevant OS code, with reinforced super strong nylon webbing on all 3 sides & rope / toggle sleeves.

TECHNICAL DETAILS OF 30.5 MTR. FLAG MAST

HIGH MAST SYSTEM

Make	Philips/Bajaj/Transrail/OMS Lighting & Poles/Crompton Greaves/ VSP Highmast
Height of Mast	30.5 Mtr.
No. of sections	Four
Material construction	BS-EN 10025 S 355 grade as per
Base dia. And top diameter (A/F)	Top: 150 mm, Bottom-540 mm,
Plate thickness	Top-4mm, Middle-4, Bottom 5 mm
Cross section of Mast standard	20 side polygon for galvanized size
Opening and door at base	As per BS EN ISO 1461 (1500 x 400 mm)
Diameter of base plate	750 mm
Thickness of base plate	30 mm
Max. Wind speed	As per IS : 875 (Part-III)
Number of foundation bolts	12 Nos
Type/ diameter/ length of foundation bolts	650 mm TS 600 /30 mm dia/ 850 mm long
Power cable cable for Aviation	Copper, 3 core, 2.5 sq.mm Armored cable
Winch /power tool	
Type / SWL of winch Method of operation	Double Drum, SWL 750 Kg (SGDD 30/6 PB): Integral Motor
Motor capacity	1.5 HP
No. of speeds	6/4 pole single speed
Torque Limitor	With mechanical tripping facility
Wire rope for flag Grade / Construction	Galvanized
Nos of ropes	1 Nos.
Wire rope for balance weights Grade/ construction number of ropes	Galvanized
No of ropes	1 No
Diameter (mm)	6 mm
Wire rope for balance weights Grade / construction number of ropes	Galvanized, 7/19
Diameter (mm)	6 mm
Control panel	Custom built panel



To be signed by the bidder and authorized signatory on behalf of IIT Kanpur

INTEGRITY AGREEMENT

This Integrity Agreement is made at _____ on this _____ day of 2022.

BETWEEN

The Director IIT Kanpur represented through the Superintending Engineer, **IWD, IIT, KANPUR** (hereinafter referred as the 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 to as the

(Details of duly authorized signatory)

“Bidder/Contractor” and which expression shall unless repugnant to the meaning or Context hereof include its successors and permitted assign Preamble

WHEREAS the Principal /Owner has floated the Tender (**NIT No.42/Elect/2022/376**) (hereafter referred to as “Tender / Bid”) and intends to award, under laid down Organization procedure, contract for “**Supply and installation of flag high mast with all allied works as required in the campus.**” 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 measure necessary to prevent corruption and to observe the following principles:
 - (a) 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.
 - (b) 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 of the Contract execution.

- (c) The Principal/Owner shall endeavor 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 (PC 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) commit himself to take 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:
- a) 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.
 - b) 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.
 - c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC 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.

- d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and address of agents representatives in India, if any. Similarly Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and address of foreign agents representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign or principal directly could bid in a tender but not both. Further in cases where an agent participate in a tender on behalf of one manufacture, he shall not be allowed to quote on behalf of another manufacture along with the first manufacture in a subsequent/parallel tender for the same item.
 - e) 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 Bidders(s)/Contractor(s) will not instigate third person to commit offences outlined above or be an accessory to such offences. The Bidder(s)/Contractor(s) will not directly or through any other person or firm indulge in fraudulent practice means a willful 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.
- 4). 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 principle/Owner under law or the Contract or its established policies and laid down procedures, the Principle/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 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 contract, award process. 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 of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitute 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 transgression 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 dealing 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 subcontractor's 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

This Pact begins when both the parties have legally signed it. It expires for the Contract/Vendor 12 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.

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, IIT Kanpur.

Article 7 : Other Provision

- 1) This Pact is subject to Indian law, place of performance and jurisdiction is the Headquarters of the division of the Principal/Owner, who 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 intension.
- 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

All right 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/Contract documents with regard any of the provision 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 presences of following witness:

.....
(For and behalf of Principle/Owner)

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

WITNESSES:

1.

.....
..... (Signature, name
and address)

2.

.....
..... (Signature, name
and address)

Place:

Dated:

Approved Make List

S.No.	Items	Makes
1	MS Conduit (ISI marked)	BEC/AKG/NIC/Steel craft/ M-Key, SK (E.R.W)
2	PVC Conduit and accessories	Polycab/AKG/Asian
3	1.1 KV aluminium armoured XLPE insulated and PVC sheathed Cable (LT cable)	Havells/KEI/ Gloster/Grandlay
4	FRLS PVC insulated copper conductor stranded flexible wire i/c control cables	Havells/Finolex/KEI/Grandlay/RR Kabel/ Gloster
5	Cable Raceway floor/wall mounted and accessories	Schenider/Legrand/Cooper
6	Modular Switch & Socket	Legrand (Myrus)/M.K. (Element)/Schneider (Zencelo India)/Havells/ ABB
7	Metal clad Industrial Socket	Legrand/Siemens/Schneider/C&S/ABB
8	Cat-6 Cable	Beldon/Siemon/Legrand/Penduit (Pannet)
9	Cable Glands	Dowells/Commet/Gripwell/Raychem
10	Crimp Patch Cord	Beldon/Siemon/Legrand/Penuit (Pannet)
11	Protection Device (MCB/RCCB/DB/ELCB)	Siemens (Betagard),/Hager/Schneider / Legrand / C&S / ABB
12	MCCBs	Siemens (3VA)/L&T /Schneider/ Legrand / C&S / ABB
13	Power contactor	Siemens /L&T / Schneider / Legrand / ABB / C&S
14	Surge Protection Devices	Siemens/L&T/Schneider / Legrand
15	Panel Accessories	Siemens /L&T/Schneider / Legrand/Tecnic / ABB/ C&S/Neptune
16	Selector Switch	Salzer/Seimens /BCH/ Kacee
17	Auxiliary Relays	Siemens/L&T/Schneider/Legrand/ABB
18	LED/Metal Halide/Fluorescent Internal Lighting Fixture	Philips/ Vipro/Havells/Crompton/Decon
19	External Lighting Fixture	Philips/ Wipro/Havells/Crompton
20	Emergency Lighting/ Exit Sign boards	Philips/Havells/Lighting Technologies/Trilux/Prolite
21	Ceiling Fan (ISI marked & BEE rated 5 star)	Havells/Almonard/Orient/Usha/Bajaj
22	Paint	Nerolac/Asian/Berger
23	Advance Lighting Protection System (Early Streamer Emission Type)	LPI (Australia)-by allied power/SGI (Duval Messien/satellite (France)- by SGI/Bradlay (USA)- by JMV/Erico (USA)-by security shoppe/ABB
24	GI Pipe	Tata/Jindal/SAIL
25	LT Panels/ MCC Panel	Tricolite, Delhi /Siemens / Schneider/ Milestone/ Neptune/Modern Switchgears
26	Air Circuit Breaker	Siemens / Schneider /L&T /Legrand/ C&S/ABB

27	Surge Voltage Protection	Siemens /Schneider/L&T/Legrand/ABB
28	Earth fault module	Siemens/Schneider/L&T/Legrand
29	Protection relays	Siemens/Areva/L&T/Legrand
30	C.Ts and PTs	Kappa/AE/Matrix
31	Digital Meters	Siemens (PAC)/ Schneider/ (conzerv) / Secure Enersol / L&T/ Neptune
32	Change Over Switch	L&T/Havells /Socomec/ABB/C&S
33	Indicating lamps	ESBEE/Schneider/Siemens/Vaishno/Neptune
34	Power capacitors	Epcos/ Neptune / Legrand /ABB/ L&T
35	Automatic Power factor correction relay/controller	Epcos/Siemens (PAC) /Schneider (Conzerv)/L&T/Neptune
36	Sealed Maintenance Free Batteries	Exide/Panasonic/Hitachi/Shinkobe
37	Battery charger	Caldyne/Chhabi Electricals/Statcon/Max Power
38	Cable Trays (Factory Fabricated/Overhead & Floor Raceways	Legrand/MEM/OBO/ Milestone/ Neptune
39	HDPE underground cable duct	Rex Polyextrusion/Tirpura/Plasomatics/Duraline
40	Insulation Mats	DL Miller & Co. Ltd.?Premier Polyfilm Ltd./RMG Polyvinyl India Ltd/Jyoti
41	Smoke/Heat detectors	Apollo/ System Sensor/ Agni
42	Manual Call point	PRD/System-Tek/ Simplex/ System Sensor/Agni
43	Response indicators	PRD/System-Tek/ Simplex/ System Sensor/Agni
44	Fire Exit Signs	System-Tek/ Simplex/ Agni
45	Fire Control Panel	System-Tek/ Morley /Agni
46	Speaker / Hooter	System-Tek/ Philips /Agni
47	Occupancy Sensors/ Movement Sensor	Legrand/ Philips/ Wipro
48	Flush type switch /socket	Anchor/ Kinjal/ SSK/ Havells Reo
49	Fuse switches unit / switch fuse unit /HRC fuse	L&T / Siemens/ Havells/ C&S
50	Exhaust fan	Almonard/ Alstom/ Crompton/ Havells
51	XLPE insulated HT cables	Gloster /KEI/Havells
52	Cable lug	Ascon (Heavy gauge) Jainson Dowells
53	Lamp Holder (Brass)	Kay/SSK/Kinjal
54	Telephone wires/Telephone Cable / jelly filled telephone cables	Finolex /Delton/Havell's /R.R. Kabel
55	Telephone tag blocks	Krone/ Pouyet
56	Telephone outlet	MK Electric /Legrand (Mosaic)/Crabtree (Piccadilly)
57	GI raceways	Milestone Engineering /Legrand/MDS/Neptune Systems Pvt. Ltd./MK
58	PVC raceways	Legrand/ MK
59	Electronic ballast	Philips /Wipro/Bajaj/Decon/Crompton/Havells
60	DLP plastic trunking	Legrand/MK

61	Geysers	Recold /Venus /Usha Lexus /Sphere hot
62	Tower Light	Ligman/Simes/Bega
63	HT/LT transformers	ABB/Schneider /CGL (Crompton Greaves Ltd.)
64	HT SF-6 circuit breakers/VCB	Siemens /ABB/CGL/Schneider
65	Programmable Logic Controller(PLC)	Siemens/Allen-Bradley/Schneider
66	Earthing (Chemical Earthing) Plate Earthing	JMV/As per CPWD Norms
67	Octagonal Pole	Bajaj / Crompton / Phillips
68	11 kV HT panel Incoming relay	CGL/Schneider/ABB/ Siemens
69	Control Relay Panel	CGL/Schneider/ABB
70	Lightning Arrestor	ABB/Alltec/JMV
71	Temp. Gauge	Guru
72	Gate Valve	Leader/Sant
73	Electrical Backup	Spare hot/ Racold
74	PVC Tank	Syntex/ Polycon
75	Thermostat	ISI Marked
76	Flat Collector Plate	Solocrome/ Tata BP/ Racold
77	S.S Sheet	Jindal / National
78	HT/LT cable joints (Straight through/outdoor/indoor)	3M/ Denson/ M Seal/Raychem/ Cabseal
79	Alternator	STAMFORD/Crompton Greaves
80	DG Set	Sterling & Wilson /Caterpillar/Commins Power / eneration/ Kirlosker
81	Makes of accessories of HT / LT Panel / Transformers	As per standard practice of manufacturer.
82	Bus Trunking	C&S / L&T/ Schneider as per standard practice of OEM manufacturer / channel partner
83	HT Panel 11 KV	ABB/Schneider /CGL (Crompton Greaves Ltd.)
84	Bus Duct	Neptune/ Milestone/Tricolite
85	Flag High Mast Pole (30.5 mtr)	Philips/Bajaj/Transrail/OMS Lighting & Poles/Crompton Greaves/ VSP Highmast

TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)

Date:

To,

Sub: Acceptance of Terms & Conditions of Tender.

Tender Reference No: _____

Name of Tender / Work: -

Dear Sir,

1. I / We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely:

as per your advertisement, given in the above mentioned website(s).

2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents from Page No. _____ to _____ (including all documents like annexure(s), schedule(s), etc .,), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.

3. The corrigendum(s) issued from time to time by your department/ organization too have also been taken into consideration, while submitting this acceptance letter.

4. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.

5. I / We do hereby declare that our Firm has not been blacklisted/ debarred/ terminated/ banned by any Govt. Department/Public sector undertaking.

6. I / We certify that all information furnished by our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organization shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours Faithfully,
(Signature of the Bidder, with Official Seal)