NOTICE INVITING E-TENDER FOR SUPPLY INSTALLATION TESTING & COMMISSIONING OF 33KV VCB TYPE HT PANEL (INCOMING CUM OUTGOING TYPE) AFTER REMOVING THE EXISTING OLD PANEL AT SUBSTATION-2 OF IIM LUCKNOW.

To,

M/S._____

_____

_____

SUB.: NOTICE INVITING E-TENDER FOR SUPPLY INSTALLATION TESTING & COMMISSIONING OF 33KV VCB TYPE HT PANEL (INCOMING CUM OUTGOING TYPE) AFTER REMOVING THE EXISTING OLD PANEL AT SUBSTATION-2 OF IIM LUCKNOW.

Dear Sir,

Tenders are invited, on behalf of the Director, Indian Institute of Management, Lucknow for NOTICE INVITING E-TENDER FOR SUPPLY INSTALLATION TESTING & COMMISSIONING OF 33KV VCB TYPE HT PANEL (INCOMING CUM OUTGOING TYPE) AFTER REMOVING THE EXISTING OLD PANEL AT SUBSTATION-2 OF IIM LUCKNOW, Prabandh Nagar, Lucknow as per BOQ attached. The Institute invites you to participate and to send your offers as per the attached **NOTICE** inviting **E-TENDER**.

E-Tenders are invited under two bid systems (both Technical and Financial) from reputed Companies. The complete Tender document containing General Terms and Conditions, pre-qualification requirements, BOQ, the scope of work, Specifications, etc. are available at http://eprocure.gov.inprocure/app and our website http://www.iiml.ac.in for reference only.

Reputed Companies may submit their bids in the prescribed format with all the necessary documents online at http://eprocure.gov.inprocure/app on or before bid submission closing Date & Time

Sd/-
Chief Administrative Officer
For Indian Institute of Management

INSTITUTE OF MANAGEMENT LUCKNOW

NOTICE INVITING E-TENDER
NIT NO. IIML/PROJ/TENDER/2025-26/4544 Dated-17-01-2026

NOTICE INVITING E-TENDER FOR SUPPLY INSTALLATION TESTING & COMMISSIONING OF 33KV VCB TYPE HT PANEL (INCOMING CUM OUTGOING TYPE) AFTER REMOVING THE EXISTING OLD PANEL AT SUBSTATION-2 OF IIM LUCKNOW.

Dear Sir,

E-Tenders are invited from reputed companies for Supply Installation Testing & Commissioning of 33KV VCB type HT panel (incoming cum outgoing type) after removing the existing old panel at substation-2 of IIM Lucknow. To submit their tender, quote your minimum rates on the enclosed bill of quantity. The General terms & conditions of the service contract are also enclosed, which are binding to both IIML and the Bidder.

Name of work	:	Supply Installation Testing and Commissioning of 33KV VCB type HT panel (incoming cum outgoing type) after removing the existing old panel at substation-2 of IIM Lucknow
Earnest Money	:	Rs. 40,000/- (Rupees Forty Thousand Only)
Total Estimated Cost	:	20,00,000/-
Period of Contract	:	135 days
Date of issue of tender document	:	As mentioned in E-procure portal
Date Pre-Bid Meeting	:	As mentioned in E-procure portal
Late Date for Submission Tender Document	:	As mentioned in E-procure portal
Date of opening of Technical Bid Opening	:	As mentioned in E-procure portal
Date of opening of Financial Bid Opening	:	Will be informed to the Bidders Qualifying the Technical Bid.
Starting of work	:	15 days from the Date of the LOI

Tenderers are advised to visit the site and see the work before submitting the tender. **The Technical and Financial bids should be uploaded through the E-tendering process only before the due date & time.**

Sd/ -
Chief Administrative Officer
For Indian Institute of Management Lucknow

TECHNICAL BID

A. SCOPE OF WORK

1. The specification covers, the design, engineering, manufacture, testing and supply of 33KV, 3 phase, 50 Hz air insulated Metal clad indoor VCB type switchgear unit with horizontal draw out horizontal isolation circuit breaker as per IEC 62271-100 and other standards as specified such as Termination of cable, end terminations of VCB shall be done by the firm (end terminations material shall be supplied by the firm). The H.T. panel Should be Metal-clad and compartmentalized a) VCB compartment, b) Bus Bar compartment, c) CT, PT, and Cable compartment.

Ratings:

a. Frequency - 50Hz
b. Rated Voltage - 33 KV
c. Maximum Design Voltage – 36 KV
d. Power Frequency withstand Voltage (1min) - 70 KV rms
e. Impulse withstand Voltage (1.2 / 50 micro-sec) - 170 kVp
f. Rated breaking current - 31.5 KA
g. Rated Short Time Withstand Current for 3 sec - Symmetrical - 31.5 KA rms
h. Rated dynamic peak withstand current (KAp) - 78.75 KA
i. Duty Cycle O-0.3 sec.-CO-3.0 min.- CO

2. The design of the switchgear shall be based on safety to personnel and equipment during operation and maintenance, reliability of service, ease of maintenance, mechanical protection of equipment, interchangeability of equipment and ready addition of future loads.

3. The panel/equipment supplied shall comply in all respect with the requirement of IEC with latest amendment.

4. The switchgear shall be manufactured and tested in line with the latest revisions of the following International Standards:

a. IEC 62271-100: - High voltage alternating current Circuit Breakers.
b. IEC 62271-200: - AC Metal Enclosed Switchgear and Control gear for rated voltages above 1kV and upto & including 52kV.
c. IEC 62271-1: - International Standard: - Common specification for High Voltage Switchgear and Control gear standards.
d. IEC 60071-1: - Insulation coordination for equipment in three-phase systems above 1kV.
e. IEC 61439: Material for busbars.
f. IEC 60529: Degrees of protection provided by enclosures (IP Code)
g. IEC 61869 - 2/3: Current/Voltage Transformers.
h. IEC 60529: Electrical indicating instruments.
i. IEC 60255-1: Electrical Relays for power system protection.
j. IEC 61936-1: Power Installations exceeding 1 kV
k. IEC 60721-3: Classification of environmental conditions
l. IEC 61243-5: Voltage detecting systems
m. IEC 62271-210: Seismic Qualification

5. The panel shall be suitable for installation and satisfactory operation in indoor substations in a tropical, humid, and corrosive atmosphere. The switchgear and control gear shall be suitable for continuous operation under the basic service conditions indicated below:
Ambient Temperature: - 5 to + 55 Deg C
Altitude of installation up to 1000m
Relative Humidity: 95%

B. INSTRUCTION TO TENDERER

(i) The Tenderer shall read the document carefully before filling it.

(ii) Bidders are required to deposit an amount of Rs. 40,000/- (Rupees Forty Thousand only) towards Earnest Money Deposit (EMD) to the bank account given below. **Those who are exempted from the deposit of EMD shall upload the valid certificate in this regard**.

Account No.	07231450000294
IFSC Code	HDFC0000723
Name of Bank & Type of Account	HDFC BANK/Saving

(iii) Financial bids must be filled and submitted in the prescribed formats given on the CPP portal separately. A sample format of the financial bid has been attached with the Technical bid just for the understanding of the bidders. This is required to be kept blank and just signed and stamped along with the other documents of this Tender. If a quoted financial bid is found along with the Technical bid of this Tender, then the Tender shall be straight away rejected.

(iv) Tender must be valid for a minimum period of 120 days from the date of opening.

(v) Technical offers shall be opened first, if the tenderer fails to submit the EMD then their technical offer will not be Opened/Evaluated. The technical offers will be evaluated by the selection committee based on the technical evaluation criteria of this document. The Financial offers from technically unqualified tenderers as per evaluation criteria will not be opened.

(vi) Financial offer shall be opened only for those tenders who are technically qualified as per the evaluation criteria of this tender document.

(vii) The dates for opening financial offer will be communicated to the tenderers and tenderers are requested to be present at the time of opening the tenders. An authority letter is must if any person other than who has signed the tender document attends such event.

(viii) Each page of the tender document must be signed by the authorized signatory of the tenderer.

(ix) Scanned Copy of Tender document duly signed and filled up should be uploaded.

(x) The tender not accompanied by a complete document or duly filled in all respects shall be rejected.

(xi) All erasures, cuttings and alterations made must be attested by the authorized person while filling the tender document. Over-writing of figures is not permitted.

(xii) Successful tenderers must visit the site and see the means of access to the site and specifications and acquaint themselves fully with the works to be carried out and all other factors governing the works before quoting their rate.

(xiii) The successful tenderer shall submit additional Initial Performance security of 3% of Contract Value in case EMD was submitted. The EMD submitted in this case will also be converted to performance security. In case of the Exemption under MSME for EMD then 5 % of the contract value has to be submitted as performance security in the form of DD/FDR/Bank Guarantee in favor of the Director, Indian Institute of Management, Lucknow within 12 days of award of work. A maximum Grace period of 3 Days will be given after the levy of a penalty equal to 1 % of performance security value per Day. If in case after 15 days of issue of LOI the Performance security is not deposited unless otherwise any extension had been granted by IIM Lucknow then the Work awarded/ LOI issued will be straightaway considered as Terminated and EMD (if deposited) will be forfeited.

Similarly, an Agreement on Rs 100 stamp paper will be required to be executed within 12 days of the issue of the LOI, and if the contractor fails to get the agreement done within a maximum of 15 days unless otherwise any extension had been granted by IIM Lucknow then the Work awarded/ LOI issued will be straightaway considered as Terminated.

The performance security (3%+2%) shall be released after 60 days of satisfactory completion of SITC work which is 6.5 months (135 days for SITC works + 2 months after satisfactory work completion) years or the extended period of the contract or the completion date of last work awarded till the completion/ extended date whichever is last. EMD of unsuccessful tenderer shall be returned after finalization of the contract. No interest shall be paid on the amount.

(xiv) This is an item rate Tender. The rate quoted by the Tenderer shall be inclusive of packaging, forwarding, insurance, freight, delivery, installation testing commissioning, any applicable tax/cess, etc. at the site i/c temporary construction storage, risks, overhead charges general liabilities/obligations, and clearance from local authorities. The rate quoted by the tenderer shall be excluding GST, **GST will be paid extra as applicable**. Quantities in the BOQ can vary during the actual execution. The Contractor will have to calculate all the requirements etc. as per design/ as per OEM requirement and then only procure the material. No claim for any excess material purchase but not utilized will be entertained. Further if there any extraordinary variation in any item is expected then the same may be brought to the notice of IIML and IIML can consult its designer/ take internal Approval if it feels so. Under such condition, contractor shall wait for the instructions of IIML for further action.

(xv) If any discrepancy/ misprint is noticed in the specification or BOQ, it should be clarified with the Institute before quoting the rate.

(xvi) Following procedures shall be adopted in case of difference in quoted rates in figures and words and extensions:

a. Where there is a difference between rates in figures and the rates quoted in words. The rates quoted in words shall be considered as correct.

b. Where the amount of an item is not worked out or it does not correspond to the rate either in figure or in words, the rates quoted in words shall be considered as a correct and necessary extension made.
c. Where the rate quoted by the tenderer in figures and in words tally, but the amount is not worked out correctly, the rates quoted by the tenderer shall be considered as correct and the amount shall be corrected accordingly.

(xvii) The Indian Institute of Management, Lucknow does not bind themselves to accept the lowest or any other tender and reserves the right to accept or reject any or all the tenders either in full or in part without assigning any reason.

(xviii) The tender shall be opened & evaluated by the tender committee and the successful tenderer shall be informed.

(xix) If any of the documents submitted by the tenderer is found fake, even after the acceptance of tender, the contract will be terminated for which the concerned tenderer will itself be responsible and no compensation, etc., will be paid by the IIM, Lucknow.

(xx) The Director, Indian Institute of Management, Lucknow reserves the right to reject one or all the tenders without assigning any reason. No claim, whatsoever, shall be entertained on this account.

(xxi) 5% of the payable bill value will be retained from each bill as a defect liability period & shall be released after the successful completion of the defect liability period of 12 months from the date of successful completion of the work. No interest shall be paid on the amount.

(xxii) Successful tenderers uploaded documents can be verified with the original at the time of LOI / Agreement.

(xxiii) Tender terms & condition also includes GCC, which is uploaded on the IIML website, and shall also be part of this contract, and its terms and conditions shall be binding to both IIML and the successful Tenderer. So please read it properly. Link https://www.iiml.ac.in/sites/default/files/upload/tender/293037022gcc.pdf

(xxix) If any discrepancy/misprint is noticed in the specification or BOQ, or rates or units, it should be clarified by the Institute before quoting the rate.
If any discrepancy between the price bid format of this Tender document and macros macros-enabled Excel file of the actual price bid on the CPP portal is observed by the Bidder, or if any item unit/ rates are found illogical/impractical, then in that case, the same has to be brought to the notice of the Institute before the last date of submission. So that the required correction/ corrigendum can be made. If such an issue is found at a later stage after the award of the work, either by the Contractor or by the Institute, then the logical decision based on the standard practice and as per the Institute's internal documentation shall be taken by the Institute and the same decision will be binding to the contractor and no claim whatsoever will be entertained in this regard.

C. TECHNICAL DETAILS OF BIDDER

The technical offer submitted by the bidders will be evaluated based on the below credential criteria.

SNo.	Particulars	Credential Criteria of Firm
1	Name of the firm & Address (Where registered post can be received)	
2	Contact No. and Email-ID	
3	GST Registration No. of the firm/Agency (Enclose copy):	
4	Income Tax Permanent Account No. (Enclose copy)	
5	Experience of the firm in a similar field during the last five years, ending the last day of the month previous to the one in which tenders are invited to submission of tender. (Copy of Completion Certificate to be enclosed).	
6	Average Annual Turnover during the Average annual financial turnover during any three years from the last 5 financial years ending 31st March 2025. (Copy of Annual Audited Accounts Statement for each year or the certificate for the average Turnover of the Tenderer issued by a registered Chartered Accountant). The certificates being submitted by the bidder should carry UDIN.	
7	Either OEM directly, or its authorized vendor, or a bidder who had been authorized by OEM/OEM Authorized vendor to participate in this tender. A relevant certificate from the OEM is to be submitted and mentioned.	
8	Details of EMD uploaded	
9.	Make of 33KV HT Panel System	
10.	Year of Establishment of OEM	

Eligibility Criteria

a) ANNUAL TURN OVER:

Average annual financial turnover during any three years from the last 5 financial years ending 31st March 2025 should be 100 lakhs. **This Condition is Mandatory**. The Bidder has to enclose documentary proof indicating Turnover.

b) The Bidder should have experience working with any Government Organization/ PSU/ IIM/ IIT/ NIT/ Any Government Institution/ Pvt Organization (Turnover more than 100 cr.). **This Condition is Mandatory**.

c) The Bidder should have **Experience in the Supply, Installation, Testing, & Commissioning of 11KV to 66KV HT panel (incoming cum outgoing type)** any Government/PSU/ Autonomous Body such as IIM, IIT, etc., or should have executed works in any registered Private Limited

Organization having Turnover more than 100 Cr in any of the last 5 financial years. As is published by the company in its Annual Financial Report for 24-25. If the bidder encloses the experience of Pvt. Ltd. Company, then documentary proof of the annual turnover of that Pvt. Ltd. Company should also be enclosed. **This Condition is Mandatory.**

d) **EMD:** Earnest Money Deposit as specified in NIT to be furnished in any of the following forms and shall be valid up to 90 days from the last date of submission:

- In case of a needs exemption under MSME criteria, a valid MSME certificate is required to be uploaded on the e-procurement portal.
- Can be deposited in the below-mentioned Institute Bank Account, and the UTR/Transaction number and date of the Transaction in the Technical bid, and a copy of the transaction receipt must be uploaded online on the portal with other documents. Those bidders who are exempted from the deposit of Tender Fee & EMD (Earnest Money Deposit) must submit the relevant certificate to claim the exemption and mention 'Exempted' in the Technical Bid where the UTR number has been asked. In case the enclosed certificate is not valid or not acceptable to the Institute, the submitted bid will be treated as a bid without a Tender fee/ EMD and will be rejected.

Bank Account No.	07231450000294
IFSC Code	HDFC0000723
Name of Bank &Type of Account	HDFC/Savings

This Condition is Mandatory

e) Copy of PAN/ GIR No. Registration certificate issued by the Income Tax Authority. This Condition is Mandatory.

f) Copy of Certificate of GST number. This Condition is Mandatory

g) Intending parties are required to submit an undertaking that their firms have never been debarred/ blacklisted by any Government/ Public sector department. And there is no criminal case on the Proprietor/ partners/ any of the Directors in any Police station of any court of India as per the format given above in Instructions to Tenderer. This Condition is Mandatory

h) Either OEM directly or its authorized vendor or a bidder who had been authorized by OEM/OEM Authorized Vendor to participate in this tender. The relevant certificate is to be submitted. This Condition is Mandatory

i) Declaration/Undertaking for the supply of spare parts for 15 years from OEM. (Format attached as ANNEXURE-A). This Condition is Mandatory

j) The OEM must have been established not least 25 years from the last date of bid submission. Documentary proof must be attached.

k) The manufacturer shall comply with the Public Procurement (Preference to Make in India), Order 2017 (as amended from time to time) issued by the Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce and Industry.

l) Undertaking to be furnished by the intending party on the company letterhead is to be given in the following format. This Condition is Mandatory

1. I/ I/We declare and confirm that I/we have never been blacklisted /debarred from any Govt./Public sector enterprises in the last 5 years.
2. There is no Arbitration case/ legal case/ dispute of my firm with the Indian Institute of

Management Lucknow.

3. There is no criminal case against me/ and my partner/board of directors is there in any court/Police station in India.
4. There is no suppression or concealment of information/document concerning the execution of work during the last 05 years.
5. I / We are aware that any false information provided herein will result in the rejection of my tender at any stage.
6. All the information furnished by me/us here above is correct to the best of my knowledge and belief.
7. I/we have no objection if inquiries are made about the work listed by me/us in the accompanying sheets / Annexures.
8. I / We agree that the decision of the Indian Institute of Management Lucknow in the selection of contractors will be final and binding on me/us.
9. I / We have read the instructions, and I/We understand that if any false information is detected later, the tender shall be cancelled at the Company's discretion, and I/We shall be liable for any action, as deemed unfit by the Indian Institute of Management Lucknow.

Signature and Stamp of the Bidder

TENDER Declaration

I/We have read and examined the Notice Inviting tender, Instructions to the tenderer, Specifications applicable, Drawings and designs, General Rules, and Directions, Conditions of Contract, clauses of the contract, General Conditions of Contract, Special conditions, & other documents and rules referred to in the conditions of contract and all other contents in the tender document for the work including GCC attached separately or upload on iiml.ac.in.

I/We have thoroughly read the tender specification and have understood the site/ working condition

I/We hereby tender for the execution of the work specified for IIM, Lucknow within the time specified, viz., schedule of quantities and in accordance in all respects with the specifications, designs, drawings, and instructions in writing.

I/ We agree to keep the tendered rates valid till 120 days from the date of opening of the tender and not to make any modifications to its terms and conditions.

A sum of Rs. 40,000/- is hereby forwarded in the IIML account through RTGS/NEFT issued by a scheduled bank as earnest money.

OR

I/We had submitted a self-attested copy of a valid certificate as proof of exemption from submission of Earnest money deposit.

In case I/ our company is identified L1 in this Tender and If I/we, fail to furnish the prescribed performance guarantee fail to commence the work within the prescribed period, or fail to execute the agreement within the prescribed period from the date of declaration of L1 I/ we agree that the IIM, Lucknow or its successors in office shall without prejudice to any other right or remedy be at liberty to forfeit the said earnest money absolutely, award the work to other agency as per the discretion of IIM, Lucknow and can debar my/ our company/ firm for further bidding for next Two years. Further, if I/we fail to commence work as specified, I/we agree that IIM, Lucknow or his successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely, otherwise the said earnest money shall be retained by him towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations/ additional/ extra items as may be ordered as per the provisions in the Contract.

Further, I/We agree that in case of forfeiture of earnest money or both Earnest Money and Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.

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

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

Dated _____

Signature of contractor
with seal of the agency/ firm

D. DEFINITIONS

In this Contract, the following words and expressions shall have the meanings as stated below:

(i) **'IIM'** shall mean Indian Institute of Management, IIML Road, Lucknow and shall include their successors and assigns, as well as their authorized representatives.

(ii) **ENGINEER-IN-CHARGE** shall mean the engineer appointed by the IIML to supervise all activities of the project.

(iii) **'TENDERER'** shall mean the company/agency who quotes against the tender inquiry for undertaking the work.

(iv) **'CONTRACTOR'** shall mean the successful tenderer whose tender has been accepted by the IIML and to whom the order is placed by the IIML and shall include his heirs, legal representatives, successors etc.

(v) **'PERMANENT WORKS'** shall mean all the works included in the schedule of quantities and shall also include additions, alterations, etc. communicated in writing.

(vi) **'SITE',** shall mean all places i.e. IIM, Lucknow where the project is to be executed.

(vii) **'PROJECT'** shall mean the entire work specified in the contract documents inclusive of extra items/extra quantities (if any) executed during the contract period.

(viii) **'ACCEPTANCE LETTER',** shall mean written consent by a letter of IIML to the tenderer intimating him that his tender has been accepted.

(ix) **'CONTRACT'** shall mean the articles of Contract Agreement. The conditions of the contract, schedule of quantities, and specifications, are attached and duly signed by the IIML and the Contractor.

(x) **'DATE OF CONTRACT'** shall mean the date on which the IIML has issued an acceptance letter.

(xi) **'CONTRACT PERIOD'** shall mean the period (including rainy season) specified in the tender documents during which the contract shall be executed.

(xii) **'COMPLETION CERTIFICATE'** shall mean the certificate issued by the IIML to the contractor after the successful completion of the project. This certificate will be issued on the basis of the consultant's/ User's certificate to IIML about the completion of the job.

(xiii) **'EXTRA ITEMS'** are those items, which are not appear in the BOQ but are required to be executed during the project period and for which rates are to be derived as per the formula given in the conditions of the contract.

(xiv) **'EMD'** shall mean Earnest Money Deposit. The Owner takes this amount to check the earnestness/seriousness of the tenderers in case they are selected as winners.

E. GENERAL CONDITIONS OF THE CONTRACT

General conditions of the Contract are available at the IIM, Lucknow website and at the Project Division Office. These conditions shall be part of this contract. The successful Bidder shall be required to submit the signed hard copy of these General Terms and Conditions after the issue of the LOI and before starting of the work.

F. SPECIAL CONDITIONS OF CONTRACT.

1.1 Directive to Contractor

1.1.1 Interpretation of Contract Documents:

(i) All the documents (such as NIT, TENDERER DECLARATION, DEFINITIONS & SCOPE OF WORK, TECHNICAL SPECIFICATIONS, General Conditions of Contract, Special conditions of Contract which are available on IIML website and FINANCIAL BID) forming part of the contract are to be taken as mutually explanatory, supplementary and complementary to each other. If there is any error, omission, or discrepancy in any of them, it shall be brought to the notice of the IIM. The decision of the IIML shall be final and binding. The contractor shall execute the work accordingly.

(ii) The contractor shall examine all the contract documents thoroughly, including the scope, nature, and magnitude of works he has to execute in accordance with the contract documents.

(iii) The contractor shall visit the project site so as to study the site conditions, means of access to the site, and other factors governing the works.

In case after award of workorder/LOI, the contractor fails to submit the performance security and agreement and start the work within the specified time line stipulated in this tender document, the work award will be cancelled by default and further punitive action such as forfeiture of EMD, performance security and blacklisting/Debarring of bidder from further bidding for 2 years on CPPP portal.

1.1.2 Period of Contract:

The time period for **SUPPLY INSTALLATION TESTING & COMMISSIONING OF 33KV VCB TYPE HT PANEL (INCOMING CUM OUTGOING TYPE) AFTER REMOVING THE EXISTING OLD PANEL AT SUBSTATION-2 OF IIM LUCKNOW** shall be completed within **135 days from the date of issue of LOI (Letter of Intent)**. The defect liability period on complete work is 1 year, including maintenance, service, and repair.

1.1.3 Authorities

The work shall conform to all provisions of the relevant Government Legislation, Regulations, and by-laws of the Central/Local Authorities and of any Companies to whose system the installation is proposed to be connected. The Contractor shall give all notices required under the said Acts, Regulations, and/or by-laws. The Contractor shall be liable for any omissions and commissions in this regard.

1.1.4 Specifications and Schedules

The Specifications and Schedule of Quantities shall be considered as part of this contract and any work or materials shown in Schedule and not called for in the Specifications or vice versa shall be executed as if specially called for in both.
The work shall be installed as indicated in the scope of work. However, any minor changes found essential to coordinate the installation of this work with other trades shall be made without any additional cost. The data given herein is as estimated, but its complete accuracy is not guaranteed. Exact locations, distances, and levels will be governed by the site conditions. Quantities can vary to any extent above or below. N**o** compensation in this regard will be given. Any such kind of request will not be entertained.

1.1.5 Completeness of tender

All fittings, equipment, units, assemblies and accessories, hardware, bolts, terminal lugs for electrical connections, cable glands, junction box, piping, fittings and items that are useful and necessary for efficient assembly in operation and installation shall be complete in all details whether such details

have been mentioned in the specification or not. Scope of work also include steel requirements for machine beams, bearing plates, buffer supports, and channels as required. All steel items not including but required for the installation work shall be part of the tender document.

1.1.6 Scaffolding

Scaffolding and minor builders work shall be the responsibility of the Contractor.

1.1.7 Certificate

Contractor may be required to submit the manufacturer Test certificates, Internal quality test reports from the factory and Guarantee/ warrantee etc. Further, if required e-way bill may be submitted by the contractor on demand.

1.1.8 Spares

Contractors shall submit the list of recommended spares for 15 years of operation listing items with individual prices. Undertaking from OEM that the Spares will not be ruled out of the Market for the next 15 years.

1.1.9 Documentation

The Contractor shall provide three sets of operation & maintenance manuals with instructions for routine and periodic maintenance. Training records, and guarantee/warranty should also be submitted.

1.1.10 Delay in work execution due to reasons beyond contractor control:

Force Majeure:

If the execution of work is delayed due to force majeure, or due to circumstances that were not in the control of the Tenderer then IIML as per the affected period may extend the time period as per the discretion of the Director of the Institute.

1.1.11 Dispute & Arbitration:

(i) All disputes or differences whatsoever arising between the parties out of or relating to this contract or the specifications, designs and quality of work, quality of materials used for the work, construction, meaning and operation or effect of the work or the breach thereof that cannot be settled by good faith and negotiations between the parties within 60 days of the commencement of the negotiation shall be settle by mutually referring the dispute to a sole Arbitrator and the award passed by him shall be final and binding on the parties. The selection of an arbitrator shall be made by mutual consent. The cost of arbitration shall be divided equally. The proceedings will be governed by the provisions of the Arbitration & Conciliation Act, of 1996 and its latest Amendments. The place of arbitral proceedings will be Lucknow. The language of the arbitral proceedings shall be English

(ii) By consent of Parties the jurisdiction of all other courts is excluded and the courts at Lucknow alone shall have jurisdiction.

(iii) "Abandonment/incomplete work", wherein it should be mentioned that apart from the forfeiture of security the incomplete work shall be completed from some other agency, and the costs thereof be recovered from the contractor.

(iv) The service of notice will be given by e-mail, fax, courier, speed post, or registered post, and the address for service of notice be specified both for IIM, Lucknow and the contractor.

1.1.12 Escalation:

The rates quoted by the contractor in the contract documents shall be final and shall not be subjected to any change due to the increase in labour wages or inflation wages or inflation in the cost of materials or fuel or any other price variations due to any reason during the stipulated time period of the contract or during the extended time period of completion.

1.2 Execution of Work

1.2.1 General:

All the works shall be executed in accordance with the specifications and instructions approved by the IIML as mentioned in the contract document.

1.2.2 Inspection of works:

(i) The IIML shall have the full authority to inspect the works at any time, at any stage. The contractor shall provide adequate facilities to carry out the inspection work. The contractor should present himself or his authorized representative during the inspection so that the IIML can convey the instructions regarding the works.

(ii) The contractor shall give information to the IIML before covering up the works so that the same can be inspected and measured jointly & correctly to true dimensions.

(iii) If the contractor fails to get the work inspected before covering it up, then the IIML has full authority to get the work uncovered at the expense of the contractor and if any fault is found then the contractor should rectify the same without claiming any extra payment.

1.2.3 Inadequate/substandard works and materials:

(i) Material used should be mention in **BOQ**

(ii) If any work executed by the contractor is found to be of bad workmanship, then the same is to be dismantled and re-executed by the contractor without claiming any extra payment or extension in the time period.

1.2.4 Default of Contractor in Compliance:

If the contractor or his authorized representative fails to follow the instructions given by the IIML regarding any of the works, then the same shall be got executed by engaging other contractors/ persons by IIML at the risk and cost of the contractor.

1.2.5 Discrepancies between instructions:

The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General Conditions. In the case of discrepancy between the schedule of Quantities, the Specifications and/ or the Drawings, the following order of preference shall be observed: -

i. Description of Schedule of Quantities.
ii. Particular Specification and Special Conditions, if any.
iii. Drawings.
iv. IIM, LUCKNOW Specifications.
v. Indian Standard Specifications of B.I.S.
vi. G.C.C. , S.C.C. etc

If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the contractor. Any error in description, quantity or rate in Schedule of Quantities or any omission therefrom shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract.

If any discrepancy occurs between the various instructions conveyed to the contractor or his authorized representative or if any misunderstanding arises between the contractor's staff and IIM's staff, the contractor shall report the matter immediately to the IIM. The decisions of IIML shall be final and binding. Moreover, no claims for losses due to discrepancies between instructions, doubts or misunderstandings shall be admissible.

1.2.6 Liabilities for defects and rectifications:

If it shall appear to the IIML that any work has been executed with imperfect or unskilled workman or with materials of any inferior description, or of quality inferior to that contracted for, or otherwise not in accordance with the contract, the contractor shall on demand in writing from the IIML or his representative specifying the work, materials or articles complained of, notwithstanding that the same may have been inadvertently passed, certified and paid for forthwith rectify or remove and reconstruct that work so specified and provide other proper and suitable materials or articles at his own charges and cost, and in the event of failure to do so within a period to be specified by the IIML or his demand aforesaid, the Engineer-in-charge may on expiry of notice period rectify or remove, re-execute the work at the risk of Contractor and the cost shall be recovered from the Contractor. The decision of the IIML as to any question arising under this clause shall be final and conclusive.

1.2.7 Period of warranty:

The warranty period of the work is 01 year from the date of completion of the work as certified by the IIM. If any problem occurs during the period of liability the same will be changed by the contractor at his own expense.

1.2.8 Suspension of work:

The contractor shall suspend the progress of work on receipt of the written order from the IIML

In case of suspension of work:

a. The contractor shall during such suspension, properly protect and secure the works and carry out the instructions of the IIM.
b. IN such case the contractor shall be entitled for an extension of time equal to the period of every such suspension but no compensation for damages etc. shall be admissible on account of suspension of work.

1.2.9 Possession Prior to Completion:

The IIML shall have the authority to take possession of any completed or partially completed works. Such possession shall not be deemed to be acceptance of any work completed in accordance with the contract. If such prior possession delays the progress of works then the adjustment in the time of completion shall be done accordingly. The decision of the Engineer-in-charge regarding the extent of delay shall be final and binding.

1.2.10 Care of Works:

From the commencement to the completion of works, the contractor shall take full responsibility for the care of all works and in case any damage or loss occurs then the contractor shall repair and make good the same at his own cost so that on completion of the work, the same shall be in good order in every respect in accordance with the contract and to the satisfaction of the IIM.

1.3 Certificate and Payment

1.3.1 Schedule of Rates:

(i) The payments to be made to the contractor shall be as per the finalized rates in tender documents and the rates of extra items finalized from time to time.

(ii) The rates finalized in the tender document shall remain firm till the completion of work including extension of time, if any.

1.3.2 Mobilization Advance:

No mobilization advance shall be paid.

1.3.3 Billing:

Payments for SITC of 33KV HT Panel

The contractor shall submit the full and final bill for completed work (complete in all respects). The same will be measured by the concerned J.E. and payment will be made by the Finance section after Approval of the competent authority as per the IIM procedure. Final Bill payment will be processed after the submission of user verification as per the standard IIML format, submission of relevant Guarantee/ warrantee, Manufacturer test certificate, and any other inspection/ test documentation mentioned in this tender document or instructed to be submitted.

1.3.4 Terms of Payment:

(i) The payment due to the contractor shall be made only in Indian Currency by Crossed Account Payee Cheque or RTGS. In no case, will the IIML be responsible if the cheque is misled or misappropriated by the contractor or his representatives.

(ii) The IIML reserves the right to carry out the post-payment audit and technical examination of the bills and work executed including all supporting vouchers etc. The IIML further reserves the right to enforce recovery of overpayment when detected. Similarly, if any underpayment is discovered, the amount shall be paid to the contractor.

(iii) Wherever any claim for the payment against the contractor arises as per the contract, the same may be deducted from the bill of the contractor or from his security deposit.

(iv) 5% of the payable bill value will be retained from each bill as Retention money/ security deposit for SITC works & shall be released on the satisfactory completion of the job after the defect liability period and submission of performance security for 4 years AMC works. No interest shall be paid on the security deposit amount

(v) **Tax Deduction:** All statutory deductions like Income Tax, Works Contract Tax, E.S.I., P.F., entry tax, labour cess or any other government-imposed liability shall be borne by the contractor (as applicable at the time of execution of the job). Statutory deduction as per the government. the direction shall be deducted from each bill submitted by the contractor.

1.3.5 Provisional Completion Certificate:

When the contractor successfully completes the works as per the contract, he shall be eligible to apply for a provisional completion certificate in respect of the works. The IIML shall issue to the contractor the provisional completion certificate after verifying the completion documents submitted by the Engineer-in-charge and satisfying him/ user Department that the work has been completed in accordance with the contract document. Further, the certification from the designer will be needed that the work had been completed as per the drawing/ design.

The work will not be considered as complete until all the temporary works, labour hutments, etc. are removed and the work site cleared to the satisfaction of the IIM.

If the contractor fails to comply with the requirements of the above on or before the date for the completion of the works, the IIML may, at the expense of the contractor, remove the tools and plants, hutment and surplus materials and dispose off the same and the contractor shall pay the amount of all expenses incurred.

1.4 Labour Laws and Safety Regulations

1.4.1 Labour Laws:

(i) Labour below the age of 18 years shall not be employed on the work.

(ii) The contractor shall not pay less than what is specified by the law to labours engaged by him on the work.

(iii) The contractor shall, at his own expenses, comply with all labour laws and the IIML shall not be responsible for any recovery/penalty imposed by the respective authorities for violating the labour laws.

(iv) If the contractor is covered under the Contract Labour (Regulation & Abolition) Act, he shall obtain a license from the licensing authority (i.e. the office of labour Commissioner) before starting the work, by payment of the necessary prescribed fee and deposit, if any shall be borne by the Contractor.

(v) The contractor shall furnish to the IIML, the details of the workers employed on the works.

(vi) The contractor shall comply with the provisions of the existing rules and regulations relating to labour laws.

(vii) The IIML shall on a report having been made by an inspecting officer as defined in Contract Labour (Regulation and Abolition) Act, 1980, have the power to deduct from the amount due to the contractor any sum required or estimated to be required for making good the losses suffered by a worker or workers by reason of non-fulfilment of the conditions of the contract for the benefit of the workers, or if deductions made from his or their wages which are not justified by the terms of contract or non-observance of the said regulations.

1.4.2 Minor/Fatal Accident on Duty:

For cases of minor/Fatal accident on duty not covered under compensation by IIML, the contractor shall have to compensate the affected person/ family. The absence from duty, if takes place, due to such accident shall be considered as special leave and full payment shall have to be made for duration of such absence.

1.5 Safety Code

1.5.1 Safety and Protection:

The contractor shall adhere to safe construction practice and guard against hazardous and unsafe working conditions. While carrying out the work, the contractor should provide for;

(i) Safety of personnel engaged in the construction.

(ii) Protection and safety of works and materials during their progress.

(iii) Sanitary and hygienic conditions of working and living for his workers, as required by the IIM.

1.5.2 Use of Safety Gadgets:

The contractor shall have to ensure the availability and use of all desired safety gadgets like safety belts, helmets, goggles, hand gloves, gumboots, caution tape, barricading, warning signs etc.

1.5.3 First Aid:

The contractor shall provide first aid facilities for his employees and those of his sub-contractors. The requisite first aid box and medicines should always be available at the work site.

1.5.4 Preservation of Peace:

The contractor shall take precautions to prevent any riotous or unlawful behavior by his workers, for the preservation of peace and protection of inhabitants and the security of property in the neighborhood of the work.

1.6 Details of Work Execution

(i) The work shall be done in such a manner so as to clear workforce availability for other agencies working at the site.
(ii) The finish of work shall be as per the details given by IIM.
(iii) In general, the complete work is to be done as per Indian Standards and Aesthetic norms as specified and detailed in the Tender.

1.7 Site

The site is located at IIM, Lucknow, IIM Road, Lucknow. The contractor shall be responsible for the accommodation of the manpower and the movement of his men, materials, and equipment at his own cost.

1.8 Electricity

Electrical power at one point is to be provided by the IIM. The Contractor will be responsible for getting electrical connectivity from the point specified by IIML to his work site, including supplying cables, connections, and other required items.

1.9 Contractor's Scope of Supply

All materials required for executing the jobs specified in the Bill of Quantities, inclusive of all tools, tackles, scaffolding, consumables, and testing equipment, shall be procured and supplied by the contractor at his own cost, except for any items specified as IIML-supplied.

1.10 Liquidated damage charges

0.05% per day of contract value for delays up to 15 days. 0.10% per day of contract value for delay from 15-30 days, and for delay beyond 30 days it will be 0.25 % of the contract Value per day. The total levy of this Liquidated damage shall not exceed more than 10% of the contract value.
In case the delay continues beyond 2 Months, then the tender/ Contract will be automatically canceled. Under these circumstances, the EMD/ Performance Security available with the Institute will be forfeited,
. and the Retention money/ balance 05 % payable value of the work (as the case may be) will not be paid. The Agency will be debarred from Biding with IIM Lucknow and will be blacklisted for 2 Years.

1.11 Recovery from the Contractor

(i) If the contractor or his employees damage or destroy the property of the IIM, then the same shall be replaced/ refunded by the contractor; the expenses may be recovered from his bill or security deposit.

(ii) All compensation and recoveries to be made as per the terms of the contract shall be deducted from the contractor's bill or security deposit.

(iii) Forfeiture of Security Deposit: Whenever any claim against the contractor is to be recovered, then the same may be made from the security deposit (performance and retention or any other security available). If the contractor abandons the work or leaves the work incomplete, then the IIML has the right to forfeit the security deposit.

(iv) The contractor will make a fence around the area given for labour hutment to avoid unauthorized entry.

1.12 Buy Back Clause:

The contractor has to dismantle the panel and remove it from the site. Transportation or any documentation from any other government organization is in the contractor's scope. The buyback plus GST will be paid extra as applicable.

1.13 Altered/ Additional/ substituted work:

If the altered/additional or substituted work or any additional work required to be executed as per Institute's requirement shall be carried out by the contractor on the same conditions in all respects including a price on which he agreed to do the main work except as hereafter provided for which there are no established rates in the schedule of items and Delhi Schedule of rates., the same shall be payable as per the provision stated hereunder.

a) If any extra item crops up during the work (Other than that given in the Work Order), the rate for such item shall be computed as per rates of CPWD/DSR-2023 with the same percentage above or below as is quoted by the Contractor in the Price Bid).

b) Rates for items where rate is not available in DSR-2023 shall be derived from the similar item of nearest DSR. If not available in the nearest DSR then in the nearest District Schedule of Rates issued by the Uttar Pradesh PWD department. If the item is not found in DSR and District Schedule of rates, then the Percentage Rate from nearest available Schedule of rates of any Central/ Uttar Pradesh Government Department Shall be considered with whatever applicable Cost index plus or minus (If any as per relevant Circular from the department) on the schedule of rates considered.

c) If direct working out is not possible as mentioned in a) & b) above, the contractor shall be paid on the basis of the actual cost of material and labor cost plus 15% towards profit, supervision, overheads establishment, plants, machinery, etc. and applicable taxes as decided by the Competent Authority.

d) In the case of substituted items (items that are taken up with partial substitution or in lieu of items of work in the contract), the rate for the agreement item (to be substituted) and substituted item shall also be determined in the manner as mentioned in the following para:

(i) If the market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted), the rate payable to the Contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rates of substitutes item and the agreement item (to be substituted).

(ii) If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rates of the substituted item and the agreement item (to be substituted).

1.14 Service of Notice

All notices, consents, approval or other communication required to be given or served hereunder by either party hereto to the other party shall be in writing, and in English and shall be personally delivered to, left at, sent by registered post, email, courier, speed post or facsimile by either party to the other at the addresses mentioned herein below. Both parties agree that the facsimile transmission will not be used as a sole method for the communication of important notices such as any modification or termination.

(i) THE DIRECTOR
INDIAN INSTITUTE OF MANAGEMENT
PRABANDH NAGAR, IIMLROAD
LUCKNOW-226013

(ii) Notice to the Tenderer at the Address mentioned in the Tender Document

LIST OF ELECTRICAL ITEMS/MATERIALS AND IT'S MAKE

S.No.	Item	Name of Manufacturer
1.	Thimbles	Dowell's
2.	PVC Conduit Pipe	ISI marks
3.	P.V.C. Copper Wire	Polycab/Havells/Anchor/Finolex/KEI or Equivalent
4.	Conduit Accessories like Junction Boxes etc.	ISI Mark
5.	LT Cable	Polycab/Havells/Anchor/Finolex/KEI or Equivalent
6.	MCB, MCCB	Havells/Anchor/Standard/L&T or Equivalent

- **Numerical Relays:** (ABB / Siemens / Schneider / Areva / L&T)
- **CT/PT:** (Kappa / Precise / Concord)
- **Energy Meters:** (Secure / L&T / Schneider)

TECHNICAL SPECIFICATION – HIGH TENSION PANEL INSULATED SWITCHGEAR - 33KV VCB

ENCLOSURE AND MECHANICAL CONSTRUCTION:

a. The Switchgear shall be factory assembled, totally enclosed, metal clad, dead front cubicle, fully arc proof, with highest service continuity LSC 2B, highest possible personal safety with partition class PM, IAC A-FLR suitable for Internal Arc Withstand current of 31.5 KA for 1 second consisting of separate panels assembled into one or more sections to form a single structure with a common busbar assembly. The individual sheet-steel compartments are to be bolted together to one switchgear panel. Separation walls to the adjacent panels shall always be double. The panels shall be of Metal Clad compartmentalized design with all the High Voltage compartments viz. Circuit Breaker, Bus-Bar, and Current Transformer, Potential Transformer separated by metallic partitions. The switchgear panels shall be rigid without using any external bracing. The panel panels should comply with relevant IEC and revision thereof and shall be designed for easy operation maintenance and further extension.

b. Bus bar, metering, circuit breaker chamber, cables, and cable box chamber should have proper access for maintenance, and proper interlocks should be provided. All metering or other instruments mounted on the LV compartment should be flush mounting type.

c. The overall design of the Panel shall be such that major equipment's should have front access only. The rest of the equipment's like the current transformer, potential transformer, cable, and bus bar may have rear access provided the offered panel is type-tested for internal arc compliance. The panels shall be constructed using steel parts zinc-plated, high voltage and low voltage doors at the front and end walls shall be powder coated with RAL 7035. The observation window on the CB compartment door shall be provided. The offered panel shall be type-tested with an observation window.

d. The switchgear should have the minimum degree of protection as IP4X for external enclosure up to the rating of 1250A. The same shall be IP2X for the internal enclosure.

e. The switchgear must be readily extendable in either direction.

f. Switching device compartment and cable compartment shall be equipped with an anti-condensation heater controlled by the thermostat.

g. Switchgear shall have a uniform width of 1000mm for all types of feeders (Incomer, outgoing & Bus coupler). The height of the switchgear shall be limited to 3350mm considering Internal Arc 1 Second.

h. Front access doors shall be provided to the HV circuit breaker and rear access shall be provided to HV cable termination compartments. Switchgear should be designed to handle up to 1250 Amps at 45°C ambient temperature with natural cooling.

i. Each compartment should have an exhaust channel to let out over-pressurized hot gases at the top of the panel in case of an internal fault. A baffle assembly shall be used to evacuate gases in case of IAC 1s design. The gases shall be safely vented in the switchgear room.

j. Each unit of the switchgear shall be divided into functional individual compartments such as :

Busbar compartment
Circuit Breaker compartment
LV compartment

Cable and instrument transformer compartment

BUSBAR COMPARTMENT, CONNECTIONS, SUPPORTS, AND BUSBAR DESIGN:

a. The switchgear shall comprise of 3 phase busbars, which shall extend through all the units of the switchgear lineup. All phases of busbars shall be of uniform cross-section throughout the switchgear and shall be sized to carry continuously the current specified in the Single Line Diagram with respect to site conditions. The busbar shall be hollow triangular type so that it should be easy to assemble at the site due to easy fixing at the base of the triangle, improved thermal performance, and Design without sharp edges resulting in reduced electrical stress. The shape of busbars shall be the same for all ratings.

b. Busbars shall be bolted from panel to panel. Busbars shall be housed in a separate chamber and shall be accessible for inspection only with tools.

c. Busbars shall be made of electrolytic aluminum/copper. The clearance between the live busbar and the nearest earth partition/ member shall be suitably arranged so as to withstand the 1-minute power frequency withstand voltage and impulse withstand voltage. The clearance shall be meant considering heat-shrinkable sleeves on busbars and shrouds at busbar joints.

d. Busbar shall be supported at regular intervals using cast resin bus support insulators. The whole system shall be designed to withstand the specified short circuit level without permanent deterioration.

e. The busbar shall be prominently marked with phase identification.

f. This compartment shall have the following components:

    - current transformers
    - potential transformers
    - cable terminals

The income as well as outgoing power connections shall be accessible from the rear bottom. Ample space/termination height shall be provided in the cable chamber to terminate 3 cores. Cable termination height shall be a minimum of 550mm, no separate cable pan shall be provided. The power as well as control cable shall enter the switchgear panel from the bottom. Detachable undrilled gland plates shall be provided for cables, also the same shall be non-magnetic in the case of single core cables.

Low Voltage Compartment

All low-voltage equipment shall be normally contained in the low-voltage compartment. In particular:

- Terminal blocks and wiring for interconnections between cubicles
- connecting the auxiliary cables
- Instruments, switches, lamps, protection relays, metering devices, fuses, etc.

On the top of the low voltage compartment, there shall be a cable duct for auxiliary connections between cubicles and towards the external installation. A similar channel shall be available at the bottom along the switchgear.
Plug-in type terminal blocks shall do all inter-cabling between cubicles.
Wiring will be done according to relevant IEC standards.

AUXILIARY WIRING & TERMINALS:

Inside the cubicles, the wiring for control, signaling, protection, and instrument circuits shall be done with PVC-insulated conductors. The wiring shall preferably be enclosed in plastic channels or neatly bunched together. The CT wiring shall be of minimum 2.5 sq.mm. and the other control as well as PT wiring shall be of 1.5 sq.mm. The same shall be of multi-stranded copper. Ferrules with numbers shall be provided on both ends of the wiring. More than two wires shall not be terminated onto a single terminal

All inter-panel control wiring including wiring within the same shipping section shall be done by the switchgear vendor. For different shipping sections, wires in rolls of the required length and loose ferrules shall be provided.

INDICATING INSTRUMENTS:

a. All indicating and integrating meters shall be flush mounted on the panel front. The instruments shall be of at least 96 mm square size with 90-degree scales and shall have an accuracy class of 2.5 or better. The covers and cases of instruments and meters shall provide a dust and vermin-proof construction.

b. All instruments shall be compensated for temperature errors and factory calibrated to directly read the primary quantities. Means shall be provided for zero adjustment without removing or dismantling the instruments.

c. All instruments shall have white dials with black numerals and lettering. The multifunction meter shall be a Microprocessor-based communicable composite. Meters with RS485 port & Modbus protocol for downloading on serial communication to PC/HMI (Currents, Voltages, frequency, power factor, kWH, kVARH, kVAH) and conform to accuracy class. Meters shall be suitable for PT secondary of 110V (line) and CT secondary of 5A/1A.

CONTROL SWITCHES:

a. Control & Selector switches shall be of rotary type with escutcheon plates clearly marked to show the function and positions. The switches shall be of sturdy construction suitable for mounting on the panel front. Switches with shrouding of live parts and sealing of contacts against dust ingress shall be preferred.

b. Ammeter and voltmeter selector switches shall have four stay-put positions with an adequate number of contacts for three phase 4 wire system. These shall have oval handles Ammeter selector switches shall have make-before-break type contacts to prevent open circuiting of CT secondaries.

c. Contacts of the switches shall be spring assisted and shall be of suitable material to give a long trouble-free service.

d. All circuit breaker operating switches shall be of the pistol grip type, spring return to neutral, and lockable in that position. They shall be arranged to close the breaker by being turned clockwise. The trip, neutral, and close positions shall be clearly indicated. The movement shall be such that the switch cannot be operated inadvertently and that it is mechanically interlocked to trip before closing.

e. Control switches shall be suitable for use in DC circuits upto 250V and AC circuits upto 440V. The switch shall have a break rating of 2A at 250V DC and 5A at 440V AC. Where required, the switch shall have a lost motion device.

PUSH BUTTONS:

Push buttons shall be of spring return, push to actuate type. Their contacts shall be rated to make, continuously carry, and break 10A at 240V and 0.5A (inductive) at 220V DC. All push-buttons shall have one normally open and one normally closed contact unless specified otherwise.

INDICATING LAMPS:

Indicating lamps shall be of the panel mounting LED type.
Lamps shall have translucent lamp covers. Lamps shall be easily replaceable from the front of the cubicle.

BREAKER COMPARTMENT, VACUUM CIRCUIT BREAKERS:

The offered switchgear panel shall be with horizontal isolation and horizontal drawout Vacuum Circuit Breaker. The switching device shall be mounted on a truck, which will have distinct positions of Service and Test inside the compartment with the front door of the chamber closed. Each Circuit Breaker shall be provided with a truck so that a separate Circuit Breaker handling trolley is not required. All the operations of the switching device shall be with front door closed.

The Circuit Breaker shall be spring operated, Motor charged, manually released spring closing mechanism with three pole simultaneous operation. The indicating device shall show the OPEN and CLOSE position of breaker visible from front of the cubicle. The spring charging time of the motor shall not exceed 15 seconds. The 'TRIP & 'CLOSE' coils shall be of reliable design and low consumption preferably not more than than 140 W. It shall be possible to manually charge the circuit breaker operating spring in case of auxiliary supply failure.

The breakers shall be capable of Making & Breaking the short time current and shall have 3 phase rupturing capacity of 31.5KA. The offered Vacuum Circuit Breaker should have short circuit withstand rating of 31.5 KA (RMS) for 3 seconds & peak dynamic withstand current of 78.75 KA peak. The Circuit Breaker shall be suitable for C2, E2(Without auto reclosure duty) & M2 class duty. The offered circuit breaker should have valid type tests to support the afore-mentioned duty class.

a. The circuit breaker shall be isolated by horizontal racking and positively fixing the unit into any one of the following positions:

   - Service position: Main and auxiliary circuits connected.

   - Test position: Main circuits disconnected, auxiliary circuits connected. Circuit breaker in its isolated position shall be completely contained in the apparatus compartment with shutters on the main circuit closed and compartment front door closed.

   - Withdrawn position: Main circuits and auxiliary circuits disconnected. The circuit breaker is removed from the cubicle.

   A position indicator switch or viewing window must be provided for visual indication of the circuit breaker position.

b. Each circuit breaker shall be provided with the following accessories:

   i) ON-OFF indicator for indicating circuit breaker position.

ii) Mechanical ON/OFF push button.
iii) Shunt trip coil operating between 70% - 110% of the rated control voltage.
iv) Close coil, operating between 85% - 110% of rated control voltage.
v) Spring charge motor, operating between 90% - 110% of the rated control voltage.
vi) Operation Counter.

c. The switchgear shall be provided with facilities for full operation from a remote point. It shall be possible to trip the circuit breaker locally by mechanical means.

d. The circuit breaker truck shall ensure the earth in both connected and disconnected positions.

e. Circuit breakers will be provided with at least two spare normally-open and two spare normally-closed contacts, each wired out to terminals for the connection of external wiring.

f. Circuit breakers shall be with mechanical latching, electrical and mechanical tripping. The operating mechanism shall be trip-free and shall include an anti-pumping device.

g. Shutters: The circuit breaker compartment should have automatic shutters, which shall be opened and closed by the mechanical drive of the circuit breaker. The bus bar and circuit spout covers shall be operated independently of each other. Padlock facilities can be provided on the metal shutters. Suitable danger name plates shall be provided on these safety shutters.

INTERLOCKING:

Following minimum safety interlocks shall be provided so as to achieve maximum operating personnel safety:

a. It shall not be possible to rack out the withdrawable Vacuum Circuit Breaker trolley from Service to Test position when the breaker is in 'ON' condition. Similarly, it will not be possible to rack in the draw-out mechanism from the Test to Service position, if the Vacuum Circuit Breaker is 'ON' condition.

b. Any attempt to rack out Circuit Breaker from Service to Test position will not result in switching OFF of the Circuit Breaker instead the breaker Service position will be locked till VCB is 'ON'.

c. It shall not be possible to rack in or rack out Vacuum Circuit Breaker trolley when the front Vacuum Circuit Breaker chamber door is open.

d. It shall not be possible to rack in the Vacuum Circuit Breaker trolley from the test to service position when the low voltage control plug is not in the connected position.

e. Cable earthing trucks and bus earthing trucks if provided shall be provided with necessary electromechanical interlocks.

NAMEPLATES:

a. All switchgear shall be provided with prominent, engraved identification plates for board and feeders at the front and rear of panels. The module identification plate shall clearly give the feeder number and feeder designation.

b. All name plates shall be of 2-ply rapelite with black engraved lettering on a white background. Inscriptions and lettering sizes shall be subject to PURCHASER approval.

c. Suitable labels shall be provided for easy identification of all equipment, located inside the panel/module. These labels shall be positioned so as to be clearly visible and shall give the device number as mentioned in the module wiring drawings.

d. Suitable danger warning name plates/ stickers shall be provided wherever access to live parts from outside is possible.

INSTRUMENT TRANSFORMERS:

The instrument transformers such as current and voltage transformers shall be cast resin insulated. The instrument transformers shall conform to relevant IEC standards. The Current and voltage transformer shall be designed suitably for the required metering and protection class as specified in SLD. Insulation class for Current and voltage transformer shall be class E or better.
The Current transformer shall be window/bar type.
The bus as well as the line voltage transformer shall be in a single-pole version. The draw-out bus PT shall be mounted in a separate panel while the draw-out line PT shall be mounted at the rear side of the feeder panel, same shall be drawn out from the rear side. The rated voltage factor for the voltage transformer shall be 1.2 continuous & 1.9 for 30 seconds.

RELAYS:

Relays shall be provided in each feeder as per the protections.

NUMERICAL RELAY:

The following features shall be included in the numerical relay:

a. Construction: The relay shall be draw-out type and shall ensure that CT circuits remain short-circuited when the relay is withdrawn. The rear terminal blocks shall comprise M4 female terminals for ring crimp wire connections, to provide a secure and reliable termination.
b. LEDs: Relay shall have 9 users programmable TRI color self/hand reset LEDs allowing for clear indication of associated functions state and shall have label insert for user-defined text labeling.
c. Auxiliary Power Supply: Relay shall be suitable for universal aux supply from 24 VDC to 250 VDC /100-230 VAC.
d. Current Inputs: The relay shall have site-selectable 1A/5A current inputs. Relay shall have optional Sensitive current input for sensitive E/F protection. i.e. 4CT configured as 3PF + EF or 3PF + SEF/REF.
e. Voltage Inputs: The relay shall have voltage inputs for measurement of PT voltage. Shall have phase to phase & Phase to neutral voltage measurement. (Applicable for Incomer & Bus coupler feeder only)
f. Binary Inputs: The relay shall have up to 6 binary inputs with individual pick-up and drop-out times. It shall be possible to invert BI for user-specific applications.
g. Binary Outputs: The relay shall have up to 8 binary outputs which shall be configured as self-reset / pulsed output or latched output.
h. Communication Interfaces: The relay shall offer a USB serial port as standard on the front of all units. All of the relay functions can be set on a PC using suitable software via the USB port. The connection is made with a USB cable and operates with a 'plug-and-play connection, so no pre-setting of the relay is required. The relay shall support user-selectable communications protocols DNP3.0, MODBUS-RTU, and IEC60870-5-103 with RS485 connection possibility and shall also support IEC61850 protocol with either electrical or optical redundant ports. Relay with IEC61850 ports shall support PRP (Parallel Redundancy Protocol).
i. Operating and evaluation software: it shall be possible to do settings, interrogate settings, retrieve events and disturbance waveforms, and view measurements using a Windows-based

software tool. The parameterization tool shall provide functions for simple and fast commissioning, e.g. for the testing of binary inputs and outputs or of the communication interface. Furthermore, it shall be possible to initiate test fault records for commissioning purposes.

j. Password Protection: Relay shall have 2 levels Password Protection: One for setting and the other for control.
k. Monitoring Functions : The sequence of event records: Up to 1000 events shall be stored and time tagged to 1ms resolution.
l. Fault Records: The last 100 fault records shall be displayed on the relay fascia and shall also be available through the communication interface, with time and date of trip, measured quantities, and type of fault.
m. Waveform recorder: The waveform recorder shall store analog data for all poles and the states of protection functions, binary inputs, LEDs, and binary outputs with user settable pre & post-trigger data. A record can be triggered from a protection function, binary input, or via data communications. 10 records of 1 second duration shall be stored.
n. Demand Metering: A rolling record of demand over the last 24h shall be stored. The demand shall be averaged over a user-selectable period of time. A rolling record of such demand averages is stored and provides the demand history. A typical application is to record 15-minute averages for the last 7 days.
o. Programmable Logic: It shall be possible to map binary inputs, protection elements, LEDs, and binary outputs together in a logical scheme using standard logic functions e.g. Timers, AND/OR gates, Inverters, and Counters to provide the user-required functionality. Each logic output can be used for alarm & indication and/or tripping.

PROTECTION FEATURES FOR OUTGOING FEEDER:

- 37 Undercurrent Protection
- 50 / 51 Overcurrent protection
- 50N / 51N / Non Directional Earth Fault protection
- 50SEF / 51SEF / Non Directional Earth Fault protection
- 51C Cold Load Current Protection
- 46BC Phase Unbalance/Broken Conductor
- 46NPS Negative Phase Sequence Overcurrent
- 49 Thermal Overload
- 50BF Circuit Breaker
- 64H High Impedance Restricted Earth Fault
- 81HBL2 Inrush Restraint
- 50AFD Arc flash detection
- 50 SOTF

PROTECTION FEATURES FOR INCOMER & BUSCOUPLER FEEDER :

In addition to outgoing feeder protection, the incomer & Buscoupler feeder should have following protection functions.

- 67 Directional Overcurrent protection
- 51V Voltage controlled Overcurrent protection
- 67N Directional Earth Fault protection
- 67SEF Directional Earth Fault protection
- 27/59 Under/Over Voltage protection
- 47 Negative Phase Sequence Voltage
- 59N Neutral Overvolatge Protection
- 81 Under / Over Frequency protection
- 32 Directional Power Protection

- 32S Directional Sensitive Power Protection
- 55 Power Factor

TYPE TESTS

The manufacturer shall submit the following Type test reports to prove the capability and suitability of his offered switchgear. The switchgear should have been subjected to all types of tests at an internationally recognized testing station, like PEHLA, KEMA, or NABL accredited laboratory or an independent test laboratory.
Type tests certificates/reports shall be considered acceptable if they are in compliance with the latest applicable relevant IEC Standards

The following tests shall be carried out as a minimum requirement:

i. Short Time Current Test
ii. Short Circuit Test duties on Circuit Breaker.
iii. Impulse withstands Test.
iv. Power Frequency withstand Test
v. Temperature Rise Test.
vi. Internal Arc Test – AFLR – 31.5kA for 1 Sec.
vii. Mechanical Endurance test on Circuit Breaker.
viii. Test to prove Degree of Protection of enclosure.
ix. Capacitor Switching Test.

ROUTINE TESTS:

Routine tests shall be carried out in accordance with IEC 62271-200 standards.
These tests shall ensure the reliability of the cubicle.
The below-listed test shall be performed as final acceptance tests at the manufacturer's works before the delivery of switchgear:

i) Withstand voltage at power frequency
ii) Withstand voltage on the auxiliary circuits
iii) Operation of functional locks, interlocks, signalling devices and auxiliary devices
iv) Suitability and correct operation of protections, control instruments and electrical connections of the circuit breaker operating mechanism
v) Measurement of the resistance of the main circuit
vi) Verification of wiring
vii) Visual inspection

ANNEXURE – A

DECLARATION OF SPARES/ SERVICES SUPPORT: Manufacturer's Authorization

Date: _____

To:

_____

WHEREAS

We _____ (OEM Name and Address), who are official manufacturers of _____ (HT Panel Component Description), having factories/offices at _____, do hereby authorize _____(Bidder Name) to submit a Bid the purpose of which is to provide the following goods, manufactured by us _____ (Panel Component Description). We hereby authorize M/s ---------- (Bidder Name) for Supply Installation Testing & Commissioning of 33KV VCB type HT panel (incoming cum outgoing type) after removing the existing old panel at substation-2 of IIM Lucknow. We hereby confirm our full guarantee & warranty including support of spares & services for a minimum period of 15 to 20 years from operational acceptance.

Seal & Signature of with Date

FINANCIAL BID

BILL OF QUANTITY

SITC of 33kV HT VCB PANEL, IIM LUCKNOW					
SNo	**Description**	**Unit.**	**Qty.**	**Rate**	**Amount**
1	Supply Installation and commissioning of 33 kV HT Panels of 2mm gauge CRCA sheet with sandblasting, Siemens grey powder coating with IP44 protection, consisting of Indoor type metal clad VCB rating 33KV, 1250A, 25 KA, totally enclosed & fully interlocked draw out type breaker as per IEC 62271-100/200. Single break trip free breaker with motor-operated spring-charged mechanism, mounted on the truck carriage, complete with self-contained, fully interlocked rack-in & rack-out mechanism. The breaker is featured with a mechanical ON & OFF indicator with a hand trip device, spring release coil, shunt trip & auxiliary switch 3 Phase, 50 Hz, AC supply. Indoor type Vacuum Circuit breaker with motor-operated spring-charged mechanism, mounted on the truck carriage, complete with self-contained operated fully interlocked rack-in & rack-out mechanism, CT & PT protection relays, and standard accessories of metering and indication, shall be incorporated in the H.T. panel wherever specified, including all required for mounting on floor/Rails. VCBs shall conform to IEC 298, and 694 IS 3427, BS5227, and VDE 0670, Part 6 as well as the regulations mentioned therein. **VCB Make: ABB/ Siemens/ Schneider**.				
	Buy-Back				
2	Removal & Buy Back of 33kV 1250A indoor type Compact type VCB with all Supporting accessories like CT, PT Bus connector, etc.				
Basic Total Amount Installation					

N**ote:**

a. The contractor is advised to survey the actual site for assessment of critical applications, if any & accordingly quote the rates.

Signature with the seal of the Contractor