



SBI INFRA MANAGEMENT SOLUTIONS PVT. LTD.

(A Wholly Owned Subsidiary of SBI)

CIRCLE OFFICE

SBI Local Head Office, 4th Floor, III/1 Pandit Jawaharlal Nehru Marg, Bhubaneswar- 751001

Part – I

(Technical Bid)

**TENDER FOR EXTERNAL ELECTRICAL WORKS FOR SBI AO BUILDING
(NEW PREMISES) , AT SAMBALPUR**

Tender reference No: **BHU2020 03 001**

Note: Bank's (LHO, Bhubaneswar) approved Electrical contractor under HT category- up to 30 lacs and above only eligible to participate in this tender. Vendor/Contractor should possess valid digital signature for this e-tender.

TENDER SUBMITTED BY:

NAME : _____

ADDRESS : _____

GSTIN NO : _____

DATE : _____



NOTICE INVITING TENDERS

SBI Infra Management Solutions Pvt. Ltd. (hereinafter mentioned SBIIMS), SBI Local Head Office, 4th Floor, III/1 Pandit Jawaharlal Nehru Marg, Bhubaneswar- 01 on behalf of SBI, Bhubaneswar Circle invites E- Tenders for External Electrical works for SBI AO Building (new premises) at Sambalpur from Bank's (LHO, Bhubaneswar) approved Electrical contractor under HT category

The other details of the tender are as under:

1.	Name of Work and location of work	External Electrical works for SBI AO Building (new premises) at Sambalpur
2	Eligibility of criteria	Bank's (LHO, Bhubaneswar) approved Electrical contractor under HT category – upto 30 lacs and above
3	Estimated Cost	Rs.28,92,296/- (Rupees Twenty Eight Lakhs Ninety Two Thousand Two Hundred ninety six Only) plus GST
4	Cost of Tender Documents cum processing Fee (Non-refundable)	Rs.3000.00 (Rupees Three Thousand Only) non-refundable to be deposited online through https://www.onlinesbi.com using State Bank Collect gateway on or before 18.03.2020 up to 04:00 PM . Steps involved in making such payments is provided in details in Annexure I attached in this tender (no other mode of payment is permitted)
5	Earnest Money Deposit (EMD)	Rs. 29000/- (Rupees Twenty nine Thousand Only) in the Form of Demand Draft/Banker's Cheque issued by any Nationalised /Scheduled Bank Drawn in favour of " SBI Infra Management Solutions Pvt. Ltd. " Payable at Bhubaneswar, " which is to be submitted along with the Technical Bid in a separate envelope super scribing "EMD". Without EMD Tender will be rejected. <u>EMD shall be converted into Retention Money for successful Contractor, whose tender is accepted.</u>
6	Availability of Tender document.	04.03.2020 to 18.03.2020 from Bank's website " https://www.sbi.co.in/portal/web/home/procurement-news " and https://etender.sbi .
7	Initial Security Deposit (ISD)	L1 vendor shall submit, 2% of awarded value of work in the form of DD/BC favouring " State Bank of India" payable at Bhubaneswar and EMD obtained in the name of SBI Infra Management Solutions Pvt. Ltd shall be returned to them.
8	Retention Money	The successful (L1) Contractor/vendor, whose tender is accepted by the Bank, shall be bound to deposit a sum equivalent to 5% of accepted "Final value of the work" including ISD as Retention Money.
09	Last date, time and place for submission of Online Technical Bid.	The eligible empaneled contractor under the Bhubaneswar Circle/LHO are required to submit/enclose the scan copies of following document online on or before Dt.18.03.2020 up to 04 PM.: i) Payment receipt of the Tender processing fee. ii) Earnest Money Deposit (EMD).



		<p>iii) Process Compliance form in company letter head duly signed and stamped by authorize representative.</p> <p>iv) Letter of Undertaking in company letter head duly signed and stamped by authorize representative.</p> <p>However, only physical EMD to be submitted on or before last date & time in sealed envelope at our SBIIMS office address mentioned below.</p> <p>Asst. Vice President & Circle Head. SBI Infra Management Solutions Pvt. Ltd. Circle Office, SBI Local Head Office, 4Th Floor, III/1 Pandit Jawaharlal Nehru Marg, Bhubaneswar- 751001.</p> <p><u>Tenders received without any one or more document mentioned above shall be rejected.</u></p> <p>After the accomplishment of tendering procedure, the successful bidder shall submit the hard copy of the Technical document duly signed with seal in all pages by the authorized representative/proprietor of the firm at the under mentioned office.</p>
10	Last date, time and Mode of submission of Online Price Bid	<p>The Price Bid to be uploaded/submitted online on service provider portal i.e https://etender.sbi on or before Dt.18.03.2020 up to 04: PM.</p> <p>The bidder (Vendor/Contractor//Authorized Dealer) should have valid digital signature for this e-tender.</p> <p>E-tendering guidelines may be obtained from:</p> <p>M/s E- Procurement Technologies Ltd. (abc procure) A-801, Wall Street - II, Opp. Orient Club, Nr. Gujarat College, Ellis Bridge, Ahmedabad - 380 006. Gujarat State, India. Phone: +91-79-68136889. Cell: +91-6354919566 E-mail: bina.soni@auctiontiger.net</p>
11	Date, Time and Place of opening of Online Technical Bid.	<p>Online Technical bid (Part-1) at our Office: At 4.15 PM on Dt. 18.03.2020 Circle Office, SBI Local Head Office, 4th Floor, III/1 Pandit Jawaharlal Nehru Marg, Bhubaneswar- 751001.</p> <p>Authorized representatives of vendors may be present during opening of the Technical Bids. However, Technical Bids would be opened even in the absence of any or all of the vendor representatives.</p>
12	Date, Time and Place of opening of Online Price Bid.	<p>The online Price bid (Part-2) of only technically qualified bidder shall be opened at our office on 4.45 PM on Dt. 18.03.2020</p>
13	Validity for Offer	<p>3 (Three) Months from The Date of Opening of Price-Bid</p>



14	Commencement of Work.	7th Day from the date of receiving of Work Order.
15	Time for completion of work.	120 days from date of Commencement.
16	Deduction of income tax and GST	<p>A) Income Tax will be deducted at source as per Govt. Guidelines.</p> <p>B) Reimbursement of GST will be made only on submission of proper GST invoice as per applicable GST provision. The contractor should comply with the following;</p> <ol style="list-style-type: none"> 1. Contractor should have GST Registration Number 2. Invoice should specifically/separately disclose the amount of GST levied at applicable rate as per GST provision 3. In case of Correction in the bills after scrutiny, contractor should submit fresh bills for payment 4. Contractor should timely file his GST return in accordance with GST provisions to enable the bank to claim the credit of GST paid to the contractor
17	Terms and Mode of payment	<p>i) No advance is payable.</p> <p>ii) After successful completion of entire work 100% payment will be released against submission of tax invoice and work completion certificates.</p> <p>iii) Payment shall be made by way of Electronic fund transfer and the bill will be paid by the SBI. Firm should furnish details of the bank, A/c no, IFSC code.</p> <p>iv) Payments towards the above work shall be made by SBI. The GST Number of State Bank of India for Bhubaneswar is 21AAACS8577K1Z1</p>
18	Liquidated Damages for Delay	If the bidder is not able to complete within stipulated time from date of issue of work order, 0.5 % Per week subject to total amount of 5% of Contract Value.
19	Defects Liability Period	12 Months (Twelve months)
20	Contact Person, Phone No of officials.	<p><u>For Technical queries:</u></p> <p>Shri M.K.Sahoo Chief Manager (Elect.) SBIIMS Pvt. Ltd. Bhubaneswar Email : mk_sahoo@sbi.co.in</p>



	Cell :9848889133 Circle Head: 0674-2600570 & headbhu.sbiims@sbi.co.in
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- In case the date of opening of tenders is declared as a holiday, the tenders will be opened on the next working day at the same time.
- The bidder, who is the authorized representative and participating on behalf of company/ Dealer/vendor, should have a valid digital signature certificate (DSC) for this e-tender. The validity of the DSC should be at least 3 months.
- Those bidders who are qualified in technical bid, should submitted their price bid online within timeline, failing which tender summarily rejected.
- SBIIMS reserves the right to increase or decrease the quantum of services, manpower to be provided and also reserves the right to reject, cancel or revise or accept any or all the tenders or part of tenders without giving any reasons thereto.
- SBIIMS reserves its rights to accept/reject any/all tender without assigning any reasons whatsoever and to increase or decrease the quantities of any item and contractor has to execute the same at the rate quoted and no correspondence shall be entertained in this regard.
- The L-1 Vendor (successful bidder) shall sign and stamp each page of the tender document thereby ensuring the number and sequence of all pages after completion of the tendering procedures.
- Conditional tenders are liable for rejection.
- Bidders need to submit an undertaking, if quoted amount is 10% less than the estimated amount, to undertake the job. Further, the vendor is liable to submit with relevant justifications on their letter head for the items (schedule) which quoted less.

Sd/-
(AVP & Circle Head)
SBIIMS, Bhubaneswar



BUSINESS RULES FOR ONLINE TENDER GENERAL TERMS AND CONDITIONS OF ONLINE TENDER

1. For the proposed online bidding, already empanelled vendors for the said purpose who fulfill all terms and conditions including deposit of earnest money and tender processing fee only shall be eligible to participate.

2. SBIIMS/SBI will engage the services of a service provider who will provide all necessary training and assistance before commencement of online bidding on Internet.

3. SBIIMS/SBI will inform the vendor in writing in case of online bidding, the details of service provider to enable them to contact and get trained.

4. Business rules like event date, time, start price, bid decrement, extensions, etc. also will be communicated through service provider for compliance.

5. Vendors have to fax the compliance form in the prescribed format (provided by service provider) before start of online bidding. Without this the vendor will not be eligible to participate in the event.

6. Opening of online bids will be conducted on schedule date & time.

7. At the end of online bidding event, the lowest bidder value will be known on the network.

8. The lowest bidder has to fax the duly signed filled-in prescribed format as provided on case-to-case basis to SBIIMS/SBI through service provider within 24 hours of completion of tender without fail.

9. Any variation between the on-line bid value and signed document will be considered as sabotaging the tender process and will invite disqualification of vendor to conduct business with SBIIMS/SBI as per prevailing procedure.

10. In case SBIIMS/SBI decides not to go for online bidding on procedure for this tender enquiry, the price bids and price impacts, if any already submitted and available with SBIIMS/SBI shall be opened as per SBI standard practice.

11. Business Rule for finalization of the Tender

SBIIMS/SBI shall finalize the tendering process of the item through online bidding mode. SBIIMS/SBI has made arrangement with M/s. e-Procurement Technologies Ltd, Ahmedabad, (ETL) who shall be SBIIMS/SBI's authorized service provider for the same. Please go through the guidelines given below and submit your acceptance to the same along with your Commercial Bid.

1. Computerized Online tendering shall be conducted by SBIIMS/SBI, on pre-specified date, while the vendors shall be quoting from their own offices/ place of their choice. Internet connectivity and other paraphernalia requirements shall have to be ensured by vendors themselves. In the event of failure of their Internet connectivity, (due to any reason whatsoever it may be) it is the bidders responsibility / decision to send fax communication, immediately to ETL furnishing the price, the bidder wants to bid online, with a request to ETL



to upload the faxed price on line so that the service provider will up load that price on line on behalf of the Bidder. It shall be noted clearly that the concerned bidder communicating this price to service provider has to solely ensure that the fax message is received by ETL in a readable / legible form and also the Bidder should simultaneously check up with ETL over phone about the clear receipt of the price faxed. It shall also be clearly understood that the bidder shall be at liberty to send such fax communications of prices to be up loaded by ETL only before the closure of Bid time and under no circumstances it shall be allowed beyond the closure of bid time. Such bidders have to ensure that the service provider is given a reasonable required time by the bidders, to upload such faxed prices online and if such required time is not available at the disposal of ETL at the time of receipt of the fax message from the bidders, ETL will not be uploading the prices. It is to be noted that either SBIIMS/SBI or ETL are not responsible for these unforeseen circumstances. In order to ward-off such contingent situation, bidders are requested to make all the necessary arrangements / alternatives whatever required so that they are able to circumvent such situation and still be able to participate in the online bidding successfully. However, the vendors are requested not to wait till the last moment to quote their bids to avoid any such complex situations.

2. ETL shall arrange to train your nominated person(s), without any cost to you. They shall also explain you, all the Rules related to the Tendering/ Business Rules Document to be adopted along with bid manual. You are required to give your compliance on it before start of bid process.

3. BIDDING CURRENCY AND UNIT OF MEASUREMENT: Bidding will be conducted in Indian Rupees (INR) per -one- (Unit) of the items.

4. BID PRICE: The Bidder has to quote the Total cost to SBI of the items specified inclusive of all taxes, duties, freight, service tax, overhead, contractor's profit etc. excluding GST. GST shall be paid extra as per actual.

5. VALIDITY OF BIDS: The Bid price shall be firm for a period of three calendar months from the date of acceptance of tender which may be extended for a further period subject to mutual agreement.

6. The bidder has to provide a detail break up for his commercial offer in the prescribed format as given by the Bank.

7. Your bid will be taken as an offer to supply. Bids once made by you, cannot be cancelled / withdrawn and you shall be bound to supply as mentioned above at your final bid price. Should you back out and not execute the work as per the rates quoted, the earnest money deposited by you with us in this regard shall be forfeited without further reference to you.

8. You shall be assigned a Unique User Name & Password by ETL. You are advised to change the Password after the receipt of initial Password from ETL to ensure confidentiality. All bids made from the Login ID given to you will be deemed to have been made by your company.

9. At the end of the online Tendering process, SBIIMS/SBI will decide upon the winner. SBIIMS/SBI's decision on award of Contract shall be final and binding on all the Bidders.



10. SBIIMS/SBI shall be at liberty to cancel the tender at any time, before ordering, without assigning any reason.

11. SBIIMS/SBI shall not have any liability to bidders for any interruption or delay in access to the site irrespective of the cause.

12. Other terms and conditions shall be as per your techno-commercial offers and other correspondences till date.

13. You are required to submit your acceptance to the terms / conditions / modality given above before participating in the online bidding.

14. Successful bidder shall enter into a contract with the bank to carry out the work as per Bank's standard format.

15. OTHER TERMS & CONDITIONS: - The Bidder shall not involve himself or any of his representatives in Price manipulation of any kind directly or indirectly by communicating with other suppliers / bidders. - The Bidder shall not divulge either his Bids or any other exclusive details of SBI to any other party. - SBI's decision on award of Contract shall be final and binding on all the Bidders. - SBI along with ETL can decide to extend, reschedule or cancel any tender. Any changes made by SBI and / or ETL, after the first posting will have to be accepted if the Bidder continues to access the site after that time. - ETL shall not have any liability to Bidders for any interruption or delay in access to the site irrespective of the cause. - ETL is not responsible for any damages, including consequential damages, including but not limited to systems problems, inability to use the system, loss of electronic information etc.

N.B. - All the bidders are requested to ensure that they have a valid digital certificate well in advance to participate in the online event - All the Bidders are required to submit the Agreement Form (Annexure- I) duly signed to M/s e-Procurement Technologies Pvt. Ltd, Ahmedabad before due date. - After the completion of the tender event, all the Bidders have to submit the Price Breakup immediately to M/s e-Procurement Technologies Pvt. Ltd, Ahmedabad for further proceedings.



PROCESS COMPLIANCE FORM

(The bidders are required to print this on their company's letter head and sign, stamp before faxing)

To

Date:

**M/s E- Procurement Technologies Ltd. (abc procure)
A-801, Wall Street - II, Opp. Orient Club,
Nr. Gujarat College,
Ellis Bridge, Ahmedabad - 380 006.
Gujarat State, India.
Phone: +91-79-68136889. Cell: +91-6354919566
E-mail: bina.soni@auctiontiger.net**

SUB: AGREEMENT TO THE PROCESS RELATED TERMS AND CONDITIONS FOR THE ONLINE BIDDING

Dear Sir,

This has reference to the Terms & Conditions for the online bidding mentioned in the Tender for **“External Electrical works for SBI AO Building (new premises) at Sambalpur .”** This letter is to confirm that:

- 1) The undersigned is authorized representative of the company.
- 2) We have studied the Commercial Terms and the Business rules governing the online bidding and the RFP as mentioned in your letter and confirm our agreement to them.
- 3) We also confirm that we have taken the training on the tender tool and have understood the functionality of the same thoroughly.
- 4) We confirm that SBI Group and ETL shall not be liable & responsible in any manner whatsoever for my/our failure to access & bid on the e-tender platform due to loss of internet connectivity, electricity failure, virus attack, problems with the PC, any other unforeseen circumstances etc. before or during the tender event.
- 5) We understand that in the event we are not able to access the tender site, we may authorize ETL to bid on our behalf by sending a fax containing our offer price before the tender close time and no claim can be made by us on either State Bank Group or ETL regarding any loss etc. suffered by us due to acting upon our authenticated fax instructions.
- 6) I/we do understand that ETL may bid on behalf of other bidders as well in case of above mentioned exigencies.
- 7) We also confirm that we have a valid digital certificate issued by a valid Certifying Authority.



8) We also confirm that we will fax the price confirmation & break up of our quoted price as per Annexure II and the format as requested by SBI / ETL.

9) We, hereby confirm that we will honour the Bids placed by us during the tender process.

10) We read each pages, understood the technical bid & BOQ and I/we hereby agree to abide by and fulfill the terms and provisions and accepting all terms and conditions stipulated in the tender documents. After the accomplishment of tendering procedure, if we become the lowest bidder shall submit the hard copy of the Technical document duly signed with seal by the authorized representative/proprietor of the firm at the under mentioned office

We, hereby confirm that we will honour the Bids placed by us during the tender process.

With regards

Signature with company seal

Date:

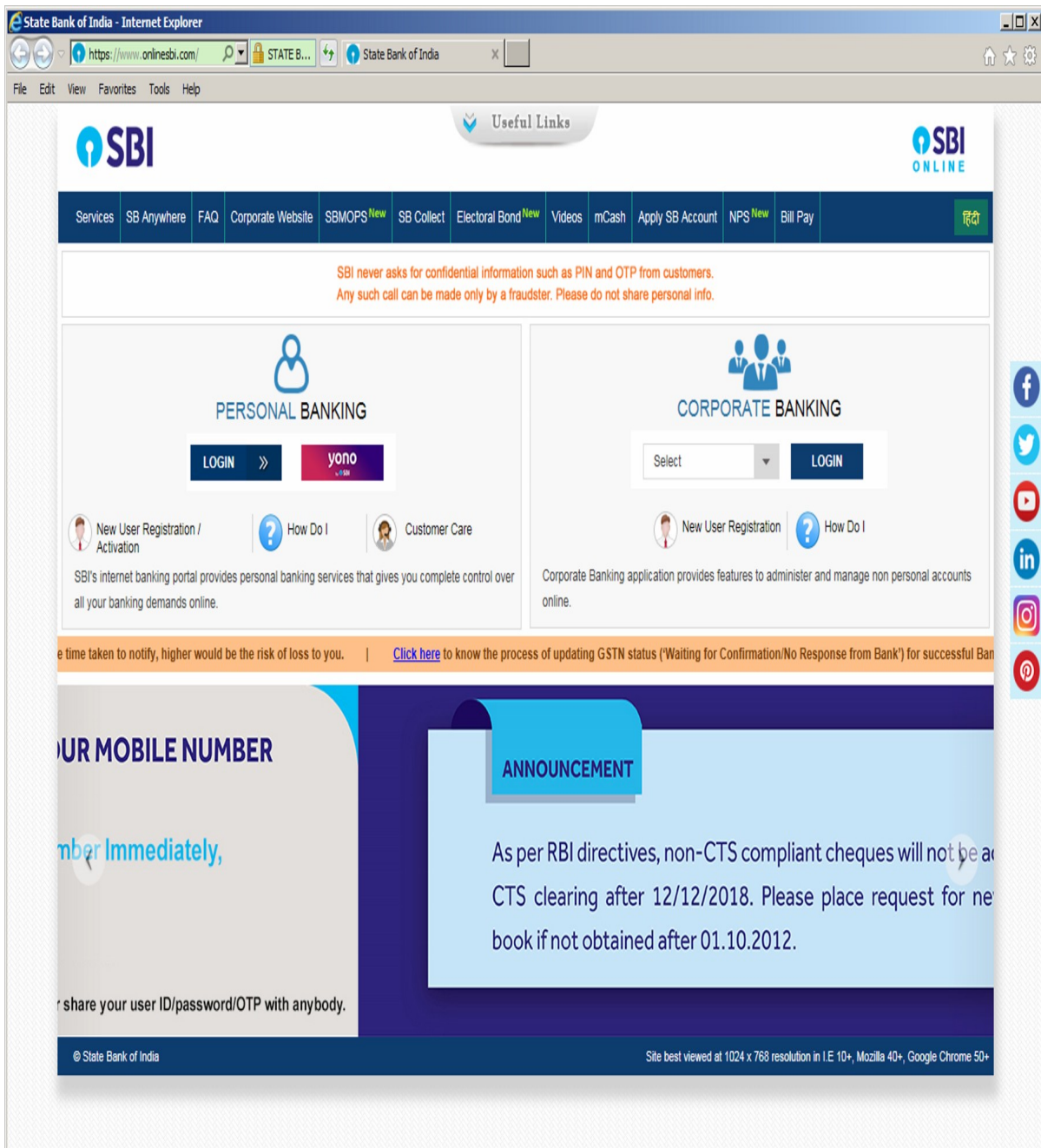
Name :

Company / Organization



Annexure-I

The Vendor needs to use SBI internet banking site <https://www.onlinesbi.com/>.



Select "SB Collect" from Top Menu that will lead to the next page:




State Bank Collect - Internet Explorer

https://www.onlinesbi.com/sbico STATE B... State Bank Collect

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Products & Services Know More

 **STATE BANK COLLECT**
A MULTI-MODAL PAYMENT PORTAL

DISCLAIMER CLAUSE

Terms Used

- > **Corporate Customer:** Firm/Company/Institution (F/C/I) collecting payment from their beneficiaries.
- > **User:** The beneficiary making a payment to F/C/I for the services/goods availed.
- > Bank shall not be responsible, in any way, for the quality or merchantability of any product/merchandise or any of the services related thereto, whatsoever, offered to the User by the Corporate Customer. Any disputes regarding the same or delivery of the Service or otherwise will be settled between Corporate Customer and the User and Bank shall not be a party to any such dispute. Any request for refund by the User on any grounds whatsoever should be taken up directly with the Corporate Customer and the Bank will not be concerned with such a request.
- > Bank takes no responsibility in respect of the services provided and User shall not be entitled to make any claim against the Bank for deficiency in the services provided by the Corporate Customer.
- > The User shall not publish, display, upload or transmit any information prohibited under Rule 3(2) of the Information Technology (Intermediaries guidelines) Rules, 2011.
- > In case of non-compliance of the terms and conditions of usage by the User, the Bank has the right to immediately terminate the access or usage rights of the User to the computer resource of the Bank and remove the non-compliant information.

☒ I have read and accepted the terms and conditions stated above.
(Click Check Box to proceed for payment.)

Proceed

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“Proceed” will lead to the next page:



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https://www.onlinesbi.com/sbico STATE B... State Bank Collect

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SBI State Bank Collect

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State Bank Collect / State Bank Collect [Exit](#)

State Bank Collect 09-Jan-2019 [12:23 PM IST]

Select State and Type of Corporate / Institution

State of Corporate / Institution *

Type of Corporate / Institution *

Go

▪ Mandatory fields are marked with an asterisk (*)
▪ State Bank Collect is a unique service for paying online to educational institutions, temples, charities and/or any other corporates/institutions who maintain their accounts with the Bank.

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Select

"All India" in "State of Corporate / Institution" & Select "Commercial Services" in "Type of Corporate / Institution". "Go" will lead to the next page:



State Bank Collect - Internet Explorer

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SBI State Bank Collect

State Bank Collect ▾ State Bank Mops

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State Bank Collect 09-Jan-2019 [12:25 PM IST]

Select from Commercial Services

Commercial Services Name *

Mandatory fields are marked with an asterisk (*)

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Select **"SBI Infra Management Solutions"** in Commercial Services Name and **"Submit"**

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SBI State Bank Collect

State Bank Collect ▾ State Bank Mops

State Bank Collect / State Bank Collect [Exit](#)

State Bank Collect 09-Jan-2019 [12:28 PM IST]

 **SBI Infra Management Solutions Pvt Ltd**
Ground Floor, Raheja Chambers, Free Press Journal Marg, Nariman Point, Mumbai-400021

Provide details of payment

Select Payment Category *

Mandatory fields are marked with an asterisk (*)

Enter Tender ID *

Mandatory fields are marked with an asterisk (*)

- The payment structure document if available will contain detailed instructions about the online payment process.
- Date specified(if any) should be in the format of 'ddmmyyyy'. Eg., 02082008

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Select **“Tender Application Fee”** in “Payment Category” and enter the **“Tender ID”** exactly as we preloaded with characters in Uppercase only in place of Circle Codes.



The next Page will be ready with few of the Preloaded Tender Details:

State Bank Collect - Internet Explorer

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SBI State Bank Collect

State Bank Collect - State Bank Mops

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State Bank Collect 09-Jan-2019 [12:35 PM IST]

SBI Infra Management Solutions Pvt Ltd
Ground Floor, Raheja Chambers, Free Press Journal Marg, Nariman Point, , Mumbai-400021

Provide details of payment

Select Payment Category * TENDER APPLICATION FEI

Tender ID * MUM2019010005

Tender Name Corp 05

Open Date 06-01-2019

End Date 12-01-2019

Amount in Rupees * 10000

Vendor Email ID

Vendor GST No *

Vendor Mobile No *

Vendor Name *

Remarks

Please enter your Name, Date of Birth (For Personal Banking) / Incorporation (For Corporate Banking) & Mobile Number.
This is required to reprint your e-receipt / remittance(PAP) form, if the need arises.

Name *

Date Of Birth / Incorporation *

Mobile Number *

Enter the text as shown in the image * 39E10

Submit Reset Back

Mandatory fields are marked with an asterisk (*)
The payment structure document if available will contain detailed instructions about the online payment process.
Date specified(if any) should be in the format of 'ddmmyyyy'. Eg., 02082008

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The Vendor will have to fill up the fields properly and upon making the payment a receipt will be generated with a Reference No.

The MIS information made available to circle authorities at the end of every Tenders will also contain this unique Reference No along with all fields shown in the above Page.

ARTICLES OF AGREEMENT

This AGREEMENT is made at on this day of between SBI, a body Corporate created under SBI Act 1955, having its Corporate Centre at State Bank Bhavan, Madame Cama Road, Mumbai 400 021 and one of the circle office at SBI Local Head Office, III/1 Pandit Jawaharlal Nehru Marg, Bhubaneswar- 01 represented by authorized officer of SBI. (hereinafter called "the Employer") on the one part and M/s _____ (proprietorship/partnership firm/Company), incorporated under the provisions of the Companies Act and having its registered office at _____ (hereinafter called "the Vendor") represented by Shri who is authorized to enter this agreement by its Board of Directors on the other part. +

AND WHEREAS the Employer has intention of engaging an empanelled electrical Contractor under SBI, LHO, Bhubaneswar for execution of " **External Electrical works for SBI AO Building (new premises) at Sambalpur** .

AND WHEREAS the Employer had called for tenders from empanelled vendors for the proposed work as indicated in the scope of work and other documents attached to the tender.

AND WHEREAS the Vendor and others submitted the tenders and the Employer has awarded the contract relating to "**External Electrical works for SBI AO Building (new premises) at Sambalpur ..**" as stated in the scope of work attached to the Tender Document to the Vendor.

AND WHEREAS both the parties to this agreement are desirous of recording the terms and conditions upon which the said services are to be rendered by the Vendor.

NOW IT IS HEREBY AGREED AS FOLLOWS:

1. In consideration of the said Contract Amount to be paid at the times and in the manner set forth in the said Conditions, the Contractor shall upon and subject to the said Conditions execute and complete the work shown upon the said Drawings and described in the said Specifications and the priced Schedule of Quantities.

2. The Employer shall pay to the Contractor the said Contract Amount, or such other sum as shall become payable, at the times and in the manner specified in the said Conditions.

3. The said Conditions and Appendix thereto shall be read and construed as forming part of this Agreement, and the parties hereto shall respectively abide by submit themselves to the said Conditions and perform the Agreements on their part respectively in the said Conditions contained.



4. The Plans, Agreements and Documents mentioned herein shall form the basis of this Contract.

5. This Contract is neither a fixed lump-sum contract nor a piece work contract but a contract to carry out the work as per enclosed schedule of Items and to be paid for according to actual measured quantities at the rates contained in the Schedule of Quantities or as provided in the said Conditions and approved by the SBIIMS.

6. The Contractor shall afford every reasonable facility for the carrying out of all works relating to SBI **External Electrical works for SBI AO Building (new premises) at Sambalpur** . in the manner laid down in the said Conditions, and shall make good any damages done to walls, floors, etc. after the completion of his work.

7. The Employer reserves to itself the right of altering the drawings and nature of the work by adding to or omitting any items of work or having portions of the same carried out without prejudice to this Contract.

8. Time shall be considered as the essence of this Contract and the Contractor hereby agrees to commence the work soon after the Site is handed over to him or from 7th day after the date of issue of formal work order as provided for in the said Conditions whichever is later and to complete the entire work within **120days** subject to nevertheless the provisions for extension of time.

9. All payments by the Employer under this Contract will be made by State Bank of India.

10. All disputes arising out of or in any way connected with this Agreement shall be deemed to have arisen at Bhubaneswar and only the Courts in Bhubaneswar shall have jurisdiction to determine the same.

11. That the several parts of this Contract have been read by the Contractor and fully understood by the Contractor.

IN WITNESS WHEREOF THE EMPLOYER and the Contractor have set their respective hands to these presents and two duplicates hereof the day and year first hereinabove written.

SIGNATURE CLAUSE

SIGNED AND DELIVERED by the

_____ By the

(Employer)

hand of Shri _____

(Signature of Employer)

(Name and Designation)

In the presence of :



Shri / Smt. _____

(Signature of Witness)

Address _____

(Witness)

SIGNED AND DELIVERED by the

_____ by the

(Contractor)

(Signature of Contractors)

in the presence of :

Shri / Smt. _____

(Signature of Witness)

Address _____



INSTRUCTIONS TO THE TENDERERS:

1.0 Scope of Work

Online Tenders are invited for SBIIMS for “**External Electrical works for SBI AO Building (new premises) at Sambalpur**” .

1.1 Site and Its Location

The proposed work is to be carried out at

External Electrical works for SBI AO Building (new premises) at Sambalpur

2.0 Tender Documents

2.1 The work has to be carried out strictly according to the specifications and conditions stipulated in tender consisting the following documents and the most workman like manner,

- 2.1 (a) Instructions to tenderers
- 2.1 (b) General Conditions of Contract
- 2.1 (c) Special Conditions of Contract
- 2.1 (d) Additional Conditions for Electrical Installation
- 2.1 (e) Technical Specifications
- 2.1 (f) Priced Bid

2.2 The above documents shall be taken as complementary and mutually explanatory of one another but in case of ambiguities or discrepancies, shall take precedence in the order given below :

- a. Price Bid
- b. Technical Specifications
- c. Additional Conditions for Electrical Installation
- d. Special Conditions of Contract



e. General Conditions of Contract

f. Instructions to Tenderers

2.3 Complete set of tender documents including relative drawings can be downloaded from www.sbi.co.in (link) <Procurement News>

3.0 SITE VISIT

The tenderer must obtain himself on his own responsibility and his own expenses all information and data which may be required for the purpose of filling this tender document and enter into a contract for the satisfactory performance of the work. The Tenderer is requested satisfy himself regarding the availability of water, power, transport and communication facilities, the character, quality and quantity of the materials, labour, the law and order situation, climatic conditions local authorities requirement, traffic regulations etc;

The tenderer will be fully responsible for considering the financial effect of any or all the factors while submitting his tender.

4.0 EARNEST MONEY

4.1 The tenderers are requested to submit the Earnest Money of **Rs. 29000/- (Rupees Twenty nine Thousand Only)** in the form of Demand Draft or Banker's Cheque in favour of "**SBI Infra Management Solutions Pvt. Ltd.**" payable at "Bhubaneswar" drawn on any Scheduled Bank in India.

4.2 EMD in any other form other than as specified above will not be accepted. Tender not accompanied by the EMD in accordance with clause 4.1 above shall be rejected.

4.3 No interest will be paid on the EMD.

4.4 After identifying the L1 vendor EMD of unsuccessful tenderers will be refunded personally to the vendor against their acknowledgement or shall be sent to their given address within a week by post/courier on request from tenderers.

4.5 EMD of successful tenderer will be retained as a part of security deposit.

5.0 INITIAL SECURITY DEPOSIT.

L1 vendor shall submit, 2% of awarded value of work in the form of DD/BC favouring "State Bank of India" payable at Bhubaneswar within a period of 15 days from the date of receipt of confirmation regarding acceptance of tender and EMD obtained in the name of **SBI Infra Management Solutions Pvt. Ltd** shall be returned to them.

6.0 SECURITY DEPOSIT

6.1 Total security deposit shall be 5% of the final value of the work. Out of this 2% of tender value (i.e. tender amount) is in the form of initial security deposit (ISD). Balance security deposit (i.e. 5% of final value of work less 2% of tender value already deposited as ISD) towards the work shall be deducted from the final bill of the work as Retention money. Bank also may deduct total 5% of the final value of the work from Final/running bill and the ISD shall be returned to the L1 vendor. 5% of



the retention money shall be paid after the defects liability period of 1 Year as specified in the contract. The retention money will be interest free.

6.2 ADDITIONAL SECURITY DEPOSIT

In case L-1 bidder quotes abnormally low rates (i.e. 10% or more, below estimated project cost), the bank may ask such bidder to deposit additional security deposit (ASD) equivalent to difference of estimated cost vis-à-vis L-1 quoted amount for due fulfilment of contract. Such ASD could be in the form of FDR / Bank's guarantee in the Bank's name as per format approved by the Bank. On successful completion of work ASD will returned to the contractor. In case contractor fails to complete the work in time or as per tender specification or leave the job incomplete, the bank will be at liberty to recover the dues from ASD or to forfeit such ASD as the case may be within its sole discretion.

6.3 No interest shall be paid to the amount retained by the Bank as Security Deposit.

7.0 SIGNING OF CONTRACT DOCUMENTS

The successful tenderer shall be bound to implement the contract with SBIIMS by signing an agreement and conditions of contract attached herewith within **7 days** from the receipt of intimation of acceptance of his tender by the SBIIMS. However, the written acceptance of the tender by the SBIIMS will constitute a binding agreement between the SBIIMS and successful tenderer whether such formal agreement is subsequently entered into or not.

8.0 COMPLETION PERIOD: Time is the essence of the contract; the work should be completed in all respect and in accordance with the terms of contract within a **period of 120 days** from the date of commencement of work.

9.0 VALIDITY OF TENDER : 3 Months

Tenders shall remain valid and open for acceptance for a period of 3 (Three) months from the date of opening price bid. If the tenderer withdraws his/her offer during the validity period or makes modifications in his/her original offer which are not acceptable to the SBIIMS without prejudice to any other right or remedy the SBIIMS shall be at liberty to forfeit the EMD.

10.0 LIQUIDATED DAMAGES

The liquidated damages shall be 0.5% per week subject to a maximum of 5% of the actual value of work.

11.0 RATES AND PRICES

11.1 In case of item rate tender

11.1.1 The tenderers shall quote their rates for individual items both in words and figures in case of discrepancy between the rates quoted in words and figures the unit rate quoted in words will prevail. If no rate is quoted for a particular item the contractor shall not be paid for that item when it is executed.



The amount of each item shall be calculated and the requisite total is given. In case of discrepancy between the unit rate and the total amount calculated from multiplication of unit rate and the quantity the unit rate quoted will govern and the amount will be corrected.

11.1.2 The tenderers need not quote their rates for which no quantities have been given. In case the tenderers quote their rates for such items those rates will be ignored and will not be considered during execution.

11.1.3 The tenderers should not change the units as specified in the tender. If any unit is changed the tenders would be evaluated as per the original unit and the contractor would be paid accordingly.

The tenderer should not change or modify or delete the description of the item. If any discrepancy is observed he should immediately bring to the knowledge of the SBIIMS/Architect/ Bank.

11.1.4 Each page of the BOQ shall be signed by the authorized person and cutting or overwriting shall be duly attested by him.

11.1.5 Each page shall be totalled and the grand total shall be given.

11.1.6 The rate quoted shall be firm and shall include all costs, allowances, etc.



GENERAL CONDITIONS OF CONTRACT

1.0 Definitions

“Contract” means the documents forming the tender and the acceptance thereof and the formal agreement executed between SBI and the contractor, together with the documents referred therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Architects/SBIIMS and all these, documents taken together shall be deemed to form one contract and shall be, complementary to one another.

1.1 In the contract the following expressions shall, unless the context otherwise requires, have the meaning hereby respectively assigned to them.

1.1.1 **‘SBI / Bank’** shall mean State Bank of India (client) a body Corporate created under SBI Act 1955, having one of its Circle Office at State Bank of India, III/1 Pandit Jawaharlal Nehru Marg, Bhubaneswar- 01 and includes the client’s representatives, successors and assigns.

1.1.2 **“ SBIIMS”** shall means **SBI Infra Management Solutions Pvt. Ltd.** (SBIIMS), its wholly owned subsidiary having Head Office at Mumbai and One of its Circle office at 4th Floor, SBI, Local head Office, 4th Floor, III/1 Pandit Jawaharlal Nehru Marg, Bhubaneswar- 01 and includes the client’s representatives, successors and assigns.

1.1.3 **‘Architects/Consultants’** shall mean **M/s.** _____

1.1.4 **‘Site Engineer’** shall mean an Engineer appointed by the Bank as their representative to give instructions to the contractors.

1.1.5 **‘The Contractor’** shall mean the individual or firm or company whether incorporated or not, undertaking the works and shall include legal personal representative of such individual or the composing the firm or company and the permitted assignees of such individual or firms of company.

1.1.6 The expression **‘works’** or ‘work’ shall mean the permanent or temporary work described in the ‘Scope of Work’ and/or to be executed in accordance with the contract and includes materials, apparatus, equipment, temporary supports, fittings and things of all kinds to be provided, the obligations of the contractor hereunder and work to be done by the contractor under the contract.

1.1.7 **‘Engineer’** shall mean the representative of the SBIIMS/Architect/consultant.

1.1.8 **‘Drawings’** shall mean the drawings prepared by the Architects and issued by the Engineer and referred to in the specifications and any modifications of such drawings as may be issued by the Engineer from time to time ‘Contract value shall mean the value of the entire work as stipulated in the letter of acceptance of tender subject to such additions thereto or deductions there from as may be made under the provision herein after contained.

1.1.9 **‘Specifications’** shall mean the specifications referred to in the tender and any modifications thereof as may time to time be furnished or approved by the architect/ consultant “Month” means calendar month.



1.1.10 “**Week**” means seven consecutive days.

1.1.11 “**Day**” means a calendar day beginning and ending at 00 Hrs and 24 hrs respectively.

CLAUSES:

1.0 Total Security Deposit

Total Security deposit comprise of:

- Earnest Money Deposit
- Initial Security Deposit
- Retention Money

a) Earnest Money Deposit:

The tenderer shall furnish EMD of **Rs. 29000/-** (Rupees Twenty nineThousand Only) in the form of Demand draft or bankers cheque drawn in favour of SBI Infra Management solutions Pvt. Ltd., payable at “Bhubaneswar” on any Scheduled Bank. No tender shall be considered unless the EMD is so deposited in the required form. No interest shall be paid on this EMD.

After identifying the L1 vendor EMD of unsuccessful tenderers will be refunded without interest, personally to the vendor against their acknowledgement or shall be sent to their given address within a week by post/courier on request from tenderers. The EMD shall stand absolutely forfeited if the tenderer revokes his tender at any time during the period when he is required to keep his tender open for acceptance by the SBI or after it is accepted by the SBI the contractor fails to enter into a formal agreement or fails to pay the initial security deposit as stipulated or fails to commence the work within the stipulated time.

b) Initial Security Deposit (ISD):

L1 vendor shall submit, 2% of awarded value of work in the form of DD/BC favouring “State Bank of India” payable at Bhubaneswar within a period of 15 days from the date of receipt of confirmation regarding acceptance of tender and EMD obtained in the name of **SBI Infra Management Solutions Pvt. Ltd** shall be returned to them.

SECURITY DEPOSIT

Total security deposit shall be 5% of the final value of the work. Out of this 2% of tender value (i.e. tender amount) is in the form of initial security deposit (ISD). Balance security deposit (i.e. 5% of final value of work less 2% of tender value already deposited as ISD) towards the work shall be deducted from the final bill of the work as Retention money. Bank also may deduct total 5% of the final value of the work from Final/running bill and the ISD shall be returned to the L1 vendor. 5% of the retention money shall be paid after the defects liability period of 1 Year as specified in the contract. The retention money will be interest free.

ADDITIONAL SECURITY DEPOSIT



In case L-1 bidder quotes abnormally low rates (i.e. 10% or more, below estimated project cost), the bank/SBIIMS may ask such bidder to deposit additional security deposit (ASD) equivalent to difference of estimated cost vis-à-vis L-1 quoted amount for due fulfilment of contract. Such ASD could be in the form of FDR / Bank's guarantee in the Bank's name as per format approved by the Bank. On successful completion of work ASD will returned to the contractor. In case contractor fails to complete the work in time or as per tender specification or leave the job incomplete, the bank will be at liberty to recover the dues from ASD or to forfeit such ASD as the case may be within its sole discretion.

No interest shall be paid to the amount retained by the Bank as Security Deposit.

2.0 Language Errors, Omissions and Discrepancies

In case of errors, omissions and/or disagreement between written and scaled dimensions on the drawings or between the drawings and specifications etc, the following order shall apply.

- i) Between scaled and written dimension(or description)on a drawing, the latter shall be adopted.
- ii) Between the written or shown description or dimensions in the drawings and the corresponding one in the specification the former shall be taken as correct.
- iii) Between written description of the item in the specifications and descriptions in bills of quantities of the same item, the latter shall be adopted.
- iv) In case of difference between rates written in figures and words, the rate in words shall prevail.
- v) Between the duplicate/subsequent copies of the tender, the original tender shall be taken as correct.

3.0 Scope of Work

The contractor shall carry out, complete and maintain the said work in every respect strictly in accordance with this contract and with the directions of and to the satisfaction of the SBIIMS /architect/consultant. The SBIIMS/ architect/consultant at the directions of the Bank from time to time issue further drawings and/or written instructions, details directions and explanations which are hereafter collectively referred to as SBIIMS/Architect's/Consultant's instructions in regard to : the variation or modification of the design, quality or quantity of work or the addition or omission or substitution of any work, any discrepancy in the drawings or between the BOQ and/or drawings and/or specifications, the removal from the site of any material brought thereon by the contractor and the substitution of any other materials thereof, the demolition, removal and/or re-execution of any work executed by him, the dismissal from the work of any person employed/engaged thereupon.

4.0 (i) Letter of Acceptance

Within the validity period of the tender the SBIIMS shall issue a letter of acceptance either directly or through the architect by registered post/e-mail/speed post or otherwise depositing at the address of the contractor as given in the tender to enter into a Contract for the execution of the work as per the terms of the tender. The letter of acceptance shall constitute a binding contract between the SBIIMS and the contractor.



ii) Contract Agreement

On receipt of intimation of the acceptance of tender from the SBIIMS/Architect the successful tenderer shall be bound to implement the contract and within fifteen days thereof ,he shall sign an agreement in a non-judicial stamp paper of appropriate value(as per the Article of Agreement format earlier given in this document) with SBIIMS.

5.0 Ownership of drawings

All drawings, specifications and copies thereof furnished by the SBIIMS., through its architect/ consultants are the properties of the SBIIMS. They are not to be used on other work.

6.0 Detailed drawings and instructions

The SBIIMS through its architects/consultants shall furnish with reasonable promptness additional instructions by means of drawings or otherwise necessary for the proper execution of the work. All such drawings and instructions shall be consistent with the contract documents, true developments thereof and reasonably inferable there from.

The work shall be executed in conformity therewith and the contractor shall prepare a detailed programme schedule (i.e. BAR/PERT Chart) indicating therein the date of start and completion of various activities on receipt of the work order and submit the same to the SBIIMS through the Architect/Consultant.

7.0 Copies of Agreement

Out of Six copies, two copies of agreement/tender document duly signed by both the parties with the drawings shall be handed over to the contractors, two copies to SBI and one copy each shall be for the use of SBIIMS and Architect.

8.0 Liquidated Damages

If the contractor fails to maintain the required progress in terms of clause 29 of GCC or to complete the work and clear the site including vacating their office on or before the contracted or extended date or completion without justification in support of the cause of delay, he may be called upon without prejudice to any other right of remedy available under the law to the SBI on account of such breach to pay a liquidated damages at the rate of 0.5% of the final value of work per week subject to a maximum of 5% of the final value of work.

9.0 Materials, Appliances and Employees

Unless or otherwise specified the contractor shall provide and pay for all materials, labour, water, power, tools, equipment transportation and any other facilities that are required for the satisfactory execution and completion of the work. Unless or otherwise specified all materials shall be new and both workmanship and materials shall be best quality. The contractor shall at all times enforce strict discipline and good order among his employees/workers and shall not employ on the work any unfit person/worker or anyone not skilled in the work assigned to him. Workman whose work or behaviour is found to be unsatisfactory by the SBIIMS /Architect, he shall be removed from the site immediately.



10.0 Permits, Laws and Regulations

Permits and licences required for the execution of the work shall be obtained by the contractor at his own expenses. The contractor shall give notices and comply with the regulations, laws/ labour laws, and ordinances rules, applicable to the contractor. If the contractor observes any discrepancy between the drawings and specifications, he shall promptly notify the SBIIMS in writing under intimation of the Architect/Consultant. If the contractor performs any act which is against the law, rules and regulations he shall meet all the costs arising there from and shall indemnify the SBIIMS any legal actions arising there from.

11.0 Setting out Work

The contractor shall set out the work and shall be responsible for the true and perfect setting out of the same and for the correctness of the positions, levels, dimensions, and alignment of all parts thereof and get it approved by the architect/consultant before proceeding with the work. If at any time any error in this respect shall appear during the progress of the works, irrespective of the fact that the layout had been approved by the architect/consultant the contractor shall be responsible for the same and shall at his own expenses rectify such error, if so, required to satisfaction of the SBIIMS.

12.0 Protection of works and property

The contractor shall continuously maintain adequate protection, of all his work from damage and shall protect the SBI's properties from injury or loss arising in connection with contract. He shall make good any such damage, injury, loss due to his fault or negligence except which are due to causes beyond his control.

He shall take adequate care and steps for protection of the adjacent properties. The contractor shall take all precautions for safety and protection of his employees on the works and shall comply with all applicable provisions of Government and local bodies' safety laws and relevant building codes to prevent accidents, or injuries to persons or property of about or adjacent to his place of work. The contractor shall take insurance covers as per clause 25.0 at his own cost. The policy may be taken in joint names of the contractors and the SBIIMS and the original policy may be lodged with the SBIIMS.

13.0 Inspection of Work

SBIIMS/SBI/Architect/Consultant or their representatives shall at all reasonable time have free access to the work site and/or to the workshop, factories or other places where materials are lying or from where they are obtained and the contractor shall give every facility to the SBIIMS /SBI/Architect/Consultant and their representatives necessary for inspection and examination and test of the materials and workmanship. No person unless authorized by the SBIIMS /SBI/Architect/Consultant except the representative of Public authorities shall be allowed on the work at any time. The proposed work either during its construction stage or its completion can also be inspected by the Chief Technical Examiner's organization a wing of Central Vigilance Commission.

14.0 Assignment and subletting



The whole of work included in the contract shall be executed by the contractor and he shall not directly entrust and engage or indirectly transfer assign or underlet the contract or any part or share thereof or interest therein without the written consent of the SBIIMS /SBI through the architect and no undertaking shall relieve the contractor from the responsibility of the contractor from active superintendence of the work during its progress.

15.0 Quality of Materials, Workmanship & Test

All materials and workmanship shall be best of the respective kinds described in the contract and in accordance with SBIIMS/Architect's instructions and shall be subject from time to time to such tests as the SBIIMS /Architect may direct at the place of manufacture or fabrication or on the site or an approved testing laboratory.

The contractor shall provide such assistance, instruments, machinery, labour and materials.

Contractor to made arrangement of laboratory on site, where weight of various materials like aluminium extrusions etc. can be done, Contractor should also make available a 3.00 meters, 15.00 meters & a 50.00 meters tape, a Vernier Caliper & Micrometer so any measurements/ tests can be taken on sites itself.

(ii) Samples

All samples of adequate numbers, size, shades & pattern as per specifications shall be supplied by the contractor without any extra charges. If certain items proposed to be used are of such nature that samples cannot be presented or prepared at the site detailed literature/test certificate of the same shall be provided to the satisfaction of the SBIIMS/Architect. Before submitting the sample/literature the contractor shall satisfy himself that the material/equipment for which he is submitting the samples/literature meet with the requirement of tender specification. Only when the samples are approved in writing by the SBIIMS /Architect the contractor shall proceed with the procurement and installation of the particular material/equipment.

The approved samples shall be signed by the SBIIMS. /Architect for identification and shall be kept on record at site office until the completion of the work for inspection/comparison at any time. The SBIIMS/Architect shall take reasonable time to approve the sample. Any delay that might occur in approving the samples for reasons of its not meeting the specifications or other discrepancies inadequacy in furnishing samples of best qualities from various manufacturers and such other aspects causing delay on the approval of the materials/equipment etc. shall be to the account of the contractor.

(iii) Cost of tests

- a) The cost of making any test shall be borne by the contractor if such test is intended by or provided for in the specifications or BOQ.

(iv) Cost of test not provided for

If any test is ordered by the SBIIMS/Architect which is either:

- (a) If so intended by or provided for or (in the cases above mentioned) is not so particularized or through so intended or provided for but ordered by the SBIIMS/ Architect which is either to



be carried out by an independent person at any place other than the site or the place of manufacture or fabrication of the materials tested or any Government/approved laboratory, then the cost of such test shall be borne by the contractor.

16.0 Obtaining Information related to execution of work

No claim by the contractor for additional payment shall be entertained which is consequent upon failure on his part to obtain correct information as to any matter affecting the execution of the work nor any misunderstanding or the obtaining incorrect information or the failure to obtain correct information relieve him from any risks or from the entire responsibility for the fulfilment of contract.

17.0 Contractor's superintendence

The contractor shall give necessary personal superintendence during the execution of the works and as long, thereafter, as the SBIIMS/Architect may consider necessary until the expiry of the defects liability period, stated hereto.

18.0 Quantities

i) The bill of quantities (BOQ) unless or otherwise stated shall be deemed to have been prepared in accordance with the Indian Standard Method of Measurements

The rate quoted shall remain valid for variation of quantity against individual item to any extent subject to maximum variation of the contract value by 25%. The entire amount paid under Clause 20 hereof as well as amounts of prime cost and provisional sums, if any, shall be excluded.

ii) Variation exceeding 25%: The items of work executed in relation to variation exceeding 25% shall be paid on the basis of provisions of clause 21(e) hereof.

19.0 Works to be measured

The SBIIMS /SBI/Architect may from time to time intimate to the contractor that he required the work to be measured and the contractor shall forthwith attend or send a qualified representative to assist the SBIIMS./SBI/Architect in taking such measurements and calculation and to furnish all particulars or to give all assistance required by any of them. Such measurements shall be taken in accordance with the Mode of measurements detailed in the specifications. The representative of the SBIIMS/SBI/ Architect shall take joint measurements with the contractor's representative and the measurements shall be entered in the measurement book.

The contractor or his authorized representative shall sign all the pages of the measurement book in which the measurements have been recorded in token of his acceptance. All the corrections shall be duly attested by both representatives. No over writings shall be made in the measurement book. Should the contractor not attend or neglect or omit to depute his representative to take measurements then the measurements recorded by the representative of the SBIIMS/SBI/ Architect shall be final. All authorized extra work, omissions and all variations made shall be included in such measurements.

20.0 Variations:



No alteration, omission or variation ordered in writing by the SBIIMS /SBI/Architect shall vitiate the contract.

In case the SBIIMS /SBI/Architect thinks proper at any time during the progress of works to make any alteration in, or additions to or omission from the works or any alteration in the kind or quality of the materials to be used therein, the Architect/Consultant shall give notice thereof in writing to the contractor or shall confirm in writing within seven days of giving such oral instructions the contractor shall alter to, add to, or omit from as the case may be in accordance with such notice but the contractor shall not do any work extra to or make any alteration or additions to or omissions from the works or any deviation from any of the provisions of the contract, stipulations, specifications or contract drawings without previous consent in writing of the Architect/Consultant and the value of such extras, alterations, additions or omissions shall in all cases be determined by the Architect/Consultant and the same shall be added to or deducted from the contract value, as the case may be.

21.0 Valuation of Variations

No claim for an extra shall be allowed unless it shall have been executed under the authority of the SBIIMS/Architect with the concurrence of the SBI as herein mentioned. Any such extra is herein referred to as authorized extra and shall be made in accordance with the following provisions.

- i) The net rates or prices in the contract shall determine the valuation of the extra work where such extra work is of similar character and executed under similar conditions as the work priced herein.
- ii) Rates for all items, wherever possible should be derived out of the rates given in the priced BOQ.
- b) The net prices of the original tender shall determine the value of the items omitted, provided if omissions do not vary the conditions under which any remaining items of works are carried out, otherwise the prices for the same shall be valued under sub clause (c) hereunder.
- c) Where the extra works are not of similar character and/or executed under similar conditions as aforesaid or where the omissions vary the conditions under which any remaining items or works are carried out, then the contractor shall within 7 days of the receipt of the letter of acceptance inform the SBIIMS/Architect of the rate which he intends to charge for such items of work, duly supported by analysis of the rate or rates claimed and the SBIIMS/Architect shall fix such rate or prices as in the circumstances in his opinion are reasonable and proper, based on the market rate.
- d) Where extra work cannot be properly measured or valued the contractor shall be allowed day work prices at the net rates stated in the tender of the BOQ or, if not, so stated then in accordance with the local day work rates and wages for the district; provided that in either case, vouchers specifying the daily time (and if required by the SBIIMS /SBI/Architect) the workman's name and materials employed be delivered for verifications to the Architect/Consultant at or before the end of the week following that in which the work has been executed.



- e) It is further clarified that for all such authorized extra items where rates cannot be derived from the tender, the contractor shall submit rates duly supported by rate analysis worked on the “market rate basis” for material, labour, hire/running charges of equipment and wastages etc. plus 15% towards establishment charges, contractor’s overheads and profit. Such items shall not be eligible for escalation.

22.0 Final Measurement

The measurement and valuation in respect of the contract shall be completed within **one month** of the virtual completion of the work.

23.0 Virtual Completion Certificate (VCC)

On successful completion of entire works covered by the contract to the full satisfaction of the SBIIMS/SBI, the contractor shall ensure that the following works have been completed to the satisfaction of the SBIIMS /SBI-

- a) Clear the site of all scaffolding, wiring, pipes, surplus materials, contractor’s labour, equipment and machinery.
- b) Demolish, dismantle and remove the contractor’s site office, temporary works, structures including labour sheds/camps and constructions and other items and things whatsoever brought upon or erected at the site or any land allotted to the contractor by the SBI and not incorporated in the permanent works.
- c) Remove all rubbish, debris etc from the site and the land allotted to the contractor by the SBI and shall clear, level and dress, compact the site as required by the SBI.
- d) Shall put the SBIIMS /SBI in undisputed custody and possession of the site and all land allotted by the SBI.
- e) Shall hand over the work in a peaceful manner to the SBIIMS /SBI.
- f) All defects/imperfections have been attended and rectified as pointed out by the SBIIMS /SBI to the full satisfaction of SBIIMS /SBI. Upon the satisfactory fulfilment by the contractor as stated above, the contractor shall be entitled to apply to the Architect/Consultant for the certificate. If the SBIIMS/Architect/Consultant is satisfied of the completion of the work, relative to which the completion certificate has been sought, the SBIIMS/Architect/Consultant shall within fourteen (14) days of the receipt of the application for virtual completion certificate, issue a VCC in respect of the work for which the VCC has been applied. This issuance of a VCC shall be without prejudice to the SBIIMS /SBI’s rights and contractor’s liabilities under the contract including the contractor’s liability for defects liability period nor shall the issuance of VCC in respect of the works or work at any site be construed as a waiver of any right or claim of the SBIIMS against the contractor in respect of works or work at the site and in respect of which the VCC has been issued.

24.0 Work by other agencies



The SBIIMS /SBI/Architect reserves the rights to use premises and any portion of the site for execution of any work not included in the scope of this contract which it may desire to have carried out by other persons simultaneously and the contractor shall not only allow but also extend reasonable facilities for the execution of such work. The contractor however shall not be required to provide any plant or material for the execution of such work except by special arrangement with the SBIIMS /SBI. Such work shall be carried out in such manners not to impede the progress of the works included in the contract.

25.0 Insurance of Works

25.1 Without limiting his obligations and responsibilities under the contract the contractor shall ensure in the joint names of the SBIIMS and the contractor against all loss or damages from whatever cause arising other than the excepted risks, for which he is responsible under the terms of contract and in such a manner that the SBIIMS and contractor are covered for the period stipulated in clause 27 & 28 of GCC and are also covered during the period of maintenance for loss or damage arising from a cause, occurring prior to the commencement of the period of maintenance and for any loss or damage occasioned by the contractor in the course of any operations carried out by him for the purpose of complying with his obligations under clause.

- a) The works for the time being executed to the estimated current Contract value thereof, or such additional sum as may be specified together with the materials for incorporation in the works at their replacement value.
- b) The constructional plant and other things brought on to the site by the contractor to the replacement value of such constructional plant and other things.
- c) Such insurance shall be effected with an insurer and in terms approved by the SBIIMS which approval shall not be unreasonably withheld and the contractor shall whenever required produce to the SBIIMS/Architect the policy of insurance and the receipts for payment of the current premiums.

25.2 Damage to persons and property

The contractor shall, except if and so far as the contract provides otherwise indemnify the SBIIMS against all losses and claims in respect of injuries or damages to any person or material or physical damage to any property whatsoever which may arise out of or in consequence of the execution and maintenance of the works and against all claims proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto except any compensation of damages for or with respect to :

- a) The permanent use or occupation of land by or any part thereof.
- b) The right of SBIIMS /SBI to execute the works or any part thereof, on, over, under, in or through any lands.
- c) Injuries or damages to persons or properties which are unavoidable result of the execution or maintenance of the works in accordance with the contract.



d) Injuries or damage to persons or property resulting from any act or neglect of the SBIIMS /SBI, their agents, employees or other contractors not being employed by the contractor or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or where the injury or damage was contributed to by the contractor, his servants or agents such part of the compensation as may be just and equitable having regard to the extent of the responsibility of the SBIIMS /SBI, their employees, or agents or other employees, or agents or other contractors for the damage or injury.

25.3 Contractor to indemnify SBIIMS /SBI

The contractor shall indemnify the SBIIMS /SBI against all claims, proceedings, damages, costs, charges and expenses in respect of the matters referred to in the provision sub-clause 25.2 of this clause.

25.4 Contractor's superintendence

The contractor shall fully indemnify and keep indemnified the SBIIMS/SBI against any action, claim, or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claim made under or action brought against SBIIMS /SBI in respect of such matters as aforesaid the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expenses to settle any dispute or to conduct any litigation that may arise there from, provided that the contractor shall not be liable to indemnify the SBIIMS /SBI if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the SBIIMS/SBI/Architect in this behalf.

25.5 Third Party Insurance

25.5.1 Before commencing the execution of the work the contractor but without limiting his obligations and responsibilities under clause 25 of GCC shall insure against his liability for any material or physical damage, loss, or injury which may occur to any property including that of SBI, or to any person, including any employee of the SBIIMS/SBI, by or arising out of the execution of the works or in the carrying out of the contract, otherwise than due to the matters referred to in the provision to clause 25 thereof.

25.5.2 Minimum Amount of Third Party Insurance

Such insurance shall be affected with an insurer and in terms approved by the SBIIMS /SBI which approval shall not be reasonably withheld and for at least the amount stated below. The contractor shall, whenever required, produce to the SBIIMS/SBI/Architect the policy or policies of insurance cover and receipts for payment of the current premiums.

The minimum insurance cover for physical property, injury, and death is Rs.5.0 lacs per occurrence with the number of occurrences limited to four. After each occurrence contractor will pay additional premium necessary to make insurance valid for four occurrences always.



25.7 Accident or Injury to Workmen

25.7.1 The SBIIMS/SBI shall not be liable for or in respect of any damages or compensation payable at law in respect or in consequence of any accident or injury to any workmen or other person in the employment of the contractor or any sub-contractor, save and except an accident or injury resulting from any act or default of the SBIIMS/SBI or their agents, or employees. The contractor shall indemnify and keep indemnified SBIIMS/SBI against all such damages and compensation, save and except as aforesaid and against all claims, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto.

25.7.2 Insurance against accidents etc to workmen

The contractor shall insure against such liability with an insurer approved by the SBIIMS /SBI during the whole of the time any person employed by him on the works and shall, when required, produce to the architect/consultant such policy of insurance and receipt for payment of the current premium. Provided always that, in respect of any persons employed by any sub-contractor the contractor's obligation to insure as aforesaid under this sub-clause shall be satisfied if the sub-contractor shall have insured against the liability in respect of such persons in such manner that SBIIMS/SBI is indemnified under the policy but the contractor shall require such sub-contractor to produce to the SBIIMS /SBI/Architect when required such policy of insurance and the receipt for the payment of the current premium.

25.7.3 Remedy on Contractor's failure to insure

If the contractor fails to effect and keep in force the insurance referred to above or any other insurance which he may be required to effect under the terms of contract, then and in any such case the SBI may effect and keep in force any such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by the SBI as aforesaid and also deduct 15% of contract value from any amount due or which may become due to the contractor, or recover the same as debt from the contractor.

Without prejudice to the other rights of the SBIIMS/SBI against contractors, in respect of such default, the SBI shall be entitled to deduct from any sums payable to the contractor the amount of any damages costs, charges, and other expenses paid by the SBI and which are payable by the contractors under this clause. The contractor shall upon settlement by the insurer of any claim made against the insurer pursuant to a policy taken under this clause, proceed with due diligence to rebuild or repair the works destroyed or damaged. In this event all the monies received from the insurer in respect of such damage shall be paid to the contractor and the contractor shall not be entitled to any further payment in respect of the expenditure incurred for rebuilding or repairing of the materials or goods destroyed or damaged.

26.0 Commencement of Works



The date of commencement of the work will be reckoned as the recorded date of handing over site by the SBIIMS/SBI or **7 days** from the date of receipt of Letter of Acceptance/work order from SBIIMS, whichever is later.

27.0 Time for completion

Time is the essence of the contract and shall be strictly observed by the contractor. The entire work shall be completed within a period of **120 days from the date of commencement**. If required in the contract or as directed by the SBIIMS/Architect, the contractor shall complete certain portions of work before completion of the entire work. However the completion date shall be reckoned as the date by which the whole work is completed as per the terms of the contract.

28.0 Extension of Time

If, in the opinion of the Architect/Consultant, the work be delayed for reasons beyond the control of the contractor, the Architect/Consultant may submit a recommendation to the SBIIMS to grant a fair and reasonable extension of time for completion of work as per the terms of contract. If the contractor needs an extension of time for the completion of work or if the completion of work is likely to be delayed for any reasons beyond the due date of completion as stipulated in the contract, the contractor shall apply to the SBIIMS through the Architect/Consultant in writing at least 15 days before the expiry of the scheduled time and while applying for extension of time he shall furnish the reasons in detail and his justification if any, for the delays. The architect/consultant shall submit their recommendations to the SBIIMS in the prescribed format for granting extension of time. While granting extension of time the contractor shall be informed the period extended time which will qualify for levy of liquidated damages. For the balance period in excess of original stipulated period and duly sanctioned extension of time by the SBIIMS the provision of liquidated damages as stated under clause 8 of GCC shall become applicable. Further contract shall remain in force even for the period beyond the due date of completion irrespective whether the extension is granted or not.

29.0 Rate of progress

Whole of the materials, plant and labour to be provided by the contractor and the mode, manner and speed of execution and maintenance of the works are to be of a kind and conducted in a manner to the satisfaction of the SBIIMS/SBI/Architect. Should the rate of progress of the work or any part thereof be at any time be in the opinion of the SBIIMS /SBI/Architect too slow to ensure the completion of the whole of the work by the prescribed time or extended time for completion the SBIIMS /SBI/Architect shall thereupon take such steps as considered necessary to expedite progress so as to complete the works by the prescribed time or extended time. Such communications from the SBIIMS /SBI/Architect neither shall relieve the contractor from fulfilling obligations under the contract nor he shall be entitled to raise any claims arising out of such directions.

30.0 Work during nights and holidays

Subject to any provision to the contrary contained in the contract no permanent work shall save as herein provided be carried on during the night or on holidays without the permission in writing of the SBIIMS/SBI/Architect, save when the work is unavoidable or absolutely



necessary for the saving of life or property or for the safety of the work in which case the contractor shall immediately advise the SBIIMS/SBI/Architect. However the provision of the clause shall not be applicable in the case of any work which becomes essential to carry by rotary or double shifts in order to achieve the progress and quality of the part of the works being technically required and continued with the prior approval of the SBIIMS /SBI/Architect at no extra cost to the SBIIMS/SBI.

All work at night after obtaining approval from competent authorities shall be carried out without unreasonable noise and disturbance so as to avoid disputes with the neighbours.

31.0 No compensation for restrictions of work

If at any time after acceptance of the tender SBIIMS shall decide to abandon or reduce the scope of work for any reason whatsoever and hence not require the whole or any part of the work to be carried out, the SBIIMS Architect shall give notice in writing to that effect to the contractor and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the work fully but which he did not derive in consequence of the foreclosure of the whole or part of the work. Provided that the contractor shall be paid the charges on the cartage only of materials actually and bona fide brought to the site of the work by the contractor and rendered surplus as a result of the abandonment, curtailment of the work or any portion thereof and then taken back by the contractor, provided however that the SBIIMS /SBI/Architect shall have in such cases the option of taking over all or any such materials at their purchase price or a local current rate whichever is less. In case of such stores having been issued from SBIIMS /SBI stores and returned by the contractor to stores, credit shall be given to him at the rates not exceeding those at which were originally issued to the contractor after taking into consideration and deduction for claims on account of any deterioration or damage while in the custody of the contractor and in this respect the decision of SBIIMS /SBI/Architect shall be final.

32.0 Suspension of work

i) The contractor shall, on receipt of the order in writing of the SBIIMS/SBI/Architect (whose decision shall be final and binding on the contractor) suspend the progress of works or any part thereof for such time and in such manner as SBIIMS /SBI/Architect may consider necessary so as not cause any damage or injury to the work already done or endanger the safety thereof for any of following reasons.

a) On account of any default on the part of the contractor, or

b) For proper execution of the works or part thereof for reasons other than the default of the contractor, or

c) For safety of the works or part thereof.

The contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the SBIIMS /SBI/Architect.

ii) If the suspension is ordered for reasons (b) and (c) in sub-Para (i) above :



The contractor shall be entitled to an extension of time equal to the period of every such suspension. No compensation whatsoever shall be paid on this account.

33.0 Action when the whole security deposit is forfeited

In any case in which under any clause or clauses of this contract, the Contractor shall have rendered himself liable to pay compensation amounting to the whole of his security deposit the Architect/Consultant shall have the power to adopt any of the following course as they may deem best suited to the interest of the SBIIMS /SBI.

- a) To rescind the contract (of which rescission notice in writing to the contractor by the Architect/Consultant shall be conclusive evidence) and in which case the security deposit of the contractor shall be forfeited and be absolutely at the disposal of SBIIMS.
- b) To employ labour paid by the SBI and to supply materials to carry out the work, or any part of the work, debiting the contractor with the cost of the labour and materials (the cost of such labour and materials as worked out by the SBIIMS/Architect shall be final and conclusive against the contractor) and crediting him with the value of the work done, in all respects in the same manner and at the same manner and at the same rates as if it had been carried out by the contractor under the terms of this contract the certificate of Architect/Consultant as to the value of work done shall be final and conclusive against the contractor.
- c) To measure up the work of the contractor, and to take such part thereof as shall be unexecuted, out of his hands, and to give it to another contractor to complete in which case any expenses which may be incurred in excess of the sum which would have been paid to the original contractor, if the whole work had been executed by him (of the amount of which excess the certificates in writing of the Architects/ Consultant shall be final and conclusive) shall be borne by original contractor and may be deducted from any money due to him by SBI under the contract or otherwise, or from his security deposit or the proceeds of sale thereof, or sufficient part thereof.

In the event of any of above courses being adopted by the SBIIMS the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any material or entered into any engagements or make any advances on account of, or with a view to the execution of the work or the performance of the contract and in case the contract shall be rescinded under the provision aforesaid, the contractor shall not be entitled to recover or to be paid any sum or any work thereto for actually performed under this contract, unless, and until the Architect/Consultant/SBIIMS will have certified in writing the performance of such work and the value payable in respect thereof, and he shall only be entitled to be paid the value so certified.

34.0 Owner's Right to Terminate the Contract

If the contractor being an individual or a firm commit any 'Act of Insolvency' or shall be adjusted an insolvent or being an incorporated company shall have an order for compulsory winding up voluntarily or subject to the supervision of Government and of the Official Assignee of the liquidator in such acts of insolvency or winding up shall be unable within seven days after notice to him to do so, to show to the reasonable satisfaction of the SBIIMS /Architect that he is able to carry out and fulfil the contract, and to give security therefore if so required by the SBI.



Or if the contractor (whether an individual firm or incorporated Company) shall suffer execution to be issued or shall suffer any payment under this contract to be attached by or on behalf of any of the creditors of the contractor.

Or shall assign or sublet this contract without the consent in writing of the SBIIMS through the Architect/Consultant or shall charge or encumber this contract or any payment due to which may become due to the contractor there under.

- a) Has abandoned the contract; or
- b) Has failed to commence the works, or has without any lawful excuse under these conditions suspended the progress of the works for 14 days after receiving from the SBIIMS through the Architect/Consultant written notice to proceed, or
- c) Has failed to proceed with the works with such diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon, or has failed to remove the materials from the site or to pull down and replace work within seven days after written notice from the SBIIMS /SBI through the Architect/ Consultant that the said materials were condemned and rejected by the Architect/ Consultant under these conditions; or has neglected or failed persistently to observe and perform all or any of the acts, matters or things by this contract to be observed and performed by the contractor for seven days after written notice shall have been given to the contractor to observe or perform the same or has to the detriment of good workmanship or in defiance of the SBIIMS /SBI's or Architect's/Consultant's instructions to the contrary subject any part of the contract. Then and in any of said cases the SBIIMS /SBI and or the Architect/Consultant, may not withstanding any previous waiver, after giving seven days' notice in writing to the contractor, determine the contract, but without thereby affecting the powers of the SBI or the Architect/Consultant or the obligation and liabilities of the contractor the whole of which shall continue in force as fully as if the contract had not been so determined and as if the works subsequently had been executed by or on behalf of the contractor. And, further the SBIIMS . /SBI through the Architect/Consultant, their agents or employees may enter upon and take possession of the work and all plants, tools, scaffoldings, materials, sheds, machineries lying upon the premises or on the adjoining lands or roads, use the same by means of their own employees or workmen in carrying on and completing the work or by engaging any other contractors or persons to complete the work and the contractor shall not in any was interrupt or do any act, matter or thing to prevent or hinder such other contractor or other persons employed for completing and finishing or using the materials and plant for the works. When the works shall be completed or as soon thereafter as convenient to the SBIIMS /SBI or the Architect/Consultant shall give a notice in writing to the contractor to remove his surplus materials and plants and should the contractor fail to do so within 14 days after receipt thereof by him the SBIIMS. /SBI sell the same by public auction after due publication and shall adjust the amount realized by such auction. The contractor shall have no right to question any of the act of the SBIIMS /SBI incidental to the sale of the materials etc.

35.0 Certificate of Payment



Payment will be made as per terms mentioned in the NIT.

- The prices in the Price Schedule shall be exclusive of GST or any other applicable taxes as may be levied by the Government from time-to-time and the same shall be charged in addition to the applicable rate.
- The SBIIMS/SBI shall make all endeavour to make payments within 20-30 days from the date of the receipt of the invoice, to the Contractor.
- All payments shall be made in Indian Currency by means of an Account Payee Cheques/ RTGS/ NEFT only.
- SBIIMS/SBI shall be entitled to deduct in accordance with Applicable Law, Income Tax or withholding tax or other deductions (as the case may be), from any payments made to the Contractor, and the amount so deducted shall be deemed to be a payment made to the Contractor. SBIIMS/SBI shall provide a certificate certifying the deduction so made.
- No payment shall be made in advance nor will any loan from any bank or financial institution be recommended on the basis of the order of award of work.
- Payment will be made as per the actual work done at site based on final measurement. The measurement will be taken in presence of representatives from both SBI/SBIIMS and contractor.

36.0 Settlement of Disputes and Arbitration

Except where otherwise provided in the contract all questions and disputes to the meaning of the specifications, design, drawings and instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question , claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings specifications, estimates, instructions orders or these conditions or otherwise concerning the work or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter:

- i) If the Contractor considers that he is entitled to any extra payment or compensation in respect of the works over and above the amounts admitted as payable by the authorized person of SBI/SBIIMS or in case the Contractor wants to dispute the validity of any deductions or recoveries made or proposed to be made from the contract or raise any dispute, the Contractor shall forthwith give notice in writing of his claim, or dispute to the respective Circle/Vice President, SBIIMS , of respective Circle Office, within 30 days from the date of disallowance thereof or the date of deduction or recovery. The said notice shall give full particulars of the claim, grounds on which it is based and detailed calculations of the amount claimed and the Vendor shall not be entitled to raise any claim nor shall the SBI/SBIIMS be in any way liable in respect of any claim by the Contractor unless notice of such claim shall have been given by the Contractor to the V.P of respective Circle, SBIIMS, of respective Circle Office, in the manner and within the time as aforesaid. The Vendor shall be deemed to have waived and extinguished all his rights in respect of any claim not notified to the respective



Circle/Vice President, SBI/MS, of respective Circle Office, in writing in the manner and within the time aforesaid.

ii) The Circle/Vice President, SBI/MS, of respective Circle Office, shall give his decision in writing on the claims notified by the Contractor. The Contractor may within 30 days of the receipt of the decision of the Circle/Vice President, SBI/MS of respective Circle Office, submit his claims to the conciliating authority namely the Circle Development Officer of respective Circle /C.O.O. SBI/MS, Head Office, Raheja Chambers, Free Press Journal Marg, Mumbai. for conciliation along with all details and copies of correspondence exchanged between him and the SBI/MS.

iii) If the conciliation proceedings are terminated without settlement of the disputes, the Contractor shall, within a period of 30 days of termination thereof shall give a notice to the concerned Chief General Manager/M.D. & C.E.O. of the SBI/MS for appointment of an arbitrator to adjudicate the notified claims falling which the claims of the Contractor shall be deemed to have been considered absolutely barred and waived.

iv) Except where the decision has become final, binding and conclusive in terms of the contract, all disputes or differences arising out of the notified claims of the Contractor as aforesaid and all claims of the SBI/SBI/MS shall be referred for adjudication through arbitration to the Sole Arbitrator appointed by the Chief General Manager/ M.D. & C.E.O. and who will be an officer not less than the rank of Deputy General Manager of SBI/SBI/MS . If the arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever another sole arbitrator shall be appointed in the manner aforesaid by the said Chief General Manager /M.D. & C.E.O. of the SBI/MS Such person shall be entitled to proceed with the reference from the stage at which it was let by his predecessor.

It is a term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each dispute along with the notice for appointment of arbitrator.

It is also a term of this contract that no person other than a person appointed by such Chief General Manager/M.D. & C.E.O. of the SBI/MS as aforesaid should act as arbitrator.

The conciliation and arbitration shall be conducted in accordance with the provisions of the Arbitration & Conciliation Act 1996 or any or any accordance modification or re-enactment thereof and the rules made there under.

It is also a term of the contract that the Arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties calling them to submit their statement of claims and counter statement of claims. The venue of the arbitration shall be such place as may be fixed by the arbitrator in his sole discretion. The Cost of the reference and of the award shall be in the discretion of the arbitrator who may direct to any by whom and in what manner, such costs or any part thereof, shall be paid and fix or settle the amount of costs to be so paid

37.0 Water Supply (Not Applicable)

38.0 Power supply



The contractor shall make his own arrangements for power and supply/distribution system for driving plant or machinery for the work and for lighting purpose at his own cost. The cost

of running and maintenance of the plants are to be included in his tender prices. He shall pay all fees and charges required for the power supply and include the same in his tendered rates and hold the owner free from all such costs. He has to obtain necessary approvals from the appropriate authorities, if required.

39.0 Treasure Trove etc.

Any treasure trove, coin or object antique which may be found on the site shall be the property of SBI and shall be handed over to the SBIIMS immediately.

40.0 Method of Measurement

Unless otherwise mentioned in the schedule of quantities or in mode of measurement, the measurement will be on the net quantities or work produced in accordance with up to date. Rules laid down by the Bureau of Indian Standards. In the event any dispute/disagreement the decision of the Architect/Consultant shall be final and binding on the contractor.

41.0 Maintenance of Registers

The contractor shall maintain the following registers as per the enclosed format at site of work and should produce the same for inspection of SBIIMS / SBI/Architect/Consultant whenever desired by them. The contractor shall also maintain the records/registers as required by the local authorities/Government from time to time.

42.0 Force Majeure

42.1 Neither contractor nor SBIIMS shall be considered in default in performance of their obligations if such performance is prevented or delayed by events such as war, hostilities revolution, riots, civil commotion, strikes, lockout, conflagrations, epidemics, accidents, fire, storms, floods, droughts, earthquakes or ordinances or any act of god or for any other cause beyond the reasonable control of the party affected or prevented or delayed. However a notice is required to be given within 30 days from the happening of the event with complete details, to the other party to the contract, if it is not possible to serve a notice, within the shortest possible period without delay.

42.2 As soon as the cause of force majeure has been removed the party whose ability to perform its obligations has been affected, shall notify the other of such cessation and the actual delay incurred in such affected activity adducing necessary evidence in support thereof.

42.3 From the date of occurrence of a case of force majeure obligations of the party affected shall be suspended during the continuance of any inability so caused. With the cause itself and inability resulting there from having been removed, the agreed time of completion of the respective obligations under this agreement shall stand extended by a period equal to the period of delay occasioned by such events.



42.4 Should one or both parties be prevented from fulfilling the contractual obligations by a state of force majeure lasting to a period of 6 months or more the two parties shall mutually decide regarding the future execution of this agreement.

43.0 Local Laws, Acts, Regulations

The contractor shall strictly adhere to all prevailing labour laws inclusive of contract labour (regulation and abolition act of 1970) and other safety regulations. The contractor shall comply with the provision of all labour legislation including the latest requirements of all the Acts, laws, any other regulations that are applicable to the execution of the project.

- i) Minimum Wages Act, 1948 (Amended)
- ii) Payment of Wages Act 1936 (Amended)
- iii) Workmen's Compensation Act 1923 (Amended)
- iv) Contract Labour Regulation and Abolition Act 1970 and Central Rules 1971(Amended)
- v) Apprentice Act 1961 (Amended)
- vi) Industrial Employment (Standing Order) Act 1946 (Amended)
- vii) Personal Injuries (Compensation Insurance) Act 1963 and any other modifications
- viii) Employees' Provident Fund and Miscellaneous Provisions Act 1952 and amendment thereof
- ix) Shop and Establishment Act
- ix) Any other Act or enactment relating thereto and rules framed there under from time to time.

44.0 SAFETY CODE:

Safety as per annexure given should be followed.

45.0 Accidents

The contractor shall immediately on occurrence of any accident at or about the site or in connection with the execution of the work report such accident to the Architect/Consultant. The contractor shall also report immediately to the competent authority whenever such report is required to be lodged by the law and take appropriate actions thereof.



APPROVED LIST OF MATERIALS FOR LT ELECTRICAL WORKS

S. N.	MATERIALS	APPROVED MANUFACTURERS
1	Moulded Case Circuit Breaker (MCCB), MCB, RCCB & RCBO, Isolator	i) Schneider- Acti-9
		ii) Hager-h3
		iii) Siemens- Betaguard
		iv) L&T- AU model
		v) Legrand-DX3
2	Switch Fuse Unit (SFU)	i) L & T
		ii) Siemens
		iii) ABB
3	Power Contactors	i) L & T
		ii) Siemens
		iii) Schneider
4	Meters	i) HPL
		ii) IMP
		iii) L & T
5	Armoured LT cable	i) Polycab
		ii) Finolex
		iii) R R Kabel
		iv) CCI
		v) universal



APPROVED LIST OF MATERIALS FOR LT ELECTRICAL WORKS

6	Cable Termination	i) Dowells
		ii) Comet
7	Cable Tray	i) Profab
		ii) Metalemms
		iii) Asian Ancillary Corporation
8	FR/FRLS PVC Conduit, Casing & Accessories	i) Precisions
		ii) Modi
		iii) AKG
9	Wires (FRLS) /Voice cable	i) RR Kabels
		ii) Havells
		iii) Finolex
		iv) Polycab
10	Modular Switches & Sockets with PVC Box	i) MK - (Wrapround model)
		ii) Crabtree (Havells) - (Verona model)
		iii) L&T - (Oris model)
		iv) Schneider - (Opale model)
		v) Legrand Mylinc
11	Distribution Board	i) Schneider- Acti9
		ii) Hager- Novelo Plus
		iii) L & T- AU model
		iv) Siemens- Betaguard
		v) Legrand – Ekinex3
12	Changeover switch	i) L&T
		ii) Hager
		iii) HPL
13	LED Light Fixtures	i) CGL
		ii) Philips
		iii) Wipro
		iv) Havells
14	Tubes, PL's & CFL's	i) Philips



APPROVED LIST OF MATERIALS FOR LT ELECTRICAL WORKS

		ii) Osram
15	Ceiling/Wall Fan	i) CG
		ii) Havells
		iii) Orient
16	Exhaust Fan	i) CG
		ii) Almonard
		iii) Alstom
17	Speakers	i) BOSCH
		ii) Ahuja
18	Amplifier	i) BOSCH
		ii) Ahuja
19	Electrical LT Panel	Drawing to be approved from Client/Consultant and as per BOQ
20	Capacitors	i) Siemens
		ii) L& T
		iii) GE
		iv) ABB
		iii) Universal
21	CT'S / PT'S	i) AE
		ii) Kappa
		iii) Ricco
		iv) Rishabh
22	APFC Relay.	i) HPL
		ii) Emercon
		iii) Alstom
		iv) Beluk
		v) L & T
23	Contactor / Timer	i) Schneider
		ii) Hager
		iii) L & T



APPROVED LIST OF MATERIALS FOR LT ELECTRICAL WORKS

		iv) Siemens
		iv) Legrand
24	Energy Meters	i) HPL
		ii) Schneider
		iii) L & T
		iv) Tecnic
		v) AE
25	Data / Voice Cable & Accessories	i) D-Link
		ii) AMP
		iii) DigiSol
26	MS CONDUIT	I) Gupta
		II) Bharat
27	CEILING ROSE	i) Anchor
		ii) Cona
28	HRC FUSE	i) Hager
		ii) L&T
		iii) Legrand
29	CALL BELL/BUZZER	i) Cona
		ii) GM
		iii) Anchor

- Note:** - 1) The contractor should obtain prior approval from SBIIMS/ Consultants before placing order for any specific materials SBIIMS may / delete any of the makes or brands out of the above list.
- 2) All materials should conform to relevant standards and codes of BIS. Materials with I.S.I. mark shall be used duly approved by the SBIIMS Engineer/Architect.
- 3) Any material is found to be not up to the mark, the contractor will have to produce original bills/certificate from the manufacturer or his authorized Distributor for authenticity and genuineness of the material for consideration and as per make approved by the SBIIMS. The same will not be considered for payment.



- 4) Any additional item as per BOQ specifications or as per the instructions of the bank / Consultants. Any of the above items / other items if any will be as approved by the Consultants & Engineer-in-charge.
- 5) All Light Fixtures, Modular Switches & Sockets, Fans, Exhaust Fans & other fittings samples shall be approved by the Client / Architect / Consultant before placing order to the Light Fixture Vendor / Supplier.

Signature of contractor With Seal

LETTER OF UNDERTAKING

To,
The Circle Head
Circle Office,
SBI Infra Management Solutions Pvt. Ltd.,
SBI Local Head Office, 4Th Floor,
III/1 Pandit Jawaharlal Nehru Marg,
Bhubaneswar- 751001

Dear Sir,

TENDER FOR External Electrical works for SBI AO Building (new premises) at Sambalpur

Having examined the terms & conditions, drawings, specifications, design relating to the works specified in the memorandum hereinafter set out and having visited and examined the site of the works specified in the said memorandum and having acquired the requisite information relating thereto and affecting the quotation, I/We hereby offer to execute the works specified in the said memorandum within the time specified in the said memorandum on the item rate basis mentioned in the attached schedule and in accordance in all respect with the specifications, design, drawings and instructions in writing referred to in conditions of Tender, conditions of contract and with such conditions so far as they may be applicable.

MEMORANDUM

(a)	Description of work	External Electrical works for SBI AO Building (new premises) at Sambalpur
(b)	Earnest Money	Rs.29000/- (Rupees twenty NINE Thousand Only) by means of Demand Draft / Pay Order from any scheduled Nationalized Bank drawn in favour of "SBI Infra Management Solutions Pvt. Ltd." and payable in "Bhubaneswar" .
(c)	Time allowed for completion of work from the date of issue of work order.	120 Days from the date of commencement as per tender.



Should this tender be accepted, I/we hereby agree to abide by and fulfill the terms and provisions of the said conditions of Contract annexed hereto so far as they may be applicable or in default thereof to forfeit and pay to SBIIM, the amount mentioned in the said conditions.

I/we have deposited Demand Draft / Banker's Cheque / FDR for a sum of **Rs. 29000/- (Rupees twenty NINEThousand Only)** as Earnest money deposit with the SBI Infra Management Solutions Pvt. Ltd. Should I/we do fail to execute the contract when called upon to do so, I/we hereby agree that this sum shall be forfeited by me/us to SBI Infra Management Solutions Pvt. Ltd.

We understand that as per terms of this tender, the SBIIMS may consider accepting our tender in part or whole or may entrust the work of various buildings proposed (i.e. **External Electrical works for SBI AO Building (new premises) at Sambalpur** . in phases. We, therefore, undertake that we shall not raise any claim / compensation in the eventuality of Bank deciding to drop any of the Branch / buildings from the scope of work of this tender at any stage during the contract period. Further, we also undertake to execute the work entrusted to us in phases on our approved rates and within the stipulated time limit without any extra claim for price escalation.

As when ask by the SBIIMS/Bank, I/we shall submit the supporting technical data sheet, specification and make of the items as per the BOQ.

We, hereby, also undertake that, we will not raise any claim for any escalation in the prices of any of the material during the currency of contract/execution/completion period.

I / We have not made any modification / corrections / additions /deletions etc. in the PQ/Tender documents downloaded from web by me / us. In case at any stage later, it is found there is difference in our downloaded PQ/Tender documents from the original and / or any documentation, SBIIMS Pvt. Ltd. on behalf of SBI shall have the absolute right to disqualify / reject our Tender and also debar me / us in participating in any future tenders of SBIIMS/SBI without any prior intimation to me / us.

I/We hereby undertake and confirm that all the information furnished in this tender is correct and true to the best of our knowledge and belief and we own full responsibility for its correctness and authenticity

I / We hereby understood and accordingly confirm that all Tender documents along supporting documents/annexures etc. are required to be submitted by us strictly in the prescribed format only. In case, the Bid/documents submitted by us along with this tender is found in any other formats and not complying this condition, we hereby authorize the SBIIMS/SBI to summarily reject our tender for which we shall not make any protest.

Yours faithfully,

Signature of contractor
With Seal



CERTIFICATE

The measurements on the basis of which the above entries for the bill No. _____
were made have been taken jointly on (date) _____ and are recorded at pages
_____ to _____ of measurement /sheet _____ book No.
_____.

Dated

Signature of Contractor

The work recorded in the above mentioned measurements has been verified at the site satisfactorily
as per tender drawings, conditions and specifications.

Signature of Project Engineer SBIIMSI

Designation:

Dated:

SAFETY CODE



SAFETY MEASURES AT SITE:

1. All personnel at site should be provided with Helmets and Safety Boots with some Identification Mark. Visitors also should be provided with Helmets. It should be ensured that these are used properly.
2. First Aid Box should be kept at site with all requisite materials.
3. No one should be allowed to inspect / work at a height without Safety Belt.
4. Suitable scaffolds should be provided for workmen for all Works that cannot safely be done from the ground, or from solid construction except such short period Work as can be done safely from ladders. When a ladder is used an extra Mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well as suitable footholds and handholds shall be provided on the ladder and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to 1 ($\frac{1}{4}$ horizontal and 1 vertical).
5. Scaffolding or staging more than 3.5 meters above the ground or floors, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached, bolted, braced and otherwise secured at least 1 Meter high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
6. Working platforms, Gangways, and Stairways should be so constructed that they do not sag unduly or unequally, and if the height of the platform or the Gangway or the Stairway is more than 3-5 Meters above ground level or floor level they should be closely boarded, should have adequate width and should be suitably fenced, as described.
7. Every opening in the floor of a building or in a working platform be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1 Meter.
8. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 Meters in length while the width between side rails in rung ladder shall in no case be less than 30cms for ladder upto and including Meters in length. For longer ladders this width should be increased at least 6mm for each additional 30 cms. Uniform step spacing shall not exceed 30 cms.
9. Adequate precautions shall be taken to prevent danger from electrical equipment. For electrical on line works gloves, rubber mats, and rubber shoes shall be used.
10. All trenches 1.2 Meters or more in depth shall at all times be supplied with at least one ladder for each 30 Meters length or fraction thereof. Ladder shall be extended from bottom of the trench to at least 1 Meter above the surface of the ground. The sides of the trenches, which are 1.5 Meters or more in depth shall be stepped back to give suitable slope, or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 Meters of the edge of the trench or half of the depth of the trench whichever is more cuttings shall be done from top to bottom. Under no circumstances undermining or under cutting shall be done.
11. Before any demolition work is commenced and also during the process of the work:-



- a) All roads and open areas adjacent to the Work Site shall either be closed or suitably protected;
- b) No electrical cable or apparatus which is liable to be a source of danger over a cable or apparatus used by the operator shall remain electrically charged.
- c) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.
- d) All necessary personal safety equipment as considered adequate by the Site Engineer should be kept available for the use of the persons employed on the Site and maintained in a condition suitable for immediate use; and the Contractor should take adequate steps to ensure proper use of equipment by those concerned.
- e) Workers employed on mixing Asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
- f) Those engaged in white washing and mixing or stacking of cement bags or any materials which is injurious to the eyes shall be provided with protective goggles.
- g) Those engaged in welding works shall be provided with Welder's protective eye-shields.
- h) Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- i) When workers are employed in sewers and manholes, which are in use, the Contractor shall ensure that the manhole covers are opened and are ventilated at least for an hour before the workers are allowed to get into the manholes and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals and boards to prevent accident to the Public.

12. Use of hoisting machines and tackle including their attachments, anchorage and support shall conform to the following standard or conditions:-

- a) These shall be of good mechanical construction, sound material and adequate strength and free from patent defect and shall be kept in good repairs and in good working order.
- b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.
- c) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in-charge of any hoisting machine including any scaffold, winch or give signals to the operator.
- d) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or lowering or as means of suspension the safe working load shall be ascertained by adequate means.
- e) Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of hoisting machine having a variable safe working load, each safe working load of the conditions under which it is applicable shall be clearly indicated. No part of any machine or of any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
- f) Motor, Gearing, Transmission, Electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards, hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load, adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced.
- g) When workers are employed on electrical installation, which are already energized, insulating mats, wearing apparel such as gloves, rubber footwear etc.

Address: _____

Signature of Tenderer : _____

Date: _____

TECHNICAL SPECIFICATION (ELECTRICAL LT & ALLIED SERVICES)



SECTION-A **ELECTRICAL LT/ HT WORKS**

A - GENERAL SPECIFICATION FOR ELECTRICAL INSTALLATION

Complete Installation will be done complying with the requirements of the followings:

- a) Indian Electricity Act, 1910.
- b) Indian Electricity Rules (1956) amended upto date.
- c) Code of practice for Electrical wiring installations (system voltage not exceeding 650v) IS 732-1963 Revised
- d) Code of practice for Electrical wiring installations (system voltage exceeding 650v) IS 2274-1963.
- e) Rules and Regulations, Regional Council of Fire Insurance Association of India for Electrical wiring.

RULES AND REGULATION

ISI SPECIFICATIONS

I.S. NO	I.S. TITLE	MATERIAL EQUIPMENTS
694	PVC Insulated Cables	PVC Cables
1293/3854	Switch socket outlet	5A/15A/Switch sockets.
3043	Code of practice for earthing.	Earthing.
3646	Interior illumination	Luminaries/Fittings.
5216	Guide for safety of installation	Procedure & practices.
1248	Electrical Indicating	Instrument.
1534	Ballast for fluorescent Luminaries.	Tubes.
1653/266	P.V.C. conduit	
2667/3837	Code of practice for electrical wiring installation	Wiring
371	Ceiling Roses	Luminaries
1567	Metal clad switches.	
2268	Electric call bells/Buzzers	Call bells.
37A	Fans & Regulators	Fans



	Function	Colour Identification of core of rubber or p.v.c. insulated non-flexible cable, or of sleeve or disc to be applied to conductor or cable core.
	Earthing Live of a.c. single or three-phase Circuit Phase R of 3-phase a.c. Circuit Phase Y of 3-phase a.c. Circuit. Phase B of 3-phase a.c. Circuit. Positive of d.c.2-wire Circuit Negative of d.c. 2-wire Circuit	Green-and-Yellow or Green Red Yellow. Blue Red Black

LIST OF I.S.CODES FOR INTERNAL ELECTRIFICATION INSTALLATIONS

B.

1. EXTERNAL ELECTRIFICATION wiring installation (system voltage not exceeding 650V) IS 732 – 1989
2. Graphical symbols used in Electro-technology art-XI-Electrical Installation buildings IS 2032-1969
3. Fire safety of buildings (General) Electrical Installation IS 1646-1961
4. 3 pin plugs and sockets IS 1293
5. Earthing. IS 3043-1966
6. Rigid steel conduits for electrical wiring IS 9537-PII-1989
7. Fittings for electrical wiring IS 2667-1964
8. Flexible steel conduits electrical wiring IS 3430-1966
9. Accessories for rigid steel conduit insulated cables IS 3837-1966
10. General and safety requirements for electric lighting fittings IS 1913-1969
11. Protecting of buildings and allied structures against lightning IS 2309-1967
12. Busbar ratings IS 8084-1976
13. On load change over switches IS 4064-1978
- 14.

CABLE

1.0 Scope :



This specification is intended to cover the requirements of installation and energizing of PVC/XLPE/PILCDSTA power cables including jointing of cables.

2.0 Standards :

The power cable and its fixing accessories shall comply with the latest relevant Indian Standards and National Electrical Code.

3.0 Laying of Cables :

3.1 General :

3.1.1 Before the commencement of cable laying, it shall be ensured by the Engineer-in-Charge that only ISI marked cables are used. It shall be the responsibility of the contractor to check the soundness and correctness of the size of the cable while taking delivery of the cable from stores. Any defect noticed shall be brought to the notice of the issuing authorities immediately. If any defects is noticed after the cable is laid or during the process of laying, it shall be brought to the notice of the Engineer-in-Charge and upon his satisfaction, that the cable is not damaged due to bad handling, it will be the entire responsibility of the contractor to retrieve the cable already laid and return the defective cable to store and take fresh length of the cable from the store and relay the same.

3.1.2 The material such as bricks, sand, cable route markers, RCC slab of best quality as approved by the Engineer-in-Charge only shall be used for cable laying works.

3.1.3 The contractor shall provide all the necessary labour, tools, plants and other requisites at his own cost for carrying out pumping of water and removing of water from trenches, if any, where required.

3.1.4 Installation shall be carried out in a neat, workman like manner by skilled, experienced and competent workman in accordance with standard practices.

3.1.5 While laying the cable care shall be taken to avoid formation of kinks and also damage to the cable. In the case of cable bends, it shall not have bent radius lesser than 20 times the overall diameter of the cable.

3.1.6 A cable loop of about five meters length and as directed by the Engineer-in-Charge / SBIIMS shall be provided at the following locations.

- a) Near the termination points
- b) Near to the straight through joint

3.1.7 The method of cable laying and routing of cables, shall in every case be as directed by the Engineer-in-Charge / consultant / SBIIMS.

3.1.8 Whenever cable passes through hume pipes/GI pipes embedded across the wall in a building, both the ends of the pipe shall be suitably sealed.

3.1.9 Identification tags indicating the size of the cable and feeder designation shall be securely attached at both ends of the cable. Such tags shall also be attached to the cable at intervals of 50 Mtrs. The materials of the

tag shall be of either 12 SWG GI sheet. In case of plastic, the details have to be engraved and incase of GI sheet, the details should be punched. Cable route markers shall be provided at the intervals of 200 M with a minimum of one number route marker. The details of the route makers



shall be as per the drawing. At the locations of straight through joints, necessary joint-markers shall be provided.

3.1.10 When cable runs vertically, it shall be clamped on mild steel flats or angle iron fixed on walls and are spaced at such intervals as to prevent buckling of the cables. All steel work shall be painted with a coat of red oxide and thereafter finished with suitable anticorrosive paints.

3.2 Cable laid in ground :

3.2.1. All MV cables (up to 1.1 KV) shall be laid at a minimum depth of 0.75 M & HT cables (1.1 KV to 11 KV) shall be laid at a depth of 1.0 M when laid in ground. When cable pass through roads, nallahs etc. they must be protected by either hume pipe or GI pipe of suitable dimensions.

3.2.2. Excavations of trenches shall be carried out as indicated in the drawing. The width of the trench at the bottom shall be 0.4 M for one cable. In case the total number of cables laid in trenches is more than one, then the width shall be such that the spacing between the cables is maintained as shown in the drawing. Before the cable is laid in the trench the bottom of the trench shall be cleared from stones and other sharp materials and filled with sand layers of 75 mm, as shown in the drawing.

3.2.3. While removing the cable from the drum, it shall be ensured that the cable drum is supported on suitable jacks and the drum is rotated to unwind the cable from the drum. The cable should never be pulled while unwinding from the drum. It shall be ensured that the cables are run over the wooden rollers placed in the trench at intervals not exceeding 2 M.

3.2.4. After placing the cables in the trench shall be filled in layers ensuring that each layer is well rammed by spraying water and consolidated. The extra earth shall be removed from the place of trench and deposited at a place as directed by the Engineer-in-Charge/consultant / SBIIMS.

3.2.5. The HT cables shall be provided with RCC slabs (marked HT cable) on top as protection.

3.3 Cables laid in built up trench :

3.3.1. Before the commencement of cable laying the cable trench shall be drained properly. Cable shall be laid as explained in item 3.2. Cable shall be properly clamped to the cable supports, which are provided in the cable trench. The method of clamping shall suit the size of the cable and the cable supports, which are provided in the cable trench. The method of clamping shall suit the size of the cable and the cable supports, as directed by the Engineer-in-Charge / SBIIMS.

Care shall be taken while removing and replacing the trench cover slab. It is the responsibility of the contractor to make good any damaged trench covers.

3.4. Cable terminations and straight through joints :

3.4.1. All cable jointing materials such as straight through joint boxes, cable compound, cable lugs, insulation tapes etc. shall be of best quality and as approved by the Engineer-in-Charge / SBIIMS.

3.4.2. Cable glands for strip / armoured cables shall include a suitable armour clamp for receiving and securely attaching the armouring of the cable in a manner such that no movement of the armour occurs when the assembly is subjected to tension forces.

The cable gland shall not impose on the armouring, a bending radius not less than the diameter of the cable. The clamping ring shall be solid and of adequate strength.



Provision shall be made for attachment of an external earthing bond between the metallic covering of the cable and the metallic structure of the apparatus to which the cable box is attached.

3.5 Sealing boxes :

3.5.1 A sealing box, irrespective of the class of insulation of the cable for which it is intended, shall be so designed that it may be filled with compound after connecting the cable specially in flame proof/hazardous areas.

3.5.2 All parts and connection for attaching the armouring, wiping or clamping the metallic sheath in a sealing box, shall be easily accessible. This may be achieved by splitting the box or by providing a suitable cover or other such means.

3.5.3 The joints in the box shall prevent leakage of the compound.

3.5.4 Provision shall be made to ensure that the cores of the cable are efficiently sealed to prevent moisture penetrating along the strands or the cable conductors.

3.5.5 The sealing box shall be provided with compound filling orifices with suitable covers or plugs of size that will permit easy pouring of the compound.

In all cases where screwed plugs are used, one or more air vents shall be provided to ensure complete expulsion of air and total filling of the box with compound. 3.5.6 The box shall be of sufficient length to allow for manipulation of the insulated cover without damage to them or to the insulation.

3.5.7 A sealing box intended to be attached directly to the apparatus shall be designed such that the box together with the connected cable may be detached from the apparatus without disturbing the sealing compound.

1. Cable sealing and dividing boxes intended for use in the flame proof areas shall comply additionally with the relevant requirements of IS:2148-1968.

4.0 Testing

Once cable is laid, following tests shall be conducted in the presence of Engineer-in-Charge, before energizing the cable:

- i) Insulation resistance test (Sectional and Overall).
- ii) Sheathing continuity test.
- iii) Continuity and conductor resistance test.
- iv) Earth test.
- v) High voltage test.

Tests conducted shall be as per Indian Standards and National Electrical Code.

EARTHING

1.0 SCOPE:

This specification is intended to cover the requirements of supply, installation, testing and commissioning of



- a) Pipe earthing
- b) Plate earthing
- c) Strip earthing

2.0 STANDARDS:

Earthing installations shall conform to the Indian Electricity Rules - 1956, as amended from time to time and IS 3043-1989 "code of practice for earthing", with latest amendments.

3.0 Earth electrode arrangement :

3.1 Pipe electrode :

3.1.1 Electrode shall be made of CI pipe having a clean surface and not covered with paint, enamel or poorly conducting material. Galvanized pipe shall not be smaller than 100 mm ID. Earthing with pipe electrode shall be done as per the details indicated in IS : 3043/87 .

3.1.2 Electrodes shall be embedded below permanent moisture level.

3.1.3 The length of pipe electrodes shall not be less than 2.5 m. if rock is encountered, pipes shall be driven to a depth of not less than 2.5 m with suitable inclination. Pipe shall be in one piece and deeply driven.

3.1.4 To reduce the depth of burial of an electrode without increasing the resistance, a number of rods or pipes may have to be connected together in parallel. The distance between two electrodes in such a case shall not be less than twice the length of the electrode. The earthing lead shall be connected by means of a through bolt, nuts and washers and cable socket.

3.2 Plate electrode :

For plate electrodes, minimum dimensions of the electrode shall be as under.

3.2.1 GI plate electrode : 600 x 600 x 6 mm thick.

3.2.2 Copper plate electrode : 600 x 600 x 3.15 mm thick

3.2.3 The electrode shall be buried in ground, with its faces vertical and top not less than 2.5 M from the surface of the ground.

3.2.4 Earthing using plate electrode shall be done as per details, indicated in drawing.

3.2.5 Plate electrodes shall have a galvanized iron water pipe, buried vertically and adjacent to the electrode. One end of pipe shall be atleast 5 cm above the surface of the ground and need not be more than 10 cm. The internal diameter of the pipe shall be atleast 19 mm. The length of pipe under the earth's surface shall be such that it shall be able to reach the center of the plate. The earthing lead shall be securely bolted the plate with two bolts, nuts, check nuts and washers.

3.3. Strip or conductor electrodes :

3.3.1. Strip electrode shall not be smaller than 25 x 1.6 mm, if of copper and 25 x 3 mm, if of galvanized iron and steel. If round conductors are used as earth electrodes, their cross sectional area shall not be smaller than 3 sq.mm , if of copper and 6 sq.mm. if galvanized iron and steel.

3.3.2. Conductor shall be buried in trenches not less than 0.5 m deep.



4.0 General :

- i) All materials used for connecting the earth lead with electrode shall be of GI in case of GI pipe and GI plate electrodes, and of tinned brass in case of copper plate electrode. The earthing lead shall be securely connected at the other end to the main board.
- ii) The earthing lead from electrode onwards shall be suitably protected against mechanical injury by routing the earth wire / strip through a suitable size of GI pipe.
- iii) All medium voltage equipments shall be earthed by two separate and distinct connections with the earth. In the case of high and extra high voltages, the neutral points shall be earthed by not less than two separate and distinct connections with the earth, each having its own electrode at the generating station or substation.
- iv) All materials, fittings etc. used in earthing shall conform to Indian standard specifications wherever they exist. In the case of materials for which Indian standard specifications do not exist, such materials shall be approved by the Engineer-in-Charge.
- v) The earth electrode shall be kept free from paint, enamel and grease.
- vi) It shall be ensured that similar materials for respective earth electrodes and earth conductors are used.
- vii) Earth electrode shall not be installed in proximity to a metal fence.
- viii) Copper/GI strip shall be connected to the respective earth electrodes, either by brazing or welding respectively. The Copper/GI strip shall be jointed only either by brazing or by riveting at the end of overlapping portions. The over lap shall not be less than 50 mm.
- ix) Earthing clamps used for supporting earth strips shall be made of such materials so as to avoid bimetallic action between strip and clamps.

5.0 Testing :

The earth resistance of each electrode shall be measured by using a reliable and calibrated earth megger and the value shall be as per IS/IE rules .

POWER CONTROL CENTRES

1.0 Scope :

This specification is to cover the requirement of design, supply, installation, testing and commissioning of LT power control centres / main switch boards with all components, Instruments, fittings and accessories for efficient operation without any trouble.

2.0 Standards :

The PCC specified herein, unless otherwise stated shall conform to the relevant and latest revisions of Indian standards and Indian Electricity Rules.

3.0 Design and construction :



3.1 Design requirements : The power control centres shall be suitable for operation on 440volt, 3 phase,4wire 50HZ system to withstand a short circuit level of 50 KA RMS symmetrical.

The PCC shall be designed for operation in high ambient temperature upto 45 degrees centigrade and high humidity upto 95% and tropical atmospheric conditions. Means shall be provided to facilitate ease of inspection, Maintenance and Servicing.

3.2 Constructional requirements :

The power control centre shall be of

- i) Metal clad, cubicle, indoor, free standing type suitable for Mounting on Built up Trenches with U Channels of adequate size.
- ii) Made up of the requisite vertical sections, which when coupled together shall form continuous dead front switch board.
- iii) Dust and damp protected, the degree of protection shall be better than IP - 54 as specified in IS-2147.
- iv) Readily extendable on both sides by the addition of vertical sections after removal of the end covers.
- v) Single front construction with the circuit breaker feeder and switch fuse feeders suitable for operation from the front of the panel.

The PCC shall have the feeder ratings as per the schematic diagrams enclosed with the schedule and constructed only of materials capable of withstanding the mechanical, electrical and thermal stresses as well as the effects of humidity, which are likely to be encountered in normal service.

3.3 Vertical Sections :Each vertical section shall comprise a front framed structure rolled folded sheet steel channel section of minimum 2 mm thickness rigidly bolted together. This structure shall house the components contributing the major weight of the equipment such as circuit breaker, switch fuse units, main horizontal busbars, vertical risers and other front mounted accessories. The structure shall be mounted on a rigid base frame of folded sheet steel of minimum of 2.5 mm thickness and 100mm height. The design shall ensure Structural stability during Transit and also during Operation after Commissioning Suitable cable chamber housing the cable end connections and power / control cable terminations shall be provided. The design shall ensure generous availability of space for ease of installation and maintenance of cabling and adequate safety for working in one vertical section without coming into accidental contact with live parts in the adjacent section.

A cover plate at the top of the vertical section shall be provided with necessary ventilating arrangements. Any aperture for ventilation shall be covered with a perforated sheet having less than 1 mm diameter perforations to prevent entry of vermin.

3.4 Sheet Steel Cubicle :

3.4.1 The sheet steel cubicle shall be designed in fully segregated multitier formation. Each cubicle shall have hinged front access door with easy operating fasteners. All the doors and covers shall be heavily gasketed to make the compartment dust tight. Each cubicle shall have a covering at the bottom to make a dust and vermin proof construction. Door hinges shall be of concealed type.



The cubicle shall be of minimum 2 mm thick sheet steel. Sheet steel shrouds and partitions shall be of minimum 1.6 mm thickness. All sheet steel work forming the exterior of switch boards shall be smoothly finished, leveled and free from flaws. The corners shall be rounded. The minimum Thickness of Gland plates shall be 3mm.

3.4.2 The apparatus and circuits in the power control centers shall be so arranged as to facilitate their operation and maintenance at the same time to ensure the necessary degree of safety. Apparatus forming part of the control centers shall have the following minimum clearance.

- i) between phases - 25 mm,
- ii) between phase and neutral - 25 mm,
- iii) between phases and earth - 25 mm,
- iv) Between neutral and earth - 19 mm,

When, for any reason, the above clearances are not available suitable insulation shall be provided. Clearance shall be maintained during normal service conditions. Creepage distances shall comply with those specified in relevant standards.

3.4.3 All insulating materials used in the construction of the equipment shall be non hygroscopic duly treated to withstand the effect of high humidity, high temperature and tropical ambient service conditions.

3.4.4 Functional units such as circuit breakers and fuse switches shall be arranged in multitier formation, except that not more than One air circuit breaker housed in a single vertical section.

3.4.5 Metallic/insulated barriers shall be provided within vertical sections and between adjacent sections to ensure prevention of accidental contact with :

- i) Main busbars and vertical risers during operation, inspection or maintenance of functional units and front connected accessories.
- ii) Cable terminations of one functional unit, when working on those of adjacent unit/units.

3.4.6. All doors / covers providing access to live power equipment / circuits shall be provided with tool operated fasteners to prevent unauthorized access.

3.4.7 Provisions shall be made for permanently earthing the frames and other metal parts of the switchgear by two independent connections.

3.5 Metal treatment and finish :

All steel works used in the construction of the switch boards shall have undergone a suitable rigorous metal treatment process so as to remove oxide scales and rust formation and to facilitate a durable coating of the paint on the metal surfaces and also to prevent the spreading of rust, in the event of the paint film being mechanically damaged.

Two coats of Anti Corrosive primer followed by a finishing coat of Epoxy spray power coating of the shade 631 of IS : 5 (i.e. Siemens grey) shall be given. The total thickness of paint shall not be less than 25 micron.

3.6 Bus Bars :



3.6.1 The busbars shall be housed in non-segregated sheet steel compartments in the cubicle at convenient locations with provision for access to the buses from the front of the panel. The busbar shall be suitably braced with DMC/SMC supports to provide a through fault withstand capacity of 50 KA RMS symmetrical for one second and a peak short circuit withstand capacity 150 KA minimum. The neutral as well as the earth bus shall be capable of withstanding the above fault level.

3.6.3 Large clearance and creeping distance shall be provided on the busbar system to minimize the possibility of a fault.

3.6.4 High tension bolts, nuts and spring washers shall be provided at all busbar joints.

3.6.5 The continuous rating of the busbar shall be 125% of the rated current. Maximum temperature of the bus and the connections shall not exceed 85 degrees centigrade. The busbars shall be of liberal design for the required current rating i.e. 0.8Amp/sq.mm.

The main phase busbars shall have continuous current rating throughout the length of each power control centre and the neutral busbars shall have continuous rating of at least 50% of phase busbars.

3.6.6 Connections from the main busbars to functional circuits shall be arranged and supported so as to withstand without any damage or deformation, the thermal and dynamic stresses due to short circuit currents.

All busbars and tapings shall be provided with color coded sleeves for phase identification.

All joints/tapping points of the buses shall be suitably shrouded to prevent accidental contact.

4.0 Circuit Breakers :

4.1 General :

4.1.1 Circuit breakers shall be of triple pole / four pole, air break, horizontal draw out /Fixed type, as given in the schedule of work and comply with the requirements of relevant IS with latest amendments and shall have the following :

- i) A short circuit breaking capacity of not less than 50 KA RMS at 415 volts, 50 Hz AC.
- ii) A short circuit making capacity of 105 KA.
- iii) A short time withstand capacity of 150 KA for one second.
- iv) Electrical overload performance at 6 times the rated current, 100% of the rated voltage as recovery voltage at 0.5 power factor.
- v) Dielectric test of 2.5 KV applied for one minute on main circuits.

4.1.2 The circuit breakers shall be fitted with detachable arc chutes on each pole designed to permit rapid dispersion, cooling and extinction of the arc. Interphase barriers shall be provided to prevent flash over between phases.



4.1.3 Arcing contacts shall be of hard wearing material copper tungsten or silver tungsten and shall be easily replaceable. Main contacts shall be of silver plated copper of high pressure type and generous cross section.

4.2 Operating Mechanism :

The operating mechanism shall be of robust design, with minimum number of linkages to ensure maximum reliability. Manually operated circuit breakers shall be provided with spring operated closing mechanism which are independent of speed of manual operation. Electrically shall be independent of the motor which shall be used slowly for charging the closing spring.

The operating mechanism shall be such that the breaker is at all times free to open immediately when the trip coil is energized.

Mechanical operation indicators shall be provided to show open and close positions of the breaker. Electrically operated breakers shall be additionally provided with mechanical indications to show charged and discharged conditions of the charging spring.

Means shall be provided for slow closing and opening of the breaker for maintenance purposes, and for manual changing and closing of electrically operated breakers during emergencies,

4.3 Protection :

Provisions shall be available for fitting a minimum of five trip devices - three over current, as shunt trip and an under voltage release or two over current and earth fault release, a shunt trip and one under voltage release. The breakers shall be of the shunt or series trip type as specified in the schedule.

4.4 Housing of Circuit Breaker :

Circuit breakers shall be individually housed in sheet metal castle provided with hinged doors. The breaker along with its operating mechanism shall be mounted on a robust carriage moving on guide rollers within the castle. Isolating contacts for both power and control circuits shall be of robust design and fully self aligning. The assembly shall be designed to allow smooth and easy movement of the breakers within its castle.

The breaker shall have three distinct positions within the castle as follows :

- i) 'Service' position : With main and auxiliary contacts connected.
- ii) 'Test' position : with power contacts fully disconnected and control circuit contacts connected.
- iii) 'Isolated' position : with both power and control circuit contacts fully disconnected.

It shall be possible to achieve any of the above positions with the castle doors closed. Mechanical position indicators shall be provided for the three positions of the breakers.

4.5 Interlocking :

4.5.1. The moving portion of the circuit breaker shall be interlocked so that :

- i) It shall not be possible either to isolate it from the connected position, or to plug it in from the Isolated position with the breaker closed.



- ii) The circuit breaker can be closed only when it is in one of the three positions or when it is fully out of the castle.
- iii) It shall not be possible to open the hinged door of the castle unless the breaker is drawn to the isolated position.
- iv) Inadvertent withdrawal of the circuit breaker too far beyond the supporters is prevented by the suitable stops.

4.5.2 Provisions shall be available for the padlocking of the circuit breaker access frame in any of the three positions.

4.5.3 Automatically operated safety shutters shall be provided to screen the fixed isolating contacts when the breaker is drawn out from the castle.

4.5.4 The moving portion of the circuit breaker shall be provided with a heavy duty, self aligning earth contact, which shall make before and break after the main isolating contacts during insertion into with drawl from the service position of the breaker. Even in the isolated position positive earthing contact should exist.

4.5.5 Auxiliary switches directly operated by the breaker operating mechanism and having 4 'NO' and 4 'NC' contacts, shall be provided on each breaker. The auxiliary switch contacts shall have a minimum rated thermal current of 10 amps.

5.0 Switch Fuse Units :

5.1 General :

The switch fuse units shall be of the load break, heavy duty, cubicle type conforming to the requirements IS and of AC 23 duty.

The switch fuse units shall be capable of withstanding the thermal and electromagnetic stresses caused by short circuits for the time of operation of the associated fuse links.

The switch fuse units shall be double break and have quick make break mechanism, designed to ensure positive operation.

All switch fuse contacts shall be silver plated at the current transfer surfaces.

The unit shall be provided with a front operating handle. The ON and OFF positions of the switch handle shall be clearly marked.

5.2 Interlocks and Safety :

Interlocks shall be provided so as to prevent opening of the unit door when the switch is in the ON position and also to prevent closing of the switch with the door not properly secured. It should however be possible for a competent person to operate the switch shall be suitable for locking with switch in the OFF position by means of a padlock.

The interior arrangement of the switch fuse unit shall be such that all 'Live' parts are shrouded.

5.3 HRC Fuses :



The switch fuse units shall be fitted with High rupturing capacity cartridge fuse links with ISI marking for a rupturing capacity of not less than 80 KA at 415 volts. The fuse links shall be mounted in a drawout carriage, thus ensuring positive isolation of contacts during fuse replacements.

6.0 Current Transformers.

Current transformers shall comply with the requirements of relevant latest amendment IS. They shall have ratios, outputs and accuracy as specified in the schedule.

7.0 Indicating / Integrating Meters :

All indicating instruments shall be of flush mounted industrial pattern conforming to the relevant latest amended IS. The instrument shall have non reflecting bazels, clearly, divided and indelibly marked scales, and shall be provided with zero adjusting devices in the front. Integrating instruments shall be of flush mounted switch board pattern complying with the requirements of relevant latest IS.

8.0 Relays :Circuit breakers shall be provided with integrally mounted relays as specified in the schedule.

The relay shall have a set of three phase characteristics, which shall be adjustable over a wide range, to provide discrimination between a multiplicity of devices. The relay shall be able to provide over current and earth fault protection. Also UV and Shunt trip Relays are to be provided.

9.0 Control switches/Selector switches :Control switches/Selector switches shall be of the heavy duty rotary type, with plates clearly marked to show the operating position. They shall be of semi-flush mounted type with only the front plate and the operating handle projected.

Circuit breakers control switches shall be of the spring return to neutral type.

10.0 Indicating lamps and push buttons :

Indicating lamps shall be of the LED type of low watt consumption, provided with series resistors where necessary and with translucent lamp covers. Bulbs and lenses shall be easily replaceable from the front.

Push buttons shall be of the momentary contact, push to actuate type fitted with self-reset contacts and provided with plates marked with its junctions.

11.0 Cable terminations :

Cable entries and terminals shall be provided in the switch board to suit the number, type and size of aluminum conductor power cables and copper conductor control cables as indicated in the schematic diagram.

Provision shall be made for top or bottom entry of cables as required. Generous size of cabling chambers shall be provided, with the position of cable glands and terminals such that cables can be easily and safely terminated.

Barriers or shrouds shall be provided to permit safe working at the terminals of one circuit without accidentally touching that of another live circuit.



Cable riser shall be adequately supported to withstand the effects of rated short circuit currents without damage and without causing secondary faults.

Cable sockets shall be of copper and of the crimping type/soldering as required.

12.0 Control wiring :All control wiring shall be carried out with 1100/650 V grade single core Copper cable conforming to relevant IS having stranded copper conductors of minimum 2.5 sq.mm. section for CT Wiring and 1.5sq.mm for Control/indicating Instruments.

Wiring shall be neatly bunched, adequately supported and properly routed to allow easy access and maintenance.

Wires shall be identified by numbered ferrules at each end. The ferrules shall be of the ring type of non-deteriorating material. They shall be firmly located on each wire so as to prevent free movement.

All control circuit fuses shall be mounted in front of the panel and shall be easily accessible.

13.0 Terminal blocks and lables :

Terminal block shall be of 500 volts grade of the stud type. Insulating barriers shall be provided between adjacent terminals.

Terminal block shall have minimum current rating of 10 amps and shall be shrouded.

Provisions shall be made for lable inscriptions.

Lables shall be made of anodized aluminum, with white engraving on black background. They shall be properly secured with fasteners. Danger plate of size and descriptions as recommended in the relevant IS shall be provided on the PCC.

14.0 Tests :

i) The power control centre shall be completely assembled, wired, adjusted and tested for operation under simulated conditions to ensure correctness of wiring and interlocking and proper functioning of all components.

ii) Each power control centre and components shall be subjected to standard routine tests as per applicable clauses of relevant standards.

iii) All current carrying parts and wiring of power control centre shall be subjected to power frequency voltage withstand test.

15.0 Drawings :After the award of the contract the contractors shall submit three copies of the following drawings for approval of the Department.

i) Outline dimensional drawing of the PCC showing the general arrangement indicating the following :

- a) Busbar clearances;
- b) power and control cable entry points;
- c) Configuration of busbars;
- d) Details of support insulations and spacings;



- e) Outgoing power cable termination arrangements.
- ii) Single line diagram of power control centre showing Protection, Metering etc.
- iii) Cubicle wiring diagram.
- iv) List of Firements with Ratings & makes / Models

16.0 Installation Testing and commissioning :

The power control centre shall be installed over the cable trench/cable pit using suitable size of MS channel including grouting of the channel with necessary bolts and nuts. Proper earthing of PCC shall be done using two independent copper/GI strip of sizes as indicated in the schedule. The channel shall be painted with one coat of red oxide primer and two coats of anticorrosive enamel paint of proper shade as directed by the Engineer-in-charge.

The pre-commissioning tests as required shall be done and the PCC shall be commissioned.

POWER TRANSFORMER

1.0 General

1.1 Scope

The transformer shall be manufactured to the relevant IS specifications and in line with the specification of WESCO utility.

Scope covers manufacturing, supply, storage, installation, testing and commissioning of 500kva 11/.4333 phase , oil immersed ONAN, OUT DOOR type copper wound transformers and associated equipment of required ratings.

1.2. Codes and Standards

The design, material, construction, manufacture, inspection, testing and performance of ONAN TYPE transformer shall comply with all currently applicable standards, regulations and safety codes in the locality where the equipment shall be installed. The equipment shall also conform to the latest applicable standards and codes of practice.

In case of conflict between the applicable standards and this specification, this specification shall govern.

The transformer shall generally conform to IS 11171, 1985

1.3 Rating

Temp rise for winding over an ambient temp of 50C should be 40C max measured by resistance method. ie should not exceed 90C

1.5 Tap Changing Arrangement



off load tap changer from +2.5% to -7.5% of ht variation with a step of 2.5%

1.6 HV Terminal arrangement

Terminal Box shall be provided suitable to receive 3C X 120Sqmm XLPE HT Cables

1.7 LV Terminal arrangement

A four pole cable box shall be provided suitable to receive 2-Runs x 3.5C x 240Sqmm

If additional neutrals are required, these shall be brought out through an Outdoor Bare Bushing.

Care shall be taken in the installation of cable sockets and lugs.

The number of runs of cable, type and size shall be as per the Data Sheet.

1.8 Painting

The interior of the transformer tank and other chambers and internal structural steel work shall be cleaned of scale and dust by sand-blasting. These surfaces shall be painted with HOT OIL resistant and insulating varnish.

Exposed surfaces of the transformer shall be painted with weather proof paint of specified shade 631 of IS5 or any other required shade.

1.10 Design Features

The transformer shall:

- be capable of delivering the rated current at a voltage equal to 110% of the rated voltage without exceeding the limiting temperature rise.
- be capable of operation continuously, in accordance with the applicable standard loading guide at its rated kVA and at any of the specified voltage ratios.
- All rated parameters such as voltage ratios, impedance, regulation, load losses, and no load losses subject to the suppliers' guarantees shall be within the tolerances given in the applicable Standards.
- The transformer windings shall be designed for Basic Impulse insulation Level not lower than those specified in IS:11171
- Transformer oil should as per IS 335/1983 amended up to date. The electric strength is 30 kv (min)

1.11 Tests

All applicable tests shall be carried out on the transformer and shall be deemed to be included in the Contractor's scope and it should be in presence of WESCO OFFICIAL with approval



1.12 Data Sheet

Rating	500 KVA
Installation	out door
Type	Two Windings
Phase	3 Phase
Primary Voltage	11000V
Secondary Voltage	433 V
Tap changeover	OFF LOAD
Tapping on windings HV/LV	HV winding
Winding connection	
H.V	Delta
L.V	Star Grounded
Winding material	Copper
Insulation Material	Class F (Minimum)
Vector Group	Dyn 11
Percentage Impedance	As per IS
Transformer Neutral	Effectively earthed through an additional bushing on LV side
Transformer Terminations:	
Primary side	Cable Termination
Secondary side	CABLE TERMINATION

1.13 Installation of Transformer

Transformer shall be installed and commissioned as per the requirements of IS 1886 (latest edition) and regulations of local authorities.

1.14. Handling



Transformer and all its accessories shall be handled carefully in its upright position as indicated on the packing case. Lifting lugs and jacking pads shall be used for lifting of the transformer. While using jacking pads utmost care shall be taken in proper application of jacks. Where transformer is dragged or pulled on sleeper or rollers the traction eyes provided at the bottom frame shall be used with suitable wire ropes and shackles.

1.15 Storage

Transformer shall be stored under shelter in a place free from fire and explosion hazards.

1.16 Cabling and Earthing

Cables shall be terminated at cable boxes only after IR values are measured and found to be in order. Cable termination shall be carried out with utmost care and H.T. cable box shall be filled with compound after jointing and termination. The neutral of the transformer shall be connected to two separate and distinct earth stations through a double run of copper flats of suitable size. The body of the transformer shall also be provided with effective earthing as per the drawings and specifications.

1.17 Pre-commissioning Tests

The Consultant / Client shall witness the pre-commissioning tests and the erection of the transformer.

The Consultant / Client will perform a general inspection of bolts, nuts and checking of all accessories.

1.18 Mounting and Erection

The transformer shall be lifted by lugs or shackles or by any other suitable means (such as dragging on rollers) and mounted on the rails which are embedded in concrete prepared for the purpose. Care shall be taken to see that the transformer is not tilted during lifting and erection of the transformer. The rollers shall be checked to prevent movement of the transformer after being positioned on the rails. Adequate and necessary clearance from walls, and other equipment, shall be provided as indicated in the drawing and as per regulation of local inspection authorities. After positioning of the transformer stoppers are to be welded to the rails so that transformer is finally fixed at its place.

All the accessories and parts shall be mounted on the transformer. Tighten all bolts and nuts.

Phasing out tests shall be performed with 415 Volts applied to HV windings and voltage across LV winding checked.

Measurement of neutral and body earth resistance shall be performed using an earth testing megger. The values shall not exceed 1 to 2 Ohms respectively.

The transformer shall be charged only after the above tests are conducted and approval of local authorities is obtained. The earthing of neutral and body of the transformer shall be done as per I.E. regulations and the requirements and of local authorities.



However, general mode of earthing arrangement is indicated on the drawings. The Contractor shall supply all the material and labour for erection and commissioning of the transformer.

1.19 Warranty and Maintenance

The installation shall be guaranteed against faulty workmanship for minimum of one year from the date of practical completion. All faulty workmanship shall be replaced and restored to full operation at no cost to the Employer within the guarantee period.

Manufacturer's guarantees and warranties shall be obtained as agreed. The warranty period shall be for eighteen months commencing from the date of installation or twelve months from the date of practical completion, whichever is the first to occur.

IMPORTANT POINTS TO BE NOTED

- 1) Rates for **LIGHT, FAN, EX. FAN, CALL BELL, RAW POWER ETC . POINTS** includes the cost of main wires and PVC pipes from **LDB-ROW POWER DB to DIFFERENT SWITCHBOARDS WITH REQUIRE CIRCUITS.**
- 2) Rates for **COMPUTE R POWER POINTS** include the cost of wires and PVC pipes from **UPS DB to COMPUTER POWER POINTS.**
- 3) Rates for **TELE POINTS** include the cost of TELEPHON E Wires and PVC pipes from **EPABX/ CRONE BOX to TELE. POINTS.**
- 4) THE CONTRACTOR SHOULD SUBMIT THE BUILTUP **SLD OF PANEL, SLD OF DIFFERENT DBS TO DIFFERENT SWITCHBOARDS WITH NUMBERING, SLD OF DATA RACK TO DIFFERENT I/O POINTS WITH NUMBERING, TELE. CRONE BOX TO DIFFERENT TELE. POINTS WITH NUMBERING, ETC. AFTER EXECUTION OF THE BRANCH.** 2 SETS OF COPIES – 1 WITH LAMINATION.
- 5) THE CONTRACTOR SHOULD USE MAX. 3 CIRCUITS IN ONE CONDUIT FOR UPS & RAW POWER POINTS.
- 6) THE CONTRACTOR SHOULD USE MAX. 3 WIRES OF DATA & TELE. IN ONE CONDUIT.
- 7) EVERY CONDUIT FOR UPS, RAW POWER , DATA & TELE., POWER POINTS, AC POINTS , LIGHTING POINTS SHOULD BE SEPARATE.
- 08) IF REQUIRED, EMPTY CONDUIT MAY BE LAID FOR SECURITY SYSTEM.
- 09) PVC CONDUITS MUST BE CLAMPED WITH SADDLES IN CEILING ONLY.
- 10) ELE. CONTRACTOR MUST SUBMIT CERTIFIED LOAD LIST WITH ELE. LICENSE NO. / SUPERVISOR CERTIFICATE NO.
- 11) CONTRACTOR SHOULD SUBMIT TEST REPORT.
CONTRACTOR SHOULD PRESENT EARTHING PLATES BEFORE EXECUTION.
- 12) EXISTING MAIN INCOMING CABLE, CABLE FOR UPS, RAW, LIGHTING TO BE RE-USED AT BY AND TO BE LAID BY THE CONTRACTOR IF ANY FOUND GOOD CONDITION AND AS PER INSTRUCTION OF PROJECT-IN-CHARGE AT SITE.

