



PREMISES AND ESTATE DEPARTMENT

LOCAL HEAD OFFICE,

BHUBANESWAR,

ODISHA – 751001.

(Technical Bid)

**TENDER FOR INTERNAL ELECTRICAL WORKS FOR JATNI BRANCH AT
BANK'S OWN PREMISES, RBO KHURDA**

TENDER No. BHU/P&E/01/24-25/39

Date: 18.01.2025

**(Eligibility: SBI empaneled electrical contractors of Bhubaneswar Circle
under L.T. Category – EB & EA are only eligible to apply)**

Name of the Tenderer.....

Address:

.....

GSTIN:

E-TENDER NOTICE**Tender No: BHU/P&E/01/2024-25/39****Date: 18.01.2025**

State Bank of India, Local Head Office invites online tenders from interested SBI empaneled Electrical Contractors under **L.T. category EB & EA under Bhubaneswar Circle** are only competent to apply through system portal <https://tenderwizard.com/SBIETENDER>. Details of tenders are as under:

1	Name of the Work	:	Internal Electrical Works for Jatni Branch at Bank's Own Premises, RBO Khurda.
2	Tenders shall remain valid for	:	For a period of 90 days from the date of opening of price bid of tender.
3	Earnest Money Deposit (EMD)	:	<p>i) Rs.41,000.00 (Rupees Forty One Thousand only) as EMD submitted in the form of DD in favor of "Assistant General Manager, State Bank of India" payable at Bhubaneswar on or before 12:00 PM, 31.01.2025 at Local Head Office, Bhubaneswar.</p> <p>ii) Contractors submitting one time EMD/FD/Relevant MSME certificate for EMD exemption need to update the scan copy online without fail.</p>
4	Time allowed for completion	:	<p>a) 60 days for internal electrical works from the date of commencement of work or hand-over of site, whichever is later.</p> <p>b) 90 days for LIFT installation works from the date of commencement of work or hand-over of site, whichever is later.</p>
5	Estimated Cost	:	Rs.40,18,757.44 + G.S.T. (as per Government Rules)
6	Availability of Tender Documents	:	Tender documents to be downloaded from Bank's website under procurement news and e-tender service provider portal https://tenderwizard.com/SBIETENDER
7	Availability of tender online	:	From 10:00 AM, 18.01.2025 up to 12:00 PM on 31.01.2025
8	Date and time of submission of technical bid & price bid online	:	Up to 02:30 PM on 31.01.2025
9	Date and time of opening of technical bid	:	On 31.01.2025 at 02:40 PM
10	Date and time of opening of Price bid	:	On 31.01.2025 at 02:50 PM
11	Mandatory Documents to be upload online	:	<ol style="list-style-type: none"> 1. Scan copy of EMD in the form of DD/FD or relevant MSME certificate (in case of request for EMD exemption) 2. Empanelment letter issued by the Bank; 3. Process compliance form; 4. Letter of undertaking.
12	For any details contact	:	Assistant General Manager (P&E)
13	For E-Tender related queries	:	Service provider: M/s Antares Systems Limited, Registered Office at: - #24, Sudha Complex, 3rd Stage, 4th Block, Bangalore – 560079.

	Notes:
a)	Contractors who are empaneled for SBI Bhubaneswar Circle under L.T. Category – EB & EA only are eligible for the above mentioned work.
b)	Any abnormal increase from the quoted price / cost will not be acceptable.
c)	The Bank reserves the right to reject any or all the tenders without assigning any reason.
d)	<p>Electronically Sealed e-tenders are invited from the Bank's Empaneled Contractors as mentioned in NIT in two parts, i.e. Technical Bid and Price Bid separately. Technical Bid and Price Bid to be submitted online on the website www.tenderwizard.com/SBIETENDER.</p> <p>** No bid shall be accepted offline.</p> <p>(a) Technical Bid: Techno-commercial envelope called "Electronic Format of Technical Bid" shall contain the following documents:</p> <p>(i) Details of EMD: Scan copy of Demand Draft must be uploaded in e-tender website along with technical bid. However, the DD of EMD to be submitted physically at Local Head Office, Bhubaneswar. <u>Contractors submitting one time EMD/FD/MSME certificate for EMD exemption need to update the scan copy online without fail.</u></p> <p>(ii) Electronic form of Technical Bid.</p> <p>(iii) Scan copy of process compliance form and letter of undertaking along with company seal and signature should be uploaded online.</p> <p>iv) Scan copy of the SBI Empanelment letter of appropriate category must be uploaded in e-tender website.</p> <p>Technical Bid will be opened as per above mentioned date & time in the presence of Tenderers who desire to attend. The tenderers can view the Tender opening details through their respective log in Ids on the above mentioned e-tender portal (Website).</p> <p>(b) Price Bid: Shall contain the Electronic format of Price Bid. No condition/ stipulation other than unconditional general rebate shall be accepted.</p> <p>Price Bid will be opened only of those bidders who are successfully in Technical Bid after through scrutiny. The contractor/ Contractor can view the Tender opening details through their respective log in ids on the above mentioned e-tender portal (Website).</p>
e)	The Bidder is expected to examine all instructions, forms, terms and specifications in the bid documents. Failure to furnish all information required as per the Bid Documents or submission of bids not substantially responsive to the Bid Documents in every respect will be at the bidder's risk and shall result in rejection of the bid.
f)	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.
g)	The Bank reserves the right to reject all tenders without assigning any reason whatsoever.
	<u>E-TENDERING INSTRUCTIONS TO BIDDERS</u>
	<p>General</p> <p>State Bank of India hereby publish the TENDER on e-tendering Portal (Website) www.tenderwizard.com/SBIETENDER in Electronic mode hereinafter referred as "e Tendering" and TENDER will be hereunder called as "e-Tender". The e-tender published online through above portal (website) consisting of standard tender conditions, specifications, schedule of quantities, drawings (if any) for above referred work. Please note that copy of the above e-tender can be downloaded from above portal (website) and should be mandatorily submitted in Online Electronic Mode hereinafter referred as "Online Offer". The submission of Online offer duly Encrypted & Digitally signed on above</p>

portal should be in prescribed Electronic Forms (Online) available on above portal for respective tender in Online Envelope(s) on or before As per the key Dates mentioned in the Tender Notice in this document and online portal for above tender .

Instructions

1. Tender Bidding Methodology:

Electronically Sealed Bid System – Two Stage - Two Envelopes', followed by 'e-Reverse Auction', if required, after opening of Financial-part.

2. Broad outline of activities from Bidders prospective:

1. Procure a Digital Signing Certificate (DSC)
2. Register on the e-Procurement portal www.tenderwizard.comSBIETENDER.
(The contractors need to upload scan copy of their valid empanelment letter in the portal otherwise their registration would be cancelled)
3. Create Users and assign roles on the above portal
4. View Notice Inviting Tender (NIT) on the above portal
5. Download Official Copy of Tender Documents from the above portal
6. Clarification to Tender Documents on the above portal
7. Bid-Submission on the above portal
8. Attend Public/Limited Online Tender Opening Event (TOE) on the above portal
– Opening of Technical-Part
9. Post-TOE Clarification on the above portal (Optional)
– Respond to SBI's Post-TOE queries
10. Attend Public/Limited Online Tender Opening Event (TOE) on the above portal
– Opening of Financial-Part (Only for Technical Responsive Bidders)

3. Digital Certificates

For integrity of data and authenticity/ non-repudiation of electronic records, and to be compliant with IT Act 2000, it is necessary for each user to have a Digital Certificate (DC), also referred to as Digital Signature Certificate (DSC), of Class II or above, issued by a Certifying Authority (CA) licensed by Controller of Certifying Authorities (CCA) [refer <http://www.cca.gov.in>].

4. Registration

To use the Electronic Tender portal www.tenderwizard.comSBIETENDER, Contractors need to register on the portal. Registration of each organization is to be done by one of its senior persons vis-a-vis Authorized Signatory who will be the main person coordinating for the e-tendering activities. In the above portal terminology, this person will be referred to as the Super User (SU) of that organization. For further details, please visit the website/portal, and follow further instructions as given on the site.

Note: After successful submission of Registration details please contact to the Help desk of the portal to get your registration accepted/activated.

Help Desk:

Contact Person: Mr. Kushal Bose / Mr. Biswajith

5. Bidding related Information for this Tender (Sealed Bid)

The entire bid-submission would be online on the portal. Broad outline of submissions are as follows:

- Submission of Bid Security/ Earnest Money Deposit (EMD) & Cost of Bid Document
- Submission of digitally signed copy of Tender Documents/ Addendum
- Power of Attorney, · Two Envelopes, Technical-Part, Each of the above electronic envelopes consists of Main bid and Electronic form (both mandatory) and bid Annexure

(Optional).

NOTE: Please note that above e-Tendering system is an automatically time locked system which will be locked immediately as soon as due date and time is over and will not accept any offer after that. So, the tenderers are strictly advised to do their process well before the due date and time to avoid any such instances.

6. Tender Opening Event (TOE)

The e-Procurement portal offers a unique facility for 'Public/Limited Online Tender Opening Event (TOE)'. Tender Opening Officers as well as authorized representatives of bidders can attend the Public/Limited Online Tender Opening Event (TOE) from the comfort of their offices. For this purpose, representatives of bidders (i.e. Supplier organization) duly authorized are requested to carry a Laptop and Wireless Connectivity to Internet. Every legal requirement for a transparent and secure 'Public/Limited Online Tender Opening Event (TOE)' has been implemented on the portal. As soon as a Bid is decrypted with the corresponding 'Pass-Phrase' as submitted online by the bidder himself (during the TOE itself), salient points of the Bids are simultaneously made available for downloading by all participating bidders. The tedium of taking notes during a manual 'Tender Opening Event' is therefore replaced with this superior and convenient form of 'Public/Limited Online Tender Opening Event (TOE)'. The portal has a unique facility of 'Online Comparison Chart' which is dynamically updated as each online bid is opened. The format of the chart is based on inputs provided by the Buyer for each Tender. The information in the Comparison Chart is based on the data submitted by the Bidders. A detailed Technical and/ or Financial Comparison Chart enhance Transparency. Detailed instructions are given on relevant screens. The portal has a unique facility of a detailed report titled 'Minutes of Online Tender Opening Event (TOE)' covering all important activities of 'Online Tender Opening Event (TOE)'. This is available to all participating bidders for 'Viewing/ Downloading'. There are many more facilities and features on the portal. For a particular tender, the screens viewed by a Supplier will depend upon the options selected by the concerned Buyer.

IMPORTANT NOTE: In case of internet related problem at a bidder's end, especially during 'critical events' such as – a short period before bid-submission deadline, during online public/limited tender opening event, during e-tender, it is the bidder's responsibility to have backup internet connections. In case there is a problem at the e-procurement/ e tender service-provider's end (in the server, leased line, etc) due to which all the bidders face a problem during critical events, and this is brought to the notice of SBI by the bidders in time, then SBI will promptly re-schedule the affected event(s).

7. Minimum Requirements at Bidders end

In order to operate on the electronic tender management system, the user's machine is required to be set up. The machine must have running XP service Pack 3 or higher version of Windows like Vista or Window 7. Also need to install Mozilla Fire fox web browser and latest Version of Java.

**For and behalf of
State Bank of India**

2. BUSINESS RULES FOR ONLINE TENDER

TENDER FOR INTERNAL ELECTRICAL WORKS FOR JATNI BRANCH AT BANK'S OWN PREMISES, RBO KHURDA

Against this Enquiry for the subject item/system with detailed scope of supply as per our specification, SBI to conduct ON LINE BIDDING on INTERNET.

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

1. SBI will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on Internet.
2. SBI will inform the Contractor in writing in case of online bidding, the details of service provider to enable them to contact and get trained.
3. Business rules like event date, time, start price, bid decrement, extensions, etc. also will be communicated through service provider for compliance.
4. Contractors have to fax the compliance form in the prescribed format (provided by service provider) before start of online bidding. Without this the Contractor will not be eligible to participate in the event.
5. Opening of online bids will be conducted on schedule date & time.
6. At the end of online bidding event, the lowest bidder value will be known on the network.
7. The lowest bidder has to fax the duly signed filled-in prescribed format as provided on case-to-case basis to SBI through service provider within 24 hours of completion of auction without fail.
8. Any variation between the on-line bid value and signed document will be considered as sabotaging the tender process and will invite disqualification of vender to conduct business with SBI as per prevailing procedure.
9. In case 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 SBI shall be opened as per SBI standard practice.

Business Rule for finalization of the Tender

SBI shall finalize the tendering process of the item through online bidding mode. SBI has made arrangement with M/s Antares Systems Limited (ASL), Bangalore who shall be 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 SBI, on pre-specified date, while the Contractors shall be quoting from their own offices/ place of their choice. Internet connectivity and other paraphernalia requirements shall have to be ensured by Contractors 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 ASL furnishing the price, the bidder wants to bid online, with a request to ASL 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 ASL in a readable / legible form and also the Bidder should simultaneously check up with ASL 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 ASL 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 ASL at the time of receipt of the fax message from the bidders, ASL will not be uploading the prices. It is to be noted that either SBI or ASL 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 Contractors are requested not to wait till the last moment to quote their bids to avoid any such complex situations.

2. ASL 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.

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 ASL. You are advised to change the Password after the receipt of initial Password from ASL 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, SBI will decide upon the winner. SBI's decision on award of Contract shall be final and binding on all the Bidders.

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

11. 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 ASL can decide to extend, reschedule or cancel any Auction. Any changes made by SBI and / or ASL, after the first posting will have to be accepted if the Bidder continues to access the site after that time.
- ASL shall not have any liability to Bidders for any interruption or delay in access to the site irrespective of the cause.
- ASL 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.
- 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 Antares Systems Limited (ASL), Bangalore before due date.
- After the completion of the Auction event, all the Bidders have to submit the Price Breakup immediately to M/s Antares Systems Limited (ASL), Bangalore 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 Antares Systems Limited,
Registered Office at: - #24, Sudha Complex,
3rd Stage, 4th Block,
Bangalore – 560079.

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 **INTERNAL ELECTRICAL WORKS FOR JATNI BRANCH AT BANK'S OWN PREMISES, RBO KHURDA VIDE Tender No: BHU/P&E/01/2024-25/39 dated 18.01.2025.**

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 auction tool and have understood the functionality of the same thoroughly.
- 4) We confirm that SBI Group and ASL shall not be liable & responsible in any manner whatsoever for my/our failure to access & bid on the e-auction platform due to loss of internet connectivity, electricity failure, virus attack, problems with the PC, any other unforeseen circumstances etc. before or during the auction event.
- 5) We understand that in the event we are not able to access the auction site, we may authorize ASL to bid on our behalf by sending a fax containing our offer price before the auction close time and no claim can be made by us on either State Bank Group or ASL regarding any loss etc. suffered by us due to acting upon our authenticated fax instructions.
- 6) I/we do understand that ASL 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 Price Bid and the format as requested by SBI / ASL.
- 9) We, hereby confirm that we will honor the Bids placed by us during the auction process.

With regards

Signature with company seal

Date:

Name –

Company / Organization –

Designation within Company / Organization –

Address of Company / Organization

3. GENERAL TERMS AND CONDITIONS of CONTRACT

1. Completion period:

- a. The completion period for **INTERNAL ELECTRICAL WORKS FOR JATNI BRANCH AT BANK'S OWN PREMISES, RBO KHURDA** along with the entire finishing work as mentioned in the NIT, failing which the Bank may impose liquidated damage of 0.5% of the total cost per week, subject to maximum of 5% of the work executed value. If the work is not carried out within the timeline, the EMD will be forfeited.
- b. The Contractor shall have to make arrangements for all tools, hardware, spare parts and items, including skilled and unskilled manpower etc., which are necessary for carrying out the work effectually, at his own cost. The entire Air-Conditioning Work shall be carried out to the satisfaction of the Bank. The Bank shall have full discretion to terminate the contract any time subject to notice of seven days. In such circumstances, no compensation, whatsoever, shall be payable by the Bank to the Contractor.
- c. If the authorized accepted Contractor fails to execute and complete the work within the stipulate time, the Principals, who has given authorization for empanelment / participation in the tender, will be fully responsible for completion of the work within the stipulated time including supply, installation, commissioning, of the Air-Conditioning Work ordered by the Bank as per original terms & conditions agreed upon by the tenderer.

2. Terms of Payment

a. The payment to the Contractor for the entire work shall be made only after completion of the works as per the tender specifications, terms and conditions complete in all respects without any exceptions as mentioned below as per the bill claimed. No advance payment shall be made under any circumstances. The amount payable shall be strictly in accordance with the rates quoted by the successful tenderer.

b. **95%** of the Bill value claimed against the work will be released against completion of the entire works within 15 days. Balance **5%** of the work value will be treated as **Retention Money/ Security Deposit**, which will be released, subject to recovery of penalties, if any, on completion of defect liability period of one year from the date of payment of the final bill subject to satisfactory service having been rendered during the period.

3. Cost of Tender, Earnest money Deposit & Initial Security Deposit (ISD):

The bidder/ contractor has to submit the EMD of **Rs.41,000.00 (Rupees Forty One Thousand only)** as mentioned in NIT. Technical bid without EMD shall be rejected. The bidders who have already submitted on time EMD shall attach the photocopy and submit the same with Technical bid.

An amount @ 2% of the work order value less EMD is required to be deposited to the "**Assistant General Manager, Premises and Estate**" as ISD on or before issuing the work order through demand draft in favour of "**SBI**" payable at **Bhubaneswar**. Please note that such ISD shall not carry any interest.

The EMD of the successful tenderer shall be forfeited in case the contractor refuses to accept the work order or if he fails to commence the work awarded to him within the prescribed or extended time limit or if he does not remit the initial security deposit within the prescribed time.

4. Rate:

- a. Rate quoted should be inclusive of **all taxes except GST, duties, freight, labor charge, profit & overhead** etc. Bank shall not entertain any claim on these accounts or any other accounts afterwards, however **GST will be paid on actual basis**.
- B. All expenses towards insurance of the materials etc., till the work is completed at the bank shall be borne by the Contractor.
- c. The rates quoted shall be inclusive of all costs and charges including transportation of the workmen, materials and the cost for consumables, steps for disposal of unwanted rubbish as per prevailing Municipality/ local authority Law, cleaning of the whole of the area, and any other activity or work, which are ancillary or connected with the nature of services mentioned in the tender terms and conditions.
- d. The amount stated in the tender shall also be inclusive of all taxes and charges, including Excise duty, Service tax or any other taxes which are applicable as on date or may be levied by the State or Central Govt. or any Authorities in future also.
- e. All statutory deductions including towards Income Tax, Sales Tax, and Security Deposit or under any Local Acts, etc. shall be deducted from the amount payable to the Contractor.
- f. No price escalation of the amount quoted in the tender is permissible under any circumstances during the contract.
- g. By accepting the work order from the Contractor shall assume all responsibility to indemnify the in case of any damage or loss caused to the Bank, its building, structure, furniture or equipment's or any accident or injury or harm caused to any person, due to the fault of the Contractor or any of his / their employees. The Bank shall be entitled to deduct the amount of such loss or damage from the amount payable to the Contractor.
- h. Accepted Lowest Rates will be valid for a period of **SIX MONTHS** from the date of acceptance of tender which may be extended for a further period subject to mutual agreement.

5. Other Terms and Conditions:

- a. That the tenderer shall engage fully trained and adequately experienced workmen, who are medically fit, with proven integrity. They should be free from all infectious diseases. The tenderer / Contractor shall ensure that workmen observe cleanliness and they are courteous polite and prompt while rendering the services.
- b. The tenderer should acquaint himself with the site conditions, rules and regulations issued by the local authorities, availability of materials, applicable labor laws, etc., and quote the rates accordingly. No extra charges / increase in the rate shall be considered on any account, under any circumstances.
- c. The rates quoted shall cover for all sorts of works including works, ancillary and necessary for other related works, etc. If rates quoted by the tenderer are found inconsistent and overall tender is abnormally low or high for any specific item(s), the reserves the right to reject such tenders.
- d. The tenderer shall make his own arrangement for procuring all the materials required for execution of the above work and may store the same at site at his own risk & cost.

- e. In case any permission, license or approval from any Municipal, Local authorities or any other Govt. Authorities is necessary, it will be Contractor's responsibility to obtain the same at his own cost.
- f. Removing debris from the site shall be Contractor's responsibility at no extra cost will be paid.
- g. The rates quoted shall cover for execution of the work after office hours on Holidays, Sunday and in stages.
- h. The tenderer will have to make his own arrangements for watch and ward for protecting the materials etc., at all times, until the work is completed to the satisfaction of the Bank will not be responsible for the theft or loss of the material / tools, etc. till the completion of the work.
- i. The tenderer will attend all the meetings whenever called for and the decisions taken in the meeting will be binding on the Contractor.
- j. Electric power / water required for execution of the work will not be the responsibility of the Bank. The Contractor will have to make his own arrangement for carrying the same to the place of work at his own cost by providing necessary cable, wiring etc. with proper safeguard /caution boards prominently displayed for the safety of Bank's staff and Customers.
- k. Quantities given are liable to vary and the Contractor shall provide more items as mentioned therein, at the same rates quoted by them for each items in the Price Bid, if required. In case any items are found not necessary the Contractor shall take the same back and the Bank shall not pay for such items, which are not necessary.
- l. Bank will not be responsible for any loss to the Contractor under any circumstances.
- m. In respect of all workmen or employees directly or indirectly employed by the Contractor for the performance of the works mentioned herein, the Contractor shall at his own expense arrange for all the safety provision as per relevant provision of law.
- n. The tenderer shall have full control over workmen engaged by him, whether skilled or unskilled, and the Contractor shall give necessary guidance and instructions to his employees to carry out the jobs assigned to them by him.
- o. The tenderer shall be responsible for the payment of wages and other dues to the contract labor employed by him in compliance of Minimum Wages Act and Equal Remuneration Act.
- p. The tenderer shall ensure that the hours of work and other service conditions of employment of the contract labor is in consonance with all applicable laws and rules, including Contract Labor (Regulation and Abolition) Act etc.
- q. The tenderer on instruction of the appropriate authority of the or his / their representatives will immediately remove from the premises any contract labor, who may in the opinion of the Bank found to be creating nuisance and the Contractor shall not allow such person to work in the site.
- r. It will be Contractor's responsibility to ensure that each obligation under this contract is duly performed and observed.
- s. The tenderer shall be responsible for any loss caused due to theft/pilferage/damage to the Bank's property including the fittings, fixtures, furniture or other equipment, entrusted in his charge or any property belonging to the Bank's staff / guest / customers when such a loss / damage is, in the Bank's opinion, caused due to negligence or carelessness or any fault on Contractor's part or that of his supervisor or any of the Contractor's laborers and the

Contractor shall be liable to pay to the Bank such amount in respect of such damages / losses as may be assessed. Further the Contractor shall personally be responsible for good conduct and satisfactory antecedents of the contract labor employed by Contractor.

t. The Bank will not be responsible compensation or otherwise for any injury/death caused to any staff of Contractor while executing the work under this tender.

u. The tenderer shall not permit any of his employees to use any area of the premises / building for residential or any other purposes.

v. All materials and equipment required for carrying out the work will be provided by the Contractor in sufficient quantity and these shall be of best quality as approved by the Bank. All expenses for the same shall be borne by the Contractor.

w. The tenderer shall be liable to comply with all applicable laws, rules and regulations in respect of all the labor laws and statutory requirements, including fire safety regulations and other regulations, which are in vogue or will become applicable in future.

x. The tenderer shall accept and bear full and exclusive liability for the payments of any or all taxes etc. now in force or hereafter imposed, increased and revised from time to time by the Central or State Govt. or by any other authority with respect to or covered by wages, salaries, or other compensation paid or payable to persons engaged by the Contractor.

y. The tenderer shall bind himself / it's executor or administrator or successors and shall indemnify and hold harmless the in respect of this contract, including all claims, damages proceedings, costs, charges and/or any expenses whatsoever which may be imposed, enforced or brought against the or any of its directors, officers or employees for reasons of or consequent upon any breach or default on the part of the Contractor in respect of violation of any of the provisions of Laws/Acts/Rules or regulations having the force of law or any award or decision by any competent tribunal, court of authority in respect of the workmen or any one, employed/engaged by the Contractor in connection with this contract.

z. The tenderer shall be responsible for all the claims for its workmen and the said workmen of the Contractor shall not make any claims whatsoever against the Bank. The Contractor's workmen will not have any right whatsoever to get absorbed in the Bank.

aa. The tenderer shall provide weekly off/holidays to his workmen as per labor laws, but it will be his responsibility to ensure that the work is completed within time stipulated in the work order from the Bank, without any delay at all.

ab. All types of taxes including Service Tax applicable now or made applicable in future for the materials, equipment and services, etc. will have to be borne by the Contractor and Bank shall not make any extra payment. The Bank shall make statutory deductions at source as applicable.

ac. The tenderer will take out adequate insurance and keep the items and work insured until the completion of the work, against loss or damage by fire and/or earthquake, flood, etc., at his own cost, and the Bank shall not be liable for any loss caused to the Contractor.

ad. No child labor shall be employed by the Contractor to carry out any of the works/services covered by this tender.

ae. The near relatives of employee or employees of the Bank are prohibited from participation in this tender. The Contractor shall have to submit an undertaking to

the effect that his/their no near relative or relatives is/are employee(s) of the Bank.

af. The tenderer shall be entirely responsible for any mis-happening, accident to his worker while performing duty and shall have no claim/binding on Bank with respect to any compensation/monetary benefits etc., whatsoever.

ag. The tenderer shall make arrangements to identify each of his workmen at the security point while entering the premises before resuming work and while departure after completing each day's work. However, they are liable to be checked at any time during their work and anywhere within the premises by the Security. The Security personnel of the Bank are authorized to check the belongings of the workmen while entering and leaving the office premises for security reasons. The Contractor shall issue identity card to their workmen & Supervisor.

ah. If the Contractor fails or neglects to observe or perform the terms and conditions of the agreement or any of them, the Bank may: -

i. Hold the Contractor liable for all losses or damages occasioned to the Bank by such failure or neglect.

ii. Hold the Contractor liable to pay damages and compensation for loss and inconvenience caused by dislocation of services.

iii. In case it is felt by the Bank that any workman is not suitable for carrying out the work inside the premises, then such workman is to be replaced immediately by the Contractor.

6. Statutory Obligations:

a. The tenderer shall fully comply with all the applicable laws, rules and regulations relating to Contract Labor (Regulation and Abolition) Act 1970 and Contract Labor (R&A) Central Rules 1971, Provident Funds Act including the payment of P.F. contribution, Payment of Bonus Act, Minimum Wages Act, Workmen's Compensation Act, ESI Act, Migrant Labor Act and / or such other Act or laws or regulations passed by the Central, State, Municipal and Local Government agency or authority including TDS as per I.T. Act, applicable from time to time.

b. The tenderer shall be responsible to register himself and obtain a valid license under the Contract Labor (Regulation and Abolition) Act, 1970 and rules there under and the / Contractor must comply with and carry out all the provisions and obligations under the said Act and Rules there under, including renewal of license and furnish all information to the Bank as may be required by Act/Rules and the Contractor shall indemnify the Bank against the penalties/claims or for any default on his part.

c. The tenderer shall be responsible for proper maintenance of all Registers, Records and counts so far as these relate to the compliance of any statutory provision/obligations. The / Contractor shall be responsible for maintaining record pertaining to payment of wages Act and also for depositing the P.F. contributions, if required, with authorities concerned.

d. The tenderer shall make regular and full payment of labor charges, salaries and other payments as per labor laws especially under Minimum Wages Act and Payment of Wages Act to his workmen deputed for the work and furnish necessary information as and when asked.

e. In case of labor unrest/disputes arising out of non-implementation of any law, the responsibility shall solely lie with the Contractor and he shall remove / resolve the same satisfactorily at his cost and risk. The

Contractor will abide by rules, regulations, bylaws and statutes etc. for executing for his job.

f. The tenderer shall at all times indemnify and keep indemnified the Bank/ and its Officers, servants and agents from and against all third party claims, whatsoever including not limited to property loss and damage, personal accident, injury or death of person of any sub-Contractor or the servants of agents of the Contractor, any sub- Contractor(s) and/ or the owner. The / Contractor shall be at his own cost and initiative at all times maintain all liabilities under workman's Compensation Act/Fatal Accident Act, Personal Injuries, Insurance Act and/or their industrial legislation from time to time in force.

7. Termination:

- i. The reserves the right to terminate the contract any time during the pendency of the contract on failure by the Contractor to adhere to the conditions here in above indicated or agreed in the contract. Such termination will be communicated in writing to the Contractor and any work affected beyond date of termination of the contract shall not be measured and paid for.
- ii. In case the Bank decides to terminate the contract, it shall do so by giving seven days' notice.
- iii. If the performance of the successful tenderer is found to be unsatisfactory, the reserves the right to cancel in part or whole the contract and get the work executed through alternative means at the entire risk and cost of the Contractor with whom the work order was first placed. In such cases, the Contractor should make good all losses that the Bank may incur due to this. The Bank/ may proceed with legal actions if necessary.

8. Agreement on stamp paper:

The selected tenderer / Contractor will have to enter into agreement on non-judicial stamp paper of requisite value, within 10 days of acceptance of tender, and all the costs with respect to the same shall be borne by the /Contractor.

4. SPECIAL CONDITIONS OF CONTRACT

1. The entire works carried out shall be under a comprehensive warranty of 12 months from the date of payment of final bill of the work. During the period of warranty the Contractor shall in addition to attending to our calls for repairs/maintenance, conduct corrective maintenance and no charges shall be payable for such maintenance, including materials replaced or requiring replacement.
2. Please note that any deviations mentioned elsewhere in the bid will not be considered and evaluated by the Bank reserve the right to reject the bid, if bid not submitted in proper format as per tender.
3. **Clarifications of Bids:** To assist in the examination, evaluation and comparison of bids the may, at its discretion, ask the bidder for clarification. The response should be in writing and no change in the price or substance of the bid shall be sought, offered or permitted.
4. **Packing, shipping and marking:** The tenderer / Contractor shall be responsible for assuring that all commodities shipped are properly packed and protected to prevent damage or deterioration during shipment. Packaging and shipping costs shall be borne by the tenderer. Customs clearance and all costs and actions associated with import duties, taxes and processing of documents within India are borne by the bidder.

5. Construction/Installation / Commissioning of the work:

- a. The tenderer is responsible for all unloading, unpacking and lifting of materials to be used for the work.
- b. The items and list not in BOQ but required for successful completion of the works shall also be considered to be part of the supply scope without any extra cost.

6. Inspections And Quality Control Test:

- a. The reserves the right to carry out pre-shipment inspection by a team of officials engaged by the of any of the existing live installation of the supplier referred to in the Technical Bid or demand a demonstration of the solution proposed on a representative model in the bidder's office, the same shall be arranged at the cost of bidder.
- b. The 's right to inspect, test and where necessary reject the products after the product arrival at the destination shall in no way be limited or waived by reason of the products having previously been inspected, tested, and passed by the or its representative prior to the products' shipment from the place of origin.

7. Insurance of Works:

Without limiting his obligations and responsibilities under the contract the contractor shall insure in the joint names of the SBI 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 SBI and contractor are covered for the period stipulated in 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.

1. 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.
2. 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.
3. Such insurance shall be effected with an insurer and in terms approved by the SBI which approval shall not be unreasonably withheld and the contractor shall whenever required produce to the SBI the policy of insurance and the receipts for payment of the current premiums.

A. Damage to Persons & Property

The contractor shall, except if and so far as the contract provides otherwise indemnify the SBI 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 :

- i. The permanent use or occupation of land by or any part thereof.

- ii. The right of SBI to execute the works or any part thereof, on, over, under, in or through any lands.
- lii. Injuries or damages to persons or properties which are unavoidable result of the execution or maintenance of the works in accordance with the contract.
- iv. Injuries or damage to persons or property resulting from any act or neglect of the 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 SBI, their employees, or agents or other employees, or agents or other contractors for the damage or injury.

B. Contractor to indemnify SBI

The contractor shall indemnify the SBI against all claims, proceedings, damages, costs, charges and expenses in respect of the matters referred to in the provision sub-clause 7 (A) of this clause.

C. Contractor's superintendence

The contractor shall fully indemnify and keep indemnified the 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 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 SBI if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed.

D. Third Party Insurance:

Before commencing the execution of the work the contractor but without limiting his obligations and responsibilities under clause 7 of SCC 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 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 26.0 thereof.

D-1. Minimum Amount of Third Party Insurance:

Such insurance shall be affected with an insurer and in terms approved by the SBI which approval shall not be reasonably withheld and for at least the amount stated below. The contractor shall, whenever required, produce to the SBI/Consultants 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.

D-2. Accident or Injury to Workmen:

The SBI shall not be liable for or in respect of any damages or compensation payable at law in respect of 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 SBI or their agents, or employees. The contractor shall indemnify and keep indemnified 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.

D-3. Insurance Against accidents etc. to Workmen:

The contractor shall insure against such liability with an insurer approved by the SBI during the whole of the time any person employed by him on the works and shall, when required, produce to the SBI/Consultants 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 SBI is indemnified under the policy but the contractor shall require such sub-contractor to produce to the SBI/Consultants when required such policy of insurance and the receipt for the payment of the current premium.

D-4. 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 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 SBI against contractors, in respect of such default, the contractor 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.

8 TIME OF COMPLETION, EXTENSION OF TIME AND PROGRESS CHART

a) Time of Completion: The entire work is to be completed in all respects within the stipulated period as mentioned in the NIT. The work shall be deemed to be commenced within 7 (Seven) days from the date of issue of formal work order or the date on which the Contractor is instructed to take possession of the site, whichever is later. Time is the essence of the contract and shall be strictly adhered to by the Contractor. The work shall not be considered as complete until the Bank have certified in writing that this has been completed and the Defects Liability Period shall commence from the date of such certificate.

b) Extension of Time: If in the opinion of the concerned Engineer, the work be delayed (a) by reason of any exceptionally inclement weather, or (b) by reason of instructions from the Bank in consequence of proceedings taken or threatened by or disputes, with adjoining or neighboring owners or (c) by the work, or delay, of other contractors or tradesmen engaged or nominated by the Contractor and not referred to in the specification or (d) by reason of authorized extra and additions or (e) by reason of any combination of workmen or strike or lockout affecting any of the building trades or (f) from other causes which the Bank may consider are beyond the control of the Contractor, the Contractor before the completion of the time allowed for the contract shall make

fair and reasonable extension of time for completion in respect thereof. In the event of the failing to give possession of the site upon the day specified above the time of completion shall be extended suitably. In case of such strikes or lock outs, as are referred to above, the Contractor shall, immediately give the, written notice thereof. Nevertheless, the Contractor shall use his best endeavors to prevent delay, and shall do all that may be reasonably required, to the satisfaction of the to proceed with the work and on his doing so that it will be ground of consideration by the for an extension of time as above provided. The decision of the as to the period to be allowed for an extension of time for completion hereunder (which decision shall be final and binding on the Contractor) shall be promulgated at the conclusion of such strike or lockout and the shall then, in the event of extension being granted, determine and declare the final completion date. The provision in Clause 7 with respect to payment of liquidated damages shall in such case, be read and construed as if the extended date fixed by the Bank were substituted for and the damage shall be deducted accordingly. Hindrance Register in the approved format shall be maintained and proper record of hindrances arisen and solved with the dates to be recorded in the register the Bank's Site Engineer and Contractor's authorized representative so that extension of time to be granted can be derived from the register, and recommended by the and approved by the 's competent authority.

c) Commencement of works: The date of commencement of the work will be reckoned as the recorded date of handing over site by the SBI or 15 days from the date of issue of Letter of Acceptance of Bank, whichever is later.

9. LIQUIDATED DAMAGES

In case if the Contractor is not completed the work to the satisfaction of the within the stipulated period, the Contractor shall be bound to pay to the Bank a sum calculated @ 0.50% of the accepted contract sum per week of delay subject to a maximum of 5% of the accepted contract value by way of liquidated damages and not as penalty during which the work remains un-commenced or unfinished after the expiry of the completion date.

10. ACTION WHEN WHOLE OF 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 liquidated damages amounting to the whole of his security deposit (whether paid in one sum or deducted by installments) the shall have power to adopt any of the following courses as they may deem best suited to the interest of the Bank:

- a) To rescind the contract (of which rescission notice in writing to the contractor under hand of the Bank shall be conclusive evidence), and in which case the security deposit of the contractor shall stand forfeited and be absolutely at the disposal of the .
- b) To employ labour by the Bank 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 price of material (of the amount of which cost and price of a certificate of the Concerned Engineer 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 rates as if it had been carried out by the contractor under the terms of this contract and the certificate of the Bank's Engineer as to the value of the 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 shall be final and conclusive) shall be borne and paid by the original contractor and may be deducted from any money due to him by the under the contract or otherwise, or from his security deposit or the proceeds of sale thereof, or a sufficient part thereof. In the event of any of the above courses being adopted by the Bank the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials 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 be paid any sum for any work thereto for actually performed under this contract unless and until the 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.

11. STORAGE OF MATERIALS

The Contractor shall provide and maintain proper sheds for the proper storage and adequate protection of the materials etc. and other work that may be executed on the site including the tools and materials of sub-contractors and remove same on completion. Sheds for storage of cement are to have pucca floor raised above the ground. Cement go down shall be constructed for storing about six weeks requirements of cement and stored as per norms with a stack of 10 bags each, two ft. opening all around with two ft. passage between each stack. Structure shall be waterproof from all the sides and top. Cement should be stored one ft. above the ground level and the floor of the go down shall consist of wooden planks resting on base prepared of dry bricks. So also reinforcement bars are to be stored above the ground level to prevent the same from getting rusted.

12. CLEARING SITE AND SETTING OUT WORKS

The site shown on the plan shall be cleared of all obstructions, trees, bushes, shrubs, loose stone, and rubbish materials of all kinds. All holes or hollows whether originally existing or produced by removal of loose stone or materials shall be carefully filled up with earth well rammed and levelled off as directed at his own cost. The Contractor shall set out the work and shall be responsible for the true and perfect setting out of the work and for the correctness of the positions, levels, dimensions and alignment of all parts thereof. If at any time, any error shall appear during the progress of any part of the work, the Contractor shall at his own expenses rectify such error, if called upon to the satisfaction of the /The Bank. The Contractor shall further set out the work to the alternative positions at the site until one is finally approved and the rates quoted in his tender should include for this and no extra on this account will be entertained.

13. CONTRACTOR IMMEDIATELY TO REMOVE ALL OFFENSIVE MATTERS

All soil, filth or other matters of any offensive nature taken out of any trench, sewer, drain, cesspool or other place shall not be deposited on the surface but shall be at once carted away by the Contractor to a safe place as per rules of the appropriate authorities/instruction of the Bank. The Contractor shall keep the foundations and work free from water and shall provide and maintain at his own expenses electrically or other power driven pumps and other plant to the satisfaction of the Bank for the purpose, until the building is handed over to the Bank. The Contractor shall arrange for the disposal of the water so accumulated to the satisfaction of the Bank and the local authority and no claims will be entertained afterwards if he does not include in his rates for the purpose.

14. ACCESS

Any authorized representative of the Bank shall at all reasonable times have free access to the work and/or to the workshops, factories or other places where materials are being prepared or constructed for the work and also to any place where the materials are lying or from where they are being obtained, and the Contractor shall give every facility to the Bank or their representatives necessary for inspection and examination and test of the materials and workmanship. Except the representatives of the Bank and no person shall be allowed at any time without the written permission of the Bank/ .

15. REMOVAL OF IMPROPER WORK

The Bank shall during the progress of the work have power to order in writing from time to time the removal from the work within such reasonable time or times as may be specified in the order of any materials which in the opinion of the Bank are not in accordance with specifications or instructions, the substitutions or proper re execution of any work executed with materials or workmanship not in accordance with the drawings and specifications or instructions. In case the Contractor refuses to comply with the order, the shall have the power to employ and pay other agencies to carry out the work and all expenses consequent thereon or incidental thereto as certified by the shall be borne by the Contractor or may be deducted from any money due to or that may become due to the Contractor. No certificate which may be given by the Bank shall relieve the Contractor from his liability in respect of unsound work or bad materials.

16. NOMINATED SUB CONTRACTOR

All specialists, Merchants, Tradesmen and others executing any work or supplying and fixing any goods for which prime cost prices or provisional sums are included in the Schedule of Quantities/Rates and/or specifications and who may be nominated or selected by the are hereby declared to be sub-contractors employed by the contractor and are herein referred to as nominated sub-contractors. No nominated sub-contractor shall be employed on or in connection with the work against whom the contractor shall make reasonable objection or save where the Bank and contractor shall otherwise agree who will not enter into a contract provided:

- a) That the nominated sub-contractor shall indemnify the contractor against the same obligations in respect of the sub-contract as the Contractor is under in respect of this contract.
- b) That the nominated sub-contractor shall indemnify the contractor against claims in respect of any negligence by the sub-contractor, his servants or agents or any misuse by him or them of any scaffolding or other plants the property of the contractor or under any Workman's compensation Act in force.
- c) Payment shall be made to the nominated sub-contractor by the contractor within fourteen days of his receipt of the certificate from engineer of Bank, provided that before any certificate is issued the contractor shall upon request furnish to the proof that all nominated sub contractor's accounts included in previous certification have been duly discharged, in default whereof the Bank may pay the same upon a certificate of the and deduct the amount thereof from any sums due to the contractor. The exercise of this power shall not create privet of contract between the Bank and the sub-contractor.

17. DAMAGE TO PERSONS AND PROPERTY, INSURANCE, ETC.

The Contractor shall be responsible for all injury to the work or workmen to persons, animals or things and for all damages to the structural and/or decorative part of property which may arise from the operations or neglect of himself or of any sub-Contractor or of any of his or a sub Contractor's employees, whether such injury or damage arise from carelessness, accident or any other cause what so-ever in any way connected with the carrying out of this contract. The clause shall be held to

include inter alia, any damage to buildings whether immediately adjacent or otherwise, and any damage to roads, streets, foot paths or pathways as well as damage caused to the buildings and the work forming the subject of this contract by rain, wind or other inclemency of the weather. The Contractor shall indemnify and hold harmless the in respect of all and any expenses arising from any such injury or damages to persons or property as aforesaid and also in respect of any claim made in respect of injury or damage under any acts of compensation or damage consequent upon such claim. The Contractor shall reinstate all damage of every sort mentioned in this clause, so as to deliver the whole of the contract work complete and perfect in every respect and so as to make good or otherwise satisfy all claims for damages to the property or third parties. The contractor shall effect the insurance necessary and indemnify the entirely from all responsibility in this respect. The insurance must be placed with a company approved by the Bank and must be effected jointly in the name of the contractor and the Bank and the policy lodged with the latter. The scope of insurance is to include damage or loss to the contract itself till this is made over in a complete state. The Contractor shall also be responsible for anything which may be excluded from damage to any property arising out of incidents, negligence or defective carrying out of the contract. The shall be at liberty and is hereby empowered to deduct the amount of any damages, compensations, costs, charges and expenses arising or accruing from or in respect of any such claim for damages from any sums due or to become due to the contractor.

18. MEASUREMENT OF WORK

The contractor will record the measurements in the approved printed measurement books and submit measurements for verification and endorsement of Project Management the Engineer. The contractor should submit the bill in duplicate to the Bank with such endorsement. The shall upon receipt of the bill intimate to the contractor that he requires the work to be measured, and the contractor shall forthwith attend or send a Qualified Agent to assist the Engineer of in taking such measurements and calculations and to furnish all particulars or to give all assistance required by Engineer. Should the contractor not attend or neglect or omit to send such Agent then the measurement taken by the Engineer of and approved by him shall be taken to be the correct measurement of the work. The contractor or his Agents may at the time of measurement take such notes and measurements as he may require. All authorized extra work, omissions and all variations made without the knowledge of , if subsequently sanctioned by him in writing, with the approval of the shall be included in such measurements. The final measurement should be done within three months from the date of completion of work jointly by the Bank and/or his representative. If the contractor fails to comply, the measurements taken by the will be final.

19. METHOD OF MEASUREMENT

Unless otherwise mentioned elsewhere in the tender document, measurements will be on the net quantities of work produced in accordance with up to date rules laid down by the Indian Standard Institution. In the event of any dispute with regard to the measurement of the work executed, the decision of the Engineer of Bank shall be final and binding on the contractor.

20. ACTION WHERE NO SPECIFICATION

In the case of any class of work for which there is no such specification in Technical Specification, such work shall be carried out in accordance with the I.S. specification, and in the event of there being no I.S. specification, then in such case the work shall be carried out in all respects in accordance with the instructions and requirements of the .

21. CONTRACTOR NOT TO DEPOSIT MATERIALS IN A MANNER THAT MAY CAUSE INCONVENIENCE TO THE PUBLIC

The contractor(s) shall not deposit materials on any site which will cause inconvenience to the public. The Bank may require the contractor to remove any materials, which are considered by him to be a danger or inconvenience to the public or cause them to be removed at the contractor's cost.

22. PAYMENTS

a) All bills shall be prepared by the Contractor in the form prescribed by the Bank. The bills in proper forms must be duly accompanied by detailed measurements recorded in the standard measurement book duly endorsed by the engineer of in support of quantities of work done and must show deductions for all previous payments, retention money, etc. The final bill shall be submitted by the Contractor to the Bank within 15 (Fifteen) days of the date fixed for completion of the work or of the date of certificate of completion furnished by the Contractor and payment shall be made by the Bank within two weeks from the date of receipt of the final bill duly verified & certified by the engineer of Bank. The Bank reserves the right to withhold in part or full payment of bills in case of noncompliance/violation of any terms and conditions stipulated in the agreement. The contractor shall neither suspend the work nor claim for extension of time for nonpayment/withholding of payment on this account and no interest is also payable on the payment withheld/due.

23. FINAL PAYMENT

The final bill shall be accompanied by a certificate of completion from the Branch, Payments of final bill shall be made after deduction of Retention Money, taxes etc. The acceptance of payment of the final bill by the Contractor would indicate that he will have no further claim in respect of the work executed.

24. VARIATION/DEVIATION

The Contractor may when authorized and shall, when directed in writing by the /Bank and/ or omit, or vary the work shown in the drawings or described in the specifications or included in the priced schedule of quantities. The Contractor on his own accord shall make no addition, omission or variation without such authorization or direction. A verbal authorization or direction by the Bank shall when confirmed by the Contractor in writing within 3 days shall be deemed to have been given in writing. The price of all such additional/non tendered items will be worked out on the basis of rates quoted for similar items in the contract wherever existing or on engineering rate analysis based on prevalent fair price of labour, materials at site of work including wastage and other components as required plus 15% towards contractor's profit, supervision, overhead etc. Works Contract Sales Tax, if applicable will be considered over and above 15%. The tendered rates shall hold good for any increase or decrease in tender quantities. No claim for an extra shall be allowed unless it shall have been executed by the authorization of /The Bank. No variation i.e. additions, omissions or substitutions shall vitiate the contract.

25. SUBSTITUTION

Should the Contractor desire to substitute any materials and workmanship, he/they must obtain the approval of the Bank in writing for any such substitution well in advance. For materials designated in this specification indefinitely by such term as "Equal" or "Other approved" etc. specific approval of the Bank has to be obtained in writing prior to execution.

26. CLEARING SITE ON COMPLETION

On completion of the work the Contractor shall clear away and remove from the site all constructional plant surplus materials, rubbish and temporary work of every kind and leave the whole of the site and the work clean and in a workmanlike condition to the satisfaction of the Bank and .

27. DEFECTS AFTER COMPLETION

The Contractor shall make good at his own cost and to the satisfaction of the Bank all defects, shrinkage, settlements or other faults which may appear within 12 months from the date of payment of final bill and considered as the "defect liability period". In default the may employ and pay other persons to amend and make good such damages, losses and expenses consequent thereon or incidental thereto shall be made good and borne by the Contractor and such damages, loss and expenses shall be recoverable from him by the Bank or may be deducted by the Bank, in lieu of such amending and making good by the Contractor, deduct from any money due to the Contractor a sum equivalent to the cost of amending such work and in the event of the amount retained being insufficient recover that balance from the Contractor from the amount retained together with any expenses the Bank may have incurred in connection therewith.

28. CONCEALED WORK

The Contractor shall give due notice to the Bank whenever any work is to be buried in the earth, concrete or in the bodies of walls or otherwise becoming inaccessible later on in order that the work may be inspected and correct dimensions taken before such burial, in default whereof the same shall, at the option of the Bank be either opened up for measurement at the Contractor's expense or no payment be made for such materials. Should any dispute or difference arise after the execution of any work as to measurements etc. or other matters which cannot be conveniently tested or checked, the notes of the Bank shall be accepted as correct and binding on the Contractor.

29. ESCALATION

The rates quoted shall be firm throughout the tenure of the contract (including extension of time, if any, granted) and will not be subject to any fluctuation due to increase in cost of materials, labour, sales tax, octroy, etc. unless specifically provided in these documents.

30 IDLE LABOUR

Whatever the reasons may be, no claim for idle labour, additional establishment cost of hire and labour charges of tools and plants would be entertained under any circumstances.

31 SUSPENSION

If the Contractor except on account of any legal restraint upon the Bank preventing the continuance of the work or in the opinion of the Bank shall neglect or fail to proceed with due diligence in the performance of his part of the contract or if he shall more than once make default the Bank shall have the power to give notice in writing to the Contractor requiring the work be proceeded within a reasonable manner and with reasonable dispatch, such notices purport to be a notice under this Clause. After such notice shall have been given, the Contractor shall not be at liberty to remove from the site of the work or from any ground contiguous thereto, any plant or materials to subsist from the date of such notice being given until the notice shall have been complied with. If the Contractor shall fail for 7 (seven) days after such notice has been given to proceed with the work as therein prescribed, the Bank may proceed as provided in the Clause. (Termination of Contract by the Bank).

32. TERMINATION OF CONTRACT BY THE CONTRACTOR

If the Contractor being a company go into liquidation whether voluntary or compulsory or being a firm shall be dissolved or being an individual shall be adjudicated insolvent or shall make an assignment or a composition for the benefit of

the greater part, in number of amount of his creditors or shall enter into a Deed or arrangement with his creditors, or if the Official Assignee in insolvency, or the Receiver of the Contractor in insolvency, shall repudiate the contract, or if a Receiver of the Contractor's firm appointed by the court shall be unable, within fourteen days after notice to him requiring him to do so, to show to the reasonable satisfaction of the Bank that he is able to carry out and fulfill the contract, and if so required by the Bank to give reasonable security there for, or if the Contractor shall suffer execution to be issued, or shall suffer any payment under this contract to be attached by or on behalf of and of the creditors of the Contractor, or shall assign, charge or encumber this contract or any payments due or which may become due to the Contractor, thereunder, or shall neglect or fail to observe and perform all or any of the acts matters of things by this contract, to be observed and performed by the Contractor within three clear days after the notice shall have been given to the Contractor in manner hereinafter mentioned requiring the Contractor to observe or perform the same or shall use improper materials or workmanship in carrying on the work, or shall in the opinion of the not exercise such due diligence and make such due progress as would enable the work to be completed within due time agreed upon, and shall fail to proceed to the satisfaction of the Bank after three clear days' notice requiring the Contractor so to do shall have been given to the Contractor as hereinafter mentioned, or shall abandon the contract, then and in any of the said cases, the Bank may notwithstanding previous waiver determine the contract by a notice in writing to the effect as hereinafter mentioned, but without thereby affecting the powers of the of the obligations 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 work subsequently executed had been executed by or on behalf of the Contractor (without thereby creating any trust in favour of the Contractor) further the or his agent, or servants, may enter upon and take possession of the work and all plants, tools, scaffolding, sheds, machinery, steam and other power, utensils and materials lying upon premises or the adjoining lands or roads and sell the same as his own property or may employ the same by means of his own servants and workmen in carrying on and completing the work or by employing any other contractors or other persons or person to complete the work, and the Contractor shall not in any way interrupt or do any act, matter or thing to prevent or hinder such other contractors or other persons or person employed from completing and finishing or using the materials and plants for the work when the work shall be completed, or as soon thereafter as conveniently may be the shall give notice in writing to the Contractor to remove his surplus materials and plants and should the Contractor fail to do so within a period of 14 days after receipt by him the Bank may sell the same by Public Auction and shall give credit to the Contractor for the amount so realized. Any expenses or losses incurred by the in getting the work carried out by other contractors shall be adjusted against the amount payable to the Contractor by way of selling his tools and plants or due on account of work carried out by the Contractor prior to engaging other contractors or against the Security Deposit.

33. PROFORMA FOR AGREEMENT BETWEEN THE BANK AND CONTRACTOR

(On Non-Judicial Stamp Paper of Rs.100/-)

ARTICLES OF AGREEMENT made this _____ day of _____ Two thousand between the State Bank of India, a Corporation constituted under the State Bank of India Act, 1955 and having its Regional Business Office named as RBO, Khurda and Administrative Office at Bhubaneswar and at many other places (hereinafter referred to as "the BANK") which expression shall include its successor or successors and assigns) of the ONE PART through the authorized officer the Assistant General Manager (RBO, Khurda).

AND

M/s. _____ having its registered office at _____ (thereinafter referred to as the 'CONTRACTOR') of the OTHER PART.

WHEREAS the Bank is desirous of carrying out the INTERNAL ELECTRICAL WORKS FOR JATNI BRANCH AT BANK'S OWN PREMISES (hereinafter called the 'Works').

AND WHEREAS the Bank has caused the plans, drawings and specifications, priced schedule of quantities of the work to be executed at the INTERNAL ELECTRICAL WORKS FOR JATNI BRANCH AT BANK'S OWN PREMISES as per General conditions of the contract and special conditions of the contract, subject to which the offer of the Contractor shall be accepted.

AND WHEREAS the tender of the Contractor for _____

WHEREAS the contractor has deposited with the Bank Rupees _____ as Security deposit for the due performance of the agreement. AND WHEREAS the Bank has issued work order therefore to the contractor.

AND WHEREAS said drawings _____ inclusive of the specifications, priced schedule of quantities, conditions of contract and special conditions (hereinafter collectively referred to as the said condition) have been signed by the parties hereto and the contractor has agreed to execute the works upon and subject to the said conditions.

NOW IT IS HEREBY AGREED AS FOLLOWS:

1. In consideration of the payments to be made to the contractor as hereinafter provided the contractor shall upon and subject to the said conditions execute and complete the works shown upon the said drawings etc and such further detailed drawings as may be furnished to the contractor by the said _____ as described in the said specifications and the said priced schedule of quantities.

2. The Bank will pay to the Contractor the sum of Rs. _____ (Rupees _____)

(hereinafter called the contract sum) or such other sum as shall become payable hereunder at the times and in the manner specified in the said conditions. However, the actual sum will be paid on the actual value of work done, irrespective of the contract sum.

3. The plans, agreement and documents above mentioned shall form the basis of this contract and all disputes to be decided in the manner prescribed in the conditions attached hereto.

4. The said contract comprises the building _____

_____ works as above mentioned, and all subsidiary works connected therewith within the same site as may be ordered to be done from time to time by the said Bank even though said works may not be shown on the drawings or described in the said specifications or the priced schedule of quantities.

5. Notwithstanding what are stated in the special condition, conditions of contract and hereinbefore stated the Bank reserves the right to alter the drawings and nature of the work and of adding to or omitting any items of works from or of having portions of the same carried out departmentally or otherwise and such alterations or variations shall be carried out without prejudice to this contract.

6. The said conditions shall be read and be treated as forming part of this agreement and the parties hereto will respectively be bound thereby and to abide by and submit themselves to the conditions and stipulations and perform the same on their parts to be respectively observed and preferred.

7. Any dispute arising under this agreement shall be referred to the arbitration of a sole arbitrator appointed with consent of the Bank, the contractor as indicated in

the Article of the general conditions. The award of the arbitrator shall be final and binding on both parties.

IN WITNESS WHEREOF, the parties hereto have executed these presents the day and year first herein above written.

WITNESS

EXECUTANTS

1.

1. BANK

2.

2. Contractor

* Common Seal

*In case of the company, the common seal be affixed pursuant to resolution of Board of Directors in accordance with Articles of Association of the Company the directors etc. as the case may be affixing common seal may be initial in token thereof and also by putting their names.

34. LIST OF APPROVED MATERIALS (ATTACHED AS A SEPARATE SHEET, ANNEXURE-I)

NOTE: The Contractor shall quote for the best of the materials as specified below. The Contractor shall obtain prior approval from Engineer before placing order for the specific materials/agencies. In case of non-availability of any of the approved/specified materials/Agency, during the execution of the work, the Engineer in charge may approve suitable equivalent brand/Agency and his decision shall be final and binding on the contractor. No price variation will be entertained.

5. LETTER OF UNDERTAKING

The Assistant General Manager,
State Bank of India,
Local Head Office,
Bhubaneswar,
Odisha – 751001.

Dear Sir,

TENDER FOR INTERNAL ELECTRICAL WORKS FOR JATNI BRANCH (BR. CD.: 2071) AT BANK'S OWN PREMISES VIDE TENDER No. BHU/P&E/01/2024-25/39 DATED 18.01.2025

With reference to the tender for the above work, we hereby undertake –

- That we have fully understood the scope of the work to be carried out and acquainted ourselves to the local working conditions.
- That we shall strictly comply with the specifications laid down in the tender and the directions given by during the execution of the work.
- That our quoted rate is inclusive of all the material cost , labour cost, taxes ,service tax, duties , transportation , loading & unloading , freight , overhead and profit and Bank shall not entertain any claim whatsoever on this account afterwards.
- That after accepting the work order we shall not back out, failing which the Bank shall be at liberty to forfeit the EMD and take action against us as deemed fit without making further reference to us.
- That after accepting the work order if we could not start the work within seven days from the date of issue of work order, the work order will stand cancel and for which the Bank shall be at liberty to forfeit the EMD and take action against us as deemed fit without making further reference to us.
- That we shall use all the materials approved by Bank and shall not substitute any material without obtaining prior approval from the Bank
- That we shall complete the work within the stipulated time and we understand that in case of delay on our part is liable for deduction of liquidated damage as stipulated in the tender.
- That an amount equivalent to 5% of the bill value shall be retained from the payment due to us by the Bank for a defect liability period of 12 calendar months from the date of payment of final bill, which will be released after the expiry of the said defect liability period, if no defect is found during that period.
- That we shall attend to any defect in the work done by us which is brought to our notice within the defect liability period, at our cost and shall not claim any extra cost for the same, failing which Bank shall be at liberty to forfeit the Security deposit without making any further reference to us.
- That we shall adhere to all the safety norms as per stipulations made by the competent authority.

Yours faithfully,

Place:

(Signature of contractor)

Date:

**TECHNICAL SPECIFICATIONS FOR AUTOMATIC POWER FACTOR
CORRECTION (APFC) PANEL BOARD FOR LOW VOLTAGE DISTRIBUTION
NETWORKS**

1.0 GENERAL

- a) This specification covers the general requirement of Design, Manufacture, Supply and Installation and Commissioning of Automatic Power Factor Correction equipment intended to be used with low voltage distribution networks.
- b) Power Correction equipment shall be able to improve the power factors as per regulations and shall be suitably rated to improve the system power factor such that power factor shall be near 1 i.e. Unity, based on the actual load.
- c) **Panel shall be fabricated/ manufactured by CPRI approved/ authorized/ certified fabricator/ manufacturer only confirming to International standards (IS) & in accordance to the Rules and regulations of IEC. The contractor has to take prior approval from the Bank after the completion of design part. The contractor shall provide CPRI tested certification for the LT panel board without fail.**
- d) The power factor correction equipment shall normally be connected to the main LV Distribution Boards through dedicated feeders.
- e) This equipment's installed shall be stand alone with LV Distribution Board.
- f) Power Factor Correction Equipment's would improve the power factor as per the local utility regulation. This equipment's shall be routine tested (CPRI approved testing) at Panel manufacturer's before dispatch.

2.0 APPLICABLE STANDARDS

Unless specified otherwise the capacitor banks shall conform in design, material, construction and performance to the latest editions of the IEC standards, their corresponding British European /(BS EN) standards and in particular to the following publications :

- IEC 61921: Power capacitors – Low voltage power factor correction banks.
- IEC 60831-1 & 2: Shunt power capacitors of the self-healing type for A.C. systems having a rated voltage up to and including 1000 V.
- IEC 60076-6: Power transformers - Part 6: Reactors
- IEC 60085-1: Electrical insulation – Thermal evaluation and designation.
- IEC 60664: Insulation coordination for equipment within low-voltage systems.
- IEC 61439-1: Low-Voltage Switchgear and Control gear Assemblies Part 1: General Rule
- IEC 60947-1: Low-voltage Switchgear and Control gear - Part 1: General Rules
- IEC 60947-2: Low-voltage Switchgear and Control gear - Part 2: Circuit Breakers.
- IEC 60947-4-1: Low-voltage Switchgear and Control gear – Part 4-1: Contactors and Motor starters.
- IEC 62208: Empty enclosures for low-voltage switchgear and control gear assemblies – General requirements
- IEC 60529: Degree of protection provided enclosures (IP code)

IEC 62262: Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)

IEC 61000-6-4: Electromagnetic compatibility – Generic standards – Emission standard for industrial environments

IEC 61000-6-2: Generic standards – Immunity for industrial environments

IEC 61000-3: Assessment of emission limits for the connection of distorting installations to MV, HV and EHV power systems.

IEEE 519-2014: IEEE Recommended Practices and Requirements for Harmonic Control in Electric Power Systems.

In addition to the above listed standards, the Rules and Regulations for electrical installations issued by CEA regulation shall also be adhered to.

3.0 MARKING

The contractor shall arrange the following minimum information provided by the CPRI approved panel manufacturer/ fabricator in an instruction sheet and on a rating plate to be fixed on the assembly:

- 1) Manufacturer's name or trademark.
- 2) Serial number.
- 3) Date of manufacture
- 4) Rated reactive power, QN in kilovars (kVar).
- 5) Rated voltage, UN in volts (V).
- 6) Rated frequency, fN in hertz (Hz).
- 7) Minimum and maximum ambient temperatures in degrees Celsius (°C).
- 8) Degree of protection.
- 9) Short-circuit withstand strength, in amperes (A)
- 10) Number of stages
- 11) Step Size

4.0 CONSTRUCTION OF AUTOMATIC CAPACITOR BANK

- a) The enclosure housing the capacitor units shall be of minimum 1.5 mm thick electro galvanized sheet steel folded and welded construction, floor mounted, free standing or wall mounted type with a minimum degree of protection of IP54 complete with a hinged lockable door.
- b) The enclosure system for capacitor bank shall be of certified design as per IEC 62208.
- c) The enclosure system should have a minimum of IK 10 certification (external mechanical impacts) in accordance with IEC 62262.
- d) All enclosures or partitions including locking means and hinges for doors shall be of a mechanical strength sufficient to withstand the stresses to which they may be subjected in normal service, and during short-circuit conditions.
- e) The enclosure will be wired at manufacturer/fabricator and comprise mainly of the following:
 1. Power factor improvement 3 phase capacitors, arranged in a suitable number of stages.
 2. Detuned three phase iron cored series reactors for harmonic current suppression.

3. Microprocessor based power factor regulator for automatic power factor correction.
 4. 3 pole contactors for capacitor switching.
 5. MCCB for each capacitor stage unless stated otherwise.
 6. Main incomer isolating switch / MCCB.
- f) The automatic capacitor bank should be ready for field connection with all the components clearly labeled for identification.
- g) To ensure safety, reliability and accountability of component coordination, all the major capacitor bank components such as capacitor units, de-tuning reactors, PF controllers, Contactors called for in this specification should be preferably from a single source (manufacturer/ fabricator).
- h) The Power Correction Equipment shall be installed in cool ventilated locations away from other heat radiating elements.
- i) The Capacitor bank shall be designed for trouble free service under the arduous temperature conditions as defined in Regulations and typical of Indian Continental. The capacitor banks shall be operable on 50 Hz and shall meet or comply with IEC, IEC 61921 and IEC 61439-1.
- j) The Design and component selection shall consider continuous operation at a maximum system voltage of 415V and ensure reliable performance in consideration of room ambient temperature of 50 degree Centigrade.
- k) All Components shall can withstand the dynamic, thermal and dielectric stresses resulting from prospective short circuit currents without damage or injury to personnel. Due to the presence of harmonic currents and to manufacturing tolerances, components (MCCB/ isolator, busbar & power cables) shall be designed for 1.5 times nominal current.
- l) Ventilation fan and air inlet filter unit shall be provided for the capacitor banks to facilitate better heat dissipation. The ventilation fan shall be operated by two numbers of thermostat set at 35° and 55° Centigrade respectively.

Dimensional Details: Standard dimensions shall be ensured confirming to the IS and IEC standards mentioned above.

5.0 BUSBARS

- a) The bus bar section of power factor assemblies shall withstand, as a minimum, the fault current of the system at the point where it is intended to be connected. Usually, these assemblies are connected onto a section of the main installation where the fault current are quite high. Busbars shall be tin plated copper, rectangular and rigid construction.
- b) The phase busbar shall be arranged systematically and assembled using insulators.
- c) The busbars shall be protected with poly carbonate shrouds from all sides.
- d) The busbar assembly shall be fully shrouded (at least IP20) so that no live parts

are accessible. Phase identification (colour code) shall be done systematically.

- e) The rating of the main busbar assembly shall be to suit the incoming switching device rating. The main busbars of the capacitor banks are preferred and recommended to be in separate busbar chamber, wherever applicable.
- f) Tin plated copper busbar and earth busbar shall be located on both sides of the incomer Busbars shall be provided with a suitable termination facility for connecting the main neutral and earth cable. Extra termination shall be provided on the earth bar for the bonding purpose.

6.0 TECHNICAL REQUIREMENTS

6.1 CAPACITOR UNITS:Capacitor units shall be/of/have

1. Dry type
 2. Suitable for a network voltage of 415 volts and shall be rated at minimum 525V for 14% detuned banks.
 3. Suitable for continuous operation line current of 1.3 times the current which occurs at rated sinusoidal voltage and rated frequency excluding transients
 4. Temperature category of the capacitor units shall be -5/D. Casings shall be metallic. Completely leakage proof.
 5. Self-healing ability, where a damage of some part of the dielectric due to a microscopic flaw in the dielectric film, caused by over-voltage, can be self-healed quickly and returned to normal state.
 6. A 3-phase pressure switch disconnecter for protection against internal faults, over pressure, etc. should be available. The pressure switch disconnecter must isolate all the three phases simultaneously in the event of fault. To ensure full functionality of the pressure switch disconnecter, its elastic elements must not be hindered, i.e.
 - a. Connecting lines must be flexible leads.
 - b. There must be sufficient space for expansion above the connections
7. The built-in discharge resistors shall not be accessible (fitted at CPRI approved manufacturer/ fabricator) and tamper proof. The discharge resistors shall ensure reduction in capacitor voltage to less than 50 volts in 1 minute after switch off.
 8. The total losses including discharge resistors to be less than 0.5 Watt/KVAR. Capacitance tolerance shall be within +/- 5% of the rated value.
 9. The Capacitor unit shall be capable of withstanding the inrush current up to 200 times of its rated current.
 10. The rated output of the capacitor Unit has to be at the supply voltage of 415V and 50 Hz frequency. The capacitors used in conjunction with reactors shall be suitably de-rated to deliver the designed output at 415V.

6.2 DE-TUNING REACTORS:

1. Capacitors with detuned filtering technique shall be employed to correct power factor while avoiding the risk of resonance condition. This shall be performed by shifting the resonance frequency to lower values where no harmonic currents are present, by introducing a filter reactor in series with the capacitors, such that the capacitor / reactor combination is inductive at the dangerous frequencies but capacitive at fundamental frequency. The circuit should be tuned such that the series resonant frequency should be below the lowest harmonic order expected to be present in the electrical network.
2. The de-tuning reactors shall be connected in series with each capacitor stage and shall be of iron cored type.
3. The Detuned Reactor Should be equipped with Thermal Switch inside the Winding which should cut-off the respective contactor in case of Over-temperature.
4. The capacitors used in conjunction with reactors shall be suitably de-rated to deliver the designed output at 415V.
5. The reactor insulation shall be Class "F" or above. The maximum temperature of the reactor at maximum continuous RMS amperage shall be no higher than 145°C at a 50°C ambient. The capacitor and reactors shall be tuned for 135 Hz and 14% relative impedance (2.7 tuning order) for 3rd Harmonics present in the network.
6. Tolerance of reactors shall not exceed +/-3% of rated value.

6.3 POWER FACTOR CONTROLLERS:

The power factor controller shall/ be able to:

1. Microprocessor based and shall be able to sense the reactive current requirement of the network and shall switch ON / OFF the required stages of a capacitor bank.
2. Insensitive to wirings such as reversed CT connection, PT on a wrong phase etc.
3. Detect any stage size by automatic recognition and the switching sequences should be user defined. Detect the capacitor bank size if in case the present capacitor is replaced by a new capacitor of different rating is equipped with LCD display which shows at any time power factor, internal capacitor bank temperature and monitors the line frequency. Suitable for 1A or 5 A current input and operating in temperatures up to +50 degrees C.
4. The capacitor Bank and controller shall ensure that after the loss by fault of any one stage, it shall continue to operate automatically and shall follow rotational switching.
5. Recognize the connection of CT and Voltage and be able to automatically adjust itself to the phase angle difference. Regulator shall have capability to automatically search and set the C/K setting, it shall be also possible to program the C/K setting manually.
6. Have a minimum time delay of 120 seconds for

switching on a capacitor into circuit, from its last disconnection from the circuit.

7. The ingress protection of the regulator shall be minimum IP 40.
8. The regulator must be panel mounted, shall be easily programmable and shall conform to safety guidelines as per IEC 61010-1:2001
9. The regulator must be suitable for 1 A or 5 A current input and shall be sensitive to a minimum current input of 40mA. The threshold value for the operating temperature and system harmonics shall be programmable and the regulator shall be able to switch off the connected capacitor stages if the actual values exceed the thresholds.
10. Be equipped with RS 485 communication port.
11. Dual Cos Phi – The Controller should have programmable dual cos phi to differentiate the need in compensation (Cos Phi) when the operating condition changes. Like Peak Hour (2:30- 3:30PM when the target PF could be increased to 0.98) or Power factor correction needs with a utility supply changes when the input power is from an in house Generator.
12. The Power factor controller/regulator should allow the following readings.
 - a) Automatic initialization and stage rating detection
 - b) Any step sequence detection (User definable step sequence)
 - c) Measurement of capacitance per stage
 - d) Cap bank over load current ratio
 - e) THD Voltage
 - f) 4 Quadrant operation
 - g) Active , reactive and apparent power
 - h) Record of the Max temp internal of the capacitor bank since reset
 - i) System Voltage (V AC)
 - j) Frequency
 - k) Apparent Power (kVA)
 - l) Apparent current (A)
 - m) Temperature (°C)
 - n) Real time Cos phi
 - o) kVA_r value to target Cos phi
13. **The controller shall initiate alarms and warnings in the following events.**
 - a) Temperature limit is exceeded
 - b) Insufficient capacitor output
 - c) Overload current ratio limit is exceeded
 - d) Under voltage, Over voltage
 - e) THDU limit is exceeded

- f) Low power factor/ under compensation.
- g) Over compensation
- h) Over current
- i) Capacitor step defective

6.4 SHORT CIRCUIT AND OVER LOAD PROTECTION:

1. The capacitor bank shall be protected by a suitably rated MCCB/Isolator at the incomer. It shall have a rotary front operating door mounted handle and should be interlocked with the door to ensure that the capacitor bank is de-energized when door is open.
2. The MCCB/Isolator shall be a three pole and shall fully comply with the requirements of the IEC 60947-1 & 2. The MCCB shall be rated for a minimum insulation voltage of 660 V and designed for an ambient temperature of 50 degrees C.
3. The current rating shall be at least 1.5 times the full load current of the capacitor bank and shall have a better mechanical endurance. Each stage of the capacitor bank shall also have a suitably rated MCCB with an electronic over-current relay for overload protection. The electronic over-current relay shall be adjusted to trip if the RMS current of the stage exceeds the overload setting.
4. The combination of bus bars and stage breakers shall be designed for a short circuit withstand of 50kA/1sec minimum.

6.5 CONTACTORS (STAGE SWITCHING):

1. Depending on the requirements either electromagnetic contactors or electronically controlled (using durable and reliable electronic switch) contactor shall be used for switching PFC capacitors. For transient free switching, suitable and durable electrical/electronic switches viz. **capacity duty contactors** shall be employed.

6.5.1 ELECTROMAGNETIC CONTACTOR:

1. The contactors shall be of type three poles, specially designed for switching capacitors and shall be able to make against large transient current peaks at a high frequency of several kHz that can occur on capacitor switching.
2. The contactors shall isolate all the three supply phases to the capacitor on switch off. Contactors along with damping resistors (AC6b) shall be used where there is a possibility of high inrush peak current to reduce it.
3. The capacitor contactors shall be weld resistant up to a possible peak inrush current of $200 * IR$.
4. In case capacitor banks are supplied with Harmonic Blocking Reactors, contactors for capacitor switching shall be without damping resistors (AC3), because the peak current limitation is provided by Reactor impedance.

6.6 ENCLOSURE SYSTEM:

1. The enclosure system for capacitor bank shall be confirming to above mentioned IS and IEC and to be manufactured/ fabricated by the CPRI approved manufacturer/ fabricator.
2. The degree of protection of enclosures system shall be in accordance with IEC 60529.
3. The enclosure system should have a certification for steady-state sinusoidal vibration in accordance with standard IEC 60068-2-6.
4. Components such as capacitor units, series reactors, power factor controller, electro-magnetic / thyristor switched contactors, switch-disconnector, MCCBs etc. shall be housed in this enclosure. The capacitor bank shall be free-standing type and the doors must incorporate 3- point locking system.
5. The enclosure door shall be interlocked with the incomer MCCB / switch-disconnector. Doors shall not be provided on the sides / rear of the capacitor bank.

7.0 TESTING AND INSPECTION

7.1. ROUTINE TESTS:

1. All tests shall be carried out in the presence of engineer in charge, at such times as he may reasonably require.
2. All samples used for testing shall be to the contractor's expense and shall not affect the quantities to be supplied under this contract.
3. All instrument used for testing purposes, shall be calibrated by an approved/ competent authority.
4. The cost of all tests shall be included in the contract price and shall not be quoted separately.

a) Routine Tests on Capacitor Bank

Routine tests shall be carried out on every Low voltage power factor correction banks before delivery at site.

- A) Inspection of the assembly including inspection of wiring and, if necessary, an electrical operation test
- B) Dielectric test
- B) Checking of protective measures and of the electrical continuity of the protective circuit
- C) Verification of insulation resistance

b) Routine Tests on Capacitor Units

Routine tests shall be carried out on every capacitor unit before delivery at site. Capacitor Banks should accompany the test reports of the Capacitor Units used issued by the manufacturer/supplier.

- A) Capacitance measurement and output calculation
- B) Voltage test between terminals
- C) Voltage test between terminals and container
- D) Test of the internal discharge device
- E) Sealing test

7.2. SITE TESTS:

1. The contractor is responsible for submitting all contract works to site inspection by the Engineer/Architect, before site tests are commenced. Before commissioning, the contractor shall depute an experienced and qualified testing Engineer from the manufacturer's works to carry out the following tests on the equipment and such other tests that may be considered necessary by the Purchaser.
2. The Site Acceptance Test (SAT) format for the capacitor bank shall be forwarded to the purchaser prior to the SAT.
3. The contractor's test engineer shall complete all pre-commissioning tests, commission all plant and equipment supplied by him and hand over the entire contract works to the Purchaser in good shape. All the charges connected with the pre-commissioning tests of the equipment shall be included in the tender price.
4. The contractor's testing engineer shall carry out all commissioning tests in co-operation with and to the satisfaction of the Purchaser's engineer who will take part in all these tests.
5. The contractor shall arrange all test equipment required for different test purposes at site. The following test / inspections at site shall be carried out:

7.2.1. Mechanical Tests:

1. Visual inspection to verify degree of protection, creepage and clearance distances.
2. All conductors and cables are checked for proper routing and all devices for proper mounting.
3. Check effectiveness of all mechanical devices, e.g. handles, locks, interlocks, operating devices, etc. Check panel conformity to drawing and Engineer's requirements.
 - a) Checking of all mounting plates/fasteners.
 - b) Checking of dimensions and components as per drawings.
 - c) Electrical circuits fasteners tightness/ surface area contacts.
 - d) Crimping and ferrules as per drawing.
 - e) Labels / Identification/ Nameplate.
 - f) All doors checking, safety and accessibility.
 - g) APFC cabinet surface finish / smoothness.

7.3.2 Electrical Tests:

1. Insulation resistance test shall be carried out at all main circuits through to final terminals. Insulation resistance shall exceed 10 mega ohms. Record all measurements.
2. Function test of all circuit breakers switches, contacts, etc. and every circuit to verify correct operation.
 - a) Insulations resistance tests between phases and earth and between neutral and earth.
 - b) Operational test on components.
 - c) Switching ON / Off of capacitor bank on various kVAR requirement.
 - d) Checking of Display parameters.
 - e) Switching On / Off logic verification.
 - f) Data communication through Serial / optical port
 - g) Verification of data/reports/functions in base computer software.

7.3.3 Final Inspection

Prior to energizing the capacitor bank the following checks shall be carried out at site:

1. Operate the equipment through all design functions, including remote operation, actuation of alarm and indicating devices, mechanical and electrical tripping and closing and operation of the protective devices.
2. Insulation resistance measurements on the buses, phase to phase and phase to ground, with all breakers in the fully connected position and contacts open.
3. Control circuit insulation resistance to ground.
4. Inspect all relays and protective devices, and verify settings in accordance with the manufacturer's instructions. Inspect current transformers and relays for correct polarity of connections and the installation of jumpers on unused current transformer circuits.
5. Manually close and trip each breaker checking and adjusting the main contact alignment and wiring action in accordance with the manufacturer's instructions.
6. Test protective relay operation for incomer air circuit breakers.

With the capacitor bank in operation, measurement of the power factor and system harmonics shall be carried out after commissioning of equipment.

8.0 DRAWINGS AND INFORMATION

The contractor shall furnish the following drawings and documents placed inside the drawing pocket of the equipment supplied:

- A) Dimensioned drawing showing outline of the capacitor bank
- B) Single line diagram showing all the major electrical components.
- C) Protection and control schematics of the capacitor bank
- D) Details of cable terminations and fittings.

E) Technical Manual giving installation, operation and maintenance instructions

9.0 GROUNDING

g) All bank and enclosure shall be connected to a 40mm x 6mm earth copper bus bar.

10.0 HANDLING

1. The equipment shall be provided with lifting rings, or provided with provision for using a fork lift truck for handling.
2. For installation, a 250 mm space shall be provided from the front of the bank, in order to have an optimal position of the bank for good ventilation.

11.0 Warranty

The equipment will be guaranteed on our workmanship for a period of 12 months from the date of commissioning or 18 months from the date of dispatch whichever is earlier.

TECHNICAL SPECIFICATION FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 13 PASSENGER LIFT

Scope of work: Design, supply, installation, testing and commissioning of 13 passenger Machine Room Less Lift.

The contractor shall assume full responsibility for the details of equipment selection. Erection and commissioning of the lift. The installation shall comply with all the safety codes and Lift Rules & Regulations (If any).

a) Excluded from the Scope of Lift Installation Work (However, all LIFT related civil works excluded in this scope has to be carried out by the contractor which is already mentioned under Civil works category):

The following items of work are excluded from the scope of Lift Installation Work

- i) Clear finished hoist way
- ii) Overhead including floor slab and the lift pit
- iii) Architraves for Lift Entrance
- iv) Hoisting hooks/ISMB/ISMC in overhead ceiling, as per Lift Supplier's Specification.

b) Included within the Scope of Lift Installation Work

i) All works pertaining to the lift installation including supplying, fixing and painting of machine supporting beams, bearing plates, buffer support, channels, hoistway steel door frames at each landing, fascia plates, landing sills, metal counter weight guards, guides and brackets, pit ladder and other steel items and all foundations, pedestals required shall be within the scope of lift installation work. Scaffolding for lift erection and wooden posts for supporting the door and cutting of walls, floors ceilings, steel reinforcements or partitions together with any repairs made including those required for pit floor, grouting of all bolts, sills, steel members indicator and button boxes etc in position, and making good the damages including wiring and providing light points and socket outlet points in the hoistway and pit shall be within the scope of lift installation work.

ii) Electrical Power Supply with isolating switch and 2 Nos earth continuity connections to the Controller of Machine Emergency and Test Panel(s) when the controller is mounted in the lift well.

Note: The contractor has to consider all above costs while quoting the rate for installation of LIFT.

2. CODES AND STANDARDS

Design of elevator components, their installation and operation shall meet with

- i) IS-14665 (Part-2/Section-I) 2000 specifications for electric passengers and go elevators.
- ii) IS-14665 (Part-2/Section-I): 2000 code of practice for installation, operation maintenance of electric passenger and goods elevators.
- iii) IS-14665 (Part-1): 2000 outline dimensions of electric elevators.
- iv) IS-14665 (Part-3): 2000 for Safety Rules.
- v) IS-14665 (Part-4): 2000 for components of elevators
- vi) I.E. Rules, 1956, as amended upto 2005.

All codes and standards referred herein mean the latest and any work to alternative cc or practice shall be specifically stipulated by the Bidder citing the variations for acceptance by the Bank.

3. **POWER SUPPLY**

- a) Necessary electric power supply connection required till the completion of erection of the equipment will have to be arranged for by the contractor at his own. However, the Bank may assist the contractor in obtaining such connection. Temporary wiring carried out for this temporary supply will be in conform to the requirements of the local power supply agency. The necessary connection charges for temporary supply as well as consumption charges if provided/arranged by Bank will have to be borne by the Contractor.
- b) Permanent Electric Supply for the machines, lift car lights and fans and lights well shall be available from the main switches of lift control panel. Any wiring onward from these switches shall have to be carried out by the contractor at his cost. **2 Nos earthings required for the LIFT equipment shall be provided by the contractor at his own cost.**
- c) Adequate Nos of light points and power outlet points with necessary local switches shall be provided for the lift well and pit (over all portion) by the contractor including making necessary wirings and earthings.

4. **ABBREVIATION**

Wherever the following abbreviations occur they shall be interpreted to read as follows B.S.S.: British Standard Specification.

- a) ISS: Indian Standard Specification.
- b) I.E.E. Regulations: Regulation for the Electrical Equipments of Building issued by the Regulations Institution of Electrical Engineers, London.
- c) I.E. Rules: Indian Electricity Rules in force at the time of installation
- d) A.C: Alternating Current

- e) K.W: Kilowatts
- f) B.H.P: Brake Horse Power
- g) M.P.S.: Meter Per Second
- h) KG: Kilogram
- i) MRL: Machine Room Less

5. **AMBIENT TEMPERATURE AND HUMIDITY CONDITION**

The Lift with associated equipment shall be suitable for continuous use in an ambient temperature of 45^o centigrade and relative humidity of 100%, both not occurring simultaneously.

6. **CONTRACT DRAWINGS**

The successful bidder shall be required to submit the following drawings and other applicable drawings if any not mentioned here at appropriate stages for approval of the Architects/Bank:

- a) General arrangement drawing in plan and elevation.
- b) Plan, Cross sectional elevation and end view of the machinery wherever applicable including their weight, and various force, reactions acting on the floors, walls foundations.
- c) Drawing showing details of locations of fixtures for guides in the lift shaft.
- d) Foundation drawing of all plants including weight wherever applicable.
- e) Schematic Control Circuit Drawings.

On completion of the work, a complete set of 'As Built" drawings in triplicate shall be handed over to the Bank for record. Schematic wiring diagrams are also to be handed over to the Bank in triplicate at the time of handing over. Further, a copy of the detailed wiring diagram shall be framed and installed by the contractor in a location suggested by the Bank/Architect.

7. **TECHNICAL PARTICULARS**

The bidder shall furnish Technical particulars of the equipments offered in the proforma as attached so as to enable a critical technical analysis of their offer.

8. **COMPLETION TESTS**

A. **Load Test**

A contract load test by the LIFT OEM technical team under the presence of the

Bank's representative shall be carried out before the lift is put into commission. During the test the brakes, limit switches, buffers and car safety devices shall be caused to function with the contract load in the lift. The lift shall be tested for accuracy of levels at all loads in either direction and for smooth vibration less travel. The lift shall be accepted upon satisfactory completion of the contract load test and after the same is certified by Statutory Authority/Lift Inspector and Banks representative.

B. Other Completion Tests

1. Insulation resistance tests to earth of the entire electrical equipment and wiring installation are to be carried out by means of a constant pressure of 500 volts testing megger set and the test result shall not be less than 1 mega ohm.
2. Result of continuity test of the conduit installation and any other metal work earth shall not be more than one ohm.
3. The temperature of motors and associated control equipment shall be checked after a continuous run of at least one hour duration to ensure U temperature rises are within the limit.
4. Test for speed shall be carried out and the speed shall not vary more than 10% of the specified speed under any conditions of load during ascending r descending.

9. FEES & LICENSES

- a) The Contractor shall submit requisite application forms with necessary fees to the State Lift Inspector/Authority for permission to erect and for operation after getting the requisite forms (to be provided by him) duly filled in and signed by the Bank. The contractor will liaison with the lift inspector including payment of all incidental charges, and arrange the provisional approval, inspection and issue of the license by the Lift Inspector regular use of the lifts.
- b) The contractor shall bring all his tools and tackles, testing apparatus at the time inspection of Government Inspector/Statutory Authority and he will be solely responsible getting the lift installation approved/passed by the lift inspector/Authority.
- c) Statutory fees paid by the contractor will be reimbursed by the Bank on submission of authentic documents/receipts in the name of the Bank.

10. MAINTENANCE

The contractor shall undertake comprehensive maintenance of the equipments installed under this contract for a minimum period of 12 months from the date of virtual completion of the work in all respects and acceptance of the complete installation. The maintenance during the above period shall be free of cost to the Bank and shall cover weekly inspection of the equipment, carrying on necessary adjustment, oiling, and greasing and replacement of parts, if necessary and attending to the breakdown calls immediately.

Note: After one year manufacturer's warranty, CAMC shall be provided by the OEM of Lift.

11. GUARANTEE

The lift installation shall carry warranty for a period of 12 months, within the purview of Defect Liability Period, from the date of virtual completion of work and handing over, against defective materials and workmanship. During the warranty period the contractor shall rectify, repair or replace defective parts and components free of cost to the Bank.

12. TRAINING OF BANK'S PERSONNEL

The contractor shall arrange a training session with the Bank's personnel of AO, Berhampur post erection and commissioning regarding the operation of the lift and all safety related features and familiarize the Bank's personnel with the regular operation and routine maintenance of the machinery and equipments.

13. TECHNICAL DATA

Technical Data Sheet is attached as Annexure-B.

14. SPECIFICATIONS FOR THE LIFT

i) Machinery

Shall be Gear less (MRL design) type located directly above the lift well. This shall be complete with motor, electromagnetic brakes, shaft, sheaves, all mounted on a single bed plate. Motor shall be specially designed for lift service with high starting torque, low starting current and low noise level. The machine will be provided with dust resistant. Machine should be latest gearless design as per relevant IS.

ii) Suspension Ropes/Belt and Sheaves

a) Round steel wire rope (galvanized) or coated steel belts can be allowed for suspension of the car and counterweight.

b) Steel wire ropes shall conform to IS 14665 (Part 4/Sec 8).

c) Coated steel belts (CSB) used shall comply with IS 15785:2007, ratio of sheave diameter to steel chord will remain 40:1 and minimum factor of safety on CSB breaking strength will be 12.

d) Deflector and overhead sheaves shall be of 30 ton ferromolybdenum casting or steel, with grease lubricated bearing supported on structural steel beams. Sheaves shall be provided with grooves to maintain constant traction and positioned as to obtain proper loading of car and counter weight ropes.

e) If two to one roping is employed, to ensure safety a guard shall be provided on the top of the car as per IS: 1860-1968.

iii) Brakes

a) General Provisions

1. The lift shall be provided with a braking system which operates automatically: In the event of loss of the mains power supply; and In the event of the loss of the supply to control circuits.
2. The braking system shall have an electro-mechanical brake but may, in addition, have other braking means (for e.g: electric).

b) Electro-mechanical brake

1. This brake on its own shall be capable of stopping the machine when the car is travelling downward at rated speed and with the rated load plus 25 percent. In these conditions the retardation of the car shall not exceed that resulting from 'the operation of the safety gear or stopping on the buffer. The electro- mechanical device will also prevent the elevator from moving when the car is at rest and no power is applied to the hoist machine.
2. All the mechanical components of the brake which take part in the application of the braking action on the drum or disc shall be installed in two sets. If one of the components fail to apply a sufficient braking effort to slow down the car, travelling downwards at rated speed and with rated load, the other component shall continue to work.
3. Any solenoid plunger is considered to be a mechanical part, whereas solenoid coil is not a mechanical part.
4. The component on which the brake operates shall be coupled to the traction sheave or drum by direct and positive mechanical means.
5. A continuous flow of current is required to hold off the brake when the lift is in normal use.
6. The interruption of this current shall be effected by atleast two independent electrical devices, whether or not integral with those, which cause interruption of the current feeding the lift machine. If, whilst the lift is stationary, one of the contactors has not opened the main contacts, further movement of the car shall be prevented at least at the next change in the direction of motion.
7. Braking shall become effective without supplementary delay after opening of the brake release circuit.
8. Any machine fitted with a manual emergency operating device shall be capable chaving the brake released by hand and require a constant effort to keep the brake open.
9. Band brakes shall not be used. Brake linings shall be incombustible.

iv) Overload Protection of Lift

In case of overloading the lift, an alarm bell fitted in the car will sound to alert the passengers that the lift has been overloaded & the door will stay open and overload sensor will prevent the lift from moving until the excess load is removed.

v) Automatic Rescue Device

This will enable to move the lift car to the nearest lower landing in case of lift stoppage in between landings due to power failure. The electronic controller along

with necessary dry maintenance free batteries with battery charger shall be installed at a suitable location on the top landing floor which will continuously monitor the normal power supply into the main lift controller and activate the rescue operation within a few seconds of a power failure. It will bring the lift car to the nearest lower floor and open the doors automatically. Thereafter, the lift car shall remain parked there until normal power supply resumes.

vi) Guides & Fastening

1. Heavy duty steel tee guides as per IS 4666-1968 shall be provided for car and counter weight, the guide surface being machined and polished. These shall be continuous through the entire length of lift well and shall withstand without any deformation with a fully loaded car. The ends of the guides shall be tongued and grooved to provide smooth joints and connected with steel joint plates. The guide rails shall be securely fastened to Brackets or supported by approved heavy rail clamps. Guide brackets or supports shall be bolted or welded to the steel inserts provided in the hoistway.

2. Guide rail lubricators shall be provided in the car. The lubricators shall be able to evenly distribute the oil over the guide rails at adjustable feed rates.

vii) Lift Car

a) Size

To be quoted by the tenderer, according to the specified capacity and to be accommodated in the available lift well (approximate size has been mentioned in lift detail).

b) Car Frames

The car frame shall be made of structural steel of rigid construction to withstand without permanent deformation. Car shall be so mounted on the frame that minimum vibration and noise are transmitted to the passengers inside.

c) Car Platform

The car platform shall be of framed construction and shall be mounted on rubber isolating pads supported on the car frame. The flooring of the car shall be provided with 20 mm thick Granite of scratch resistance finish as approved by the Bank.

d) Car Body

The lift car enclosure shall have side, rear, front and ceiling of stainless steel. The enclosure including the door shall withstand deformation against a thrust of 35 kg applied normally at any point as per IS 4666- 1968. Ventilation opening shall also be as per above IS.

e) Car Roof

The roof shall be constructed to withstand the weight of 2 men. Access trap of ample dimension shall be provided in the roof of the car to provide for emergency exit.

f) Car Fixtures

Besides car operation pane' and signals as specified elsewhere the following shall be provided:

1. Suitable sweep ceiling fan, recess mounted in ceiling, with grills.
2. Indirect LED lighting.
3. Battery operated automatic emergency light with rechargeable Dry maintenance free battery (2 hours back-up) and battery charger.
4. One handset unit for intercom.
5. Stainless steel handrail on three sides.
6. Car Operation Panel Control Panel
7. The control panel should be installed near the hoisting equipment;
8. The control panel should be accessible from the landing for maintenance purposes;
9. Adequate safety measures should be provided to control unauthorized access;
10. Adequate illumination should be provided for the control panel for easy maintenance. Illumination should be available even when there is no power supply. Minimum of 50 Lux illuminations should be provided for the control panel;

Flush type car operation panel having the following fixtures, shall be provided the car as specified elsewhere as per IS 14665 (part 4JSec 9).

- i) Car Call Button corresponding to Landing Call.
- ii) Auto/Attendant Key Switch.
- iii) Fan Switch
- iv) Alarm Bell Switch for battery operated alarm bell situated in Ground Floor.
- v) Door open and close button.
- vi) Non-Stop Button.
- vii) Up and down button
- viii) Emergency stop button.
- ix) Independent switch for independent control of car
- x) Working areas in the Car or on the Car Roof
- xi) If maintenance/ inspection work on the machinery is to be carried out from inside the car or from the car roof, the following applies:
 - xii) Any kind of uncontrolled and unexpected car movement resulting from maintenance/inspection that can be dangerous to persons carrying out maintenance/ inspection work shall be prevented by a mechanical device and electrical device.
 - xiii) When the car is blocked against all movement it shall be possible to leave the working area easily and safely.
- xiv) Any necessary devices for emergency operation and for dynamic tests (such as brake tests, traction tests, safety gear tests, buffer tests or tests of ascending car over speed protection means) shall be arranged so that those can be operated from outside of the well.
- xv) Car and Hoistway Entrance, Door Operation and Interlocks The car and hoistway entrances should be centre opening & provided with centre opening automatic power operated stainless steel doors. Lift door entrance as specified in the technical specification to be provided with electronic door detectors, high speed

door operator, sheave type two points hangers and tracks. Suitable posts for supporting the doors for entrance are to be provided by contractor. Clear opening as offered by the contractor is to be quoted. Door operation shall be positive acting and powered by AC motor rigidly connected to door. Operation shall simultaneously open the car and hoistway door and maintain the door fully opened or closed at each floor stop. Door operator shall be suitable for attendant/automatic operation and shall be provided with hydraulic cushion for smooth stop.

xvi) Full height infrared door safety is to be provided on each side. When the car door is V in its open position, the door safety ray will retreat thus assuring a substantially clear opening. Should these rays sense a person or object while the door is closing, the car and hoistway doors will return to the open position. Reversal of the doors may also be accomplished by pressing the door 'open" button in the car operating panel.

The following **interlocks** for the door shall be provided -

- a) Car shall not move until the hoist way door is mechanically locked in the closed position.
- b) Hoistway door cannot be opened from the landing side unless the car is on that particular floor.
- c) Car shall not move while the car door is open.

vii) **Signal etc.**

- a) Digital car position indicator in car enclosure having stainless steel face and having easy to read digital position indicator and illuminated up and down arrows.
- b) Hall Button with tell-tale lights at each landing with stainless steel face.
- c) Digital Car Position Indicator in all floors having stainless steel face and easy to read digital position indicator.

viii) **Fireman's Switch**

Fireman's switch with glass to break for access shall be provided in lift lobby at ground floor as per requirement for firefighting.

ix) **Levelling**

The lift shall be incorporated with suitable floor levelling devices. Levelling accuracy ± 8.0 mm shall be achieved.

x) **Counter Weight**

Counter weight shall consist of cast iron weights housed in a rigid structural Steel frame work. Counter weight shall be equal to the weight of the car and 40% of the contract load or any other percent to promote smooth and economical operation.

xi) **Lift Pit**

1. A metal counter weight guard to the required height shall be provided at the bottom of the hoistway in the lift pit.

2. In lift pit a ladder, and a light point with switch and a 5A switch socket outlet shall be provided for each lift.

xii) **Spring Buffers**

1. These shall have a long stroke and be so designed that they will stop the car and counter weight from governor tripping speed at an average rate of retardation not exceeding gravity.

2. Blocking and supports if found necessary for the buffers shall be supplied within the scope of lift installation work.

xiii) Governor & Safety Devices

1. A mechanical safety device for stopping the lift in the event of slackening or fracture of any rope or failure of electricity and protecting the car from falling or exceeding admissible speed as per relevant Clause of B.S. 2655 and I.S. 4666-1968 actuated by a speed governor shall be mounted under the car platform and securely bolted to the frame. The governor shall be installed with the hoist machine and driven by governor rope suitably connected to the car and mounted on its own pulleys. The governor rope shall not be less than 8 mm in dia and shall be of steel in accordance with IS 4666-1968 and IS 2365-1963. The operation of Governor at over speed shall open a switch disconnecting the power from the lift and shall trip the safety mechanism which shall instantaneously engage the guide with sufficient force to stop the car from governor tripping speed, with full load in the car and bring the car to a smooth stop with an average rate of retardation within the limits in the code of practice for various loads. The governor shall be accurately adjusted to operate at tripping speed specified in the code of practice and sealed. The Governor jaws shall grip the rope in minimum time after the governor reaches tripping speed. The governor rope gripping devices shall be so designed that no appreciable damage or deformation to the rope results from the stopping action of the device. The pressure of the two jaws on the guide shall be equalized.

2. Governor tripping speed shall be within 100% to 125% of rated speed. Safety gears of the following types shall be used (a) Gradual Wedge Clamp type (b) Flexible guide Clamp type. The maximum stopping distances of lift cars with the contract load in the lift car and the minimum stopping distance with the attendant only in the lift car shall be as follows Maximum Minimum:

- a) Gradual Wedge Clamp type 2.13 mtrs 0.46 mtrs
- b) Flexible Guide Clamp type 0.53 mtrs 0.15 mtrs

xiv) Ventilation

The machinery spaces shall be suitably ventilated. The electric equipment of the machinery shall be protected as far as it is reasonably practicable from dirt, harmful fumes and humidity.

xv) Reverse Phase Relay

Shall be provided on the controller to protect the lift equipment against phase reversal, low voltage and phase failure.

xvi) Terminal Limit Switches and Ultimate Terminal Switches

1. Terminal switches shall stop the car automatically at terminal floors within the top and bottom permissible over travel. They shall act independently of the operating devices, the ultimate limit switches and the buffers. They shall be in accordance with clause 23 of ISI 4666-1968.

2. Ultimate terminal switches shall be provided in accordance with the statutory requirements and standing practices. When provided, these shall arrange to stop the car automatically within top and bottom clearances independently of the normal terminal switches but with the buffers operative, by disconnecting the motor from the supply and bring the brakes into operation in case of over run.

3. In the event of these switches operating due to over-travel it shall be possible to operate lift only after manually resetting the back-up limit switches, for the purpose, which shall be installed in an accessible location for easy manual resetting.

xvii) Controller

1. Microprocessor based controller for the machine shall be designed to give the required operation as specified and shall be securely mounted on substantial self-supporting steel frame designed for floor mounting.

2. To prevent access of Lizards, vermin's etc. the controller shall be enclosed and hinged vermin proof door shall be provided.

3. The switches handling power circuit shall be equipped with suitable contacts. The acceleration and speed control of lift shall be controlled by adjustable time relays.

4. All wiring shall be neatly, numbered, grouped and cleated. All leads except for control indicator circuits shall be provided with soldered lugs or suitable clamps and washers. Control & Indicator wires shall be brought to accessible clamps and washers or soldered terminals or studs. The wiring on the back of the panel shall be of the flame resisting type.

5. The controller shall automatically limit the current to that required for the specified requirements and shall prevent the electrical equipments from overload or excess current.

6. The controller shall be arranged to cut off the power, apply the brake and bring the car to rest upon failure of power or operation of any electrical safety device. Tropical insulation shall be provided throughout.

7. The controller shall be programmed to ensure smooth acceleration and deceleration, start and stop, floor leveling and re-leveling etc.

xviii) Auxiliary Switches

For use of maintenance personnel, the following switches shall be provided on top of lift car

a) Emergency stop switch.

b) **Maintenance switch** - The controlling circuitry shall be so arranged that in the event of the operation of this switch the car speed shall be less than the rated speed and car movement shall be possible only on application of continuous pressure on a button. It shall be positioned to prevent inadvertent operation.

xix) Travelling Cables

All multi core travelling cables employed for the car shall satisfy the requirements of IS 4287-1967. Trailing cables for lighting, fan and signal circuits (viz. intercom) shall be separate. Length shall be adequate to prevent any strain due to movement of the car.

xx) Lighting for Hoist way/Lift Well

Suitable light points shall be provided in the lift. well. One socket outlet shall be provided in the liftwell for use of maintenance personnel at a level slightly above the ground floor landing. All the points shall be group controlled. Wiring shall be carried out in surface conduit, by the contractor.

xxi) Wiring

1. Except for the travelling cables, all wiring shall be carried out with FRLS PVC copper wires, drawn into PCV/M.S. conduit. PVC wires shall be 650/1100 volts grade. Conduit shall be heavy gauge welded and shall comply with IS Specification. 16 SWG conduits shall be run on the surface and all accessories used shall be of the inspection type with screwed ends. Travelling cables shall be Tough Rubber sheathed and shall comply with IS specification. They shall originate in the half way boxes in the lift well and shall terminate at the car distribution box. They shall be so hung that the correct size of loop is obtained.

2. All the above wiring shall be carried out by the contractor.

xxii) Earthing

1. 2 Nos G.I. earthings required for the LIFT equipment shall be provided by the contractor at his own cost confirming to IS 3043 and IEC 62561-7.

2. The contractor has to provide two separate and distinct earth wires, each not less than half of the largest current carrying conductor subject to a minimum no. 8 SWG hard drawn bare copper wire. The earth wire shall be bolted to the earth bus, through sockets. All contact faces and sockets shall be tinned.

3. Earth resistance shall be confirming to the above said IS and IEC standard.

xxiii) Operation

Automatic Simplex full collective operation with/without attendant control with self-leveling device.

xxiv) VVVF speed control

1. Variable Voltage Variable Frequency Speed Control Equipment with two way self levelling devices

2. Variable Voltage Motor with variable voltage variable frequency drive, Microprocessor based closed loop control with micro levelling.

i) The Lift shall include one static convertor (Silicon Controlled Rectifier) controlling set of compact design. The unit will be of self supported and self ventilated type and the rotating element will have a single continuous steel shaft. The Static Convertor (Silicon controlled rectifier) unit will be of high efficiency and low power consumption and will have sufficient capacity to handle the drive mechanism without overheating the peak load elevator service.

ii) The Static convertor unit (Silicon Controlled Rectifier) will be designed to suit for

nominal power supply of 415V, 3 Ph, 50 Hz supply with variations as per IE Rules with microprocessor control to give smooth and trouble free operation of the lifts with closed loop control system.

iii) Protective device with HRC fuses and over load relays are to be supplied to protect the driving motor and the static converter against overloads, short circuit, Proper Phase Sequence (RYB), phase failure etc. Necessary HRC control fuses shall be provided for control circuit protection. The elevator motor and the static converter (Silicon Controlled Rectifier) unit shall be protected against overload and short circuit.

iv) The static converter and the controller shall be provided with suitable voltage regulator to take care of the voltage fluctuations occurring in the system from 360 to 450V, AC.

15. ERECTION AND COMMISSIONING

1. Erection of equipment shall be carried out in a workmanlike manner without causing any hindrance to the work of the other contractors.

2. All rotating equipment shall be mounted on suitable rubber/spring isolation mounts to minimize transmission of noise and vibrations.

3. Entire installation shall conform to the requirements of the Lift Inspector/Statutory Authority and it is the sole responsibility of contractor to obtain approval for the layout and equipment, General Arrangement drawing and necessary license for erection and operation of lifts.

16. LIST OF APPROVED MAKES/ BRANDS:

Kone/ Otis/ Johnson/ Mitsubishi/ Schindler/ ThyssenKrupp

Annexure-B**TECHNICAL PARAMETERS FOR TENDER FOR DESIGN, SUPPLY, INSTALLATION & COMMISSIONING OF 13 PASSENGER LIFT**

Technical Parameters for Lifts

S. No	Item	Requirements as per Tender
A)	General Specifications:	
a)	General:-	Passenger Lift (P1)
1.1	Type	Passenger - P1
1.2	Number of Lifts	01 No.
1.3	Capacity	884kgs (13 passengers)
1.4	Speed	1.0 mps
1.5	Machine Type	PMSM Gearless MRL
1.6	Number of Landings	2 on same side: 2 stops & 2 openings
1.7	Hoistway Size available	2300 mm (D) x 1800 mm (W)
1.8	Travel	8 mts (viz. Up to 1st floor)
1.8.1	Overhead in mm	4656
1.8.2	Pit Depth in mm	1200
		(Hoist way size, Travel distance, overhead& pit depth shall be measured by the bidders actual as per site and shall be confirmed)
1.10	Machine Room location	Located in shaft on top of guide rails
1.11	Control	CLOSED LOOP AC VVVF
1.12	Operation	Simplex Full collective
1.13	Car Enclosure	All Car panels in Stainless Steel Scratch Resistant Finish of Moon rock/ Linanen
1.14	Car Ceiling	Stainless Steel False ceiling with pressure blowers and LED Lights /down lighters 50watt illuminations.
1.15	Car Floor	Granite flooring of minimum 18 mm thick inside car of approved design a quality to be provided.
1.16	Car and Landing Doors (WxH)	Landing doors/Car Panel at all floors in Stainless Steel of Honey comb/Moon rock/linanen. Automatic Center opening power operated with 800mm (Wide) x 2000mm (internal Height).
1.17	*Car Size (WxDxH)	1100mm (Wide) x 2000 mm (Deep) x 2200 (High) Minimum Clear Car height below false ceiling to be 2200 mm.
1.18	Sill	Aluminium
1.19	Car Operating Panel	Stainless Steel Hairline finish Car Operating Panel inside car with floor destination buttons along with door open / close, emergency alarm, press and speak type intercom & attendant switch to be provided along with 16 segment LED / Dot Matrix Dynamic Car Direction display & Digital position indicators.

- 1.20 Car Interior Load Additional car interior weight not required beyond flooring weight
- B) PARAMETERS OF THE LIFT
Machine
- 1.1 Power Supply 415V/220V, 50 Hz
- 1.2 Acceptable Voltage +10 to -10%
Fluctuation
- 1.3 Rate of 0.6-1.5
Acceleration/Deceleration M/s²
- 1.4 Stopping Accuracy ± 3 mm to ± 5 mm
Leveling Accuracy ± 3 mm to ± 5 mm
- 1.5 Door Drive Direct drive doors with PM motor and closed loop VVVF door control
- 1.6 Car panel & Door panel At least 1.5 mm thickness
FIXTURES / SIGNALS INSIDE CAR
Stainless steel Car operating panel with following buttons and indications.
- 1.10 Door open/ Door Close Door open and Door Close buttons with Symbol markings.
- 1.11 ARD operation Audio / Visual indication in car To be provided
- 1.12 Emergency Alarm Button Emergency Alarm button with Bell symbol & the same should be at a distinct distance from the call buttons. Emergency Alarm button to be located along with Door open and Close Buttons at a height of 900±10 mm from floor level. Yellow pictogram to be provided. Alarm sound shall be siren type audible from at least 50 meters from the ground floor landing
- 1.13 Auto Light/Fan Cutoff Ventilation fan ON/OFF switch with auto switch off feature after 120 seconds Lift at idle condition.
- 1.14 Attendant Operation Two position Key operated Attendant switch for With/without attendant operation.
- 1.15 Push buttons LED Illuminated tactile braille buttons of micro motion type corresponding to the floors served. The push buttons to be of robust SS Vandal Resistant type
- 1.16 Intercom & provision for EPABX Two way Built in Press and speak type with 1 Master and 1 slave units in Security room. Additionally wiring provision for connecting Building EPABX to car.
- 1.17 Car Display 16 segment LED/Dot Matrix Car Direction display & Digital position indicators located at a conspicuous height above Car door.
- 1.18 Emergency Light Bidder to provide inputs on Car displays as quoted
Emergency light with rechargeable Sealed Maintenance free battery with Backup
- 1.19 Emergency Alarm Alarm with Rechargeable Sealed Maintenance Free batteries.
- 1.20 Over load warning Audio/Visual Overload warning indicator to be provided.
- 1.21 Voice Announcement Floor Position Voice Announcement.

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|---|---|---|
| 1.22 | Home landing Landing Indicators | To be provided |
| 1.22 | Hall Buttons | Hairline Stainless steel faceplate with LED glow micro stroke push tactile Braille buttons.

To be located at a conspicuous height as per existing cutouts and layout – No modifications in cutout is desired and existing cutout has to be fully covered with new fixtures and faceplates |
| 1.23 | No. of Risers per Lift | Two landing button with position indicator in all floor excluding Ground and Top floor, where single button will come. |
| 1.24 | Car Chime
Provision of Handicap Friendly features | Chime on car |
| 1.26 | Hand Rails | SS hand rail on rare side only |
| 1.27 | Braille Marking Buttons on Car operating panel and landing push buttons | As mentioned above |
| 1.29 | Voice Announcement | As mentioned above |
| 1.30 | Infra-red door protection device | Multi beam infrared protection device so as to reverse the closing door in case of slight obstruction in the door way. |
| 1.31 | Car operating panel & Landing signalization | Operating push buttons should be with BRAILLE. |
| SAFETY FEATURES & OTHER INCLUSIONS | | |
| 1.31 | Fire Man Switch | Fire man's switch shall be for the lift at Ground floor level. The Lift to have fireman mode. |
| 1.32 | Door Protection | Multi beam infrared protection device so as to reverse the closing door in case of slight obstruction in the doorway. |
| 1.33 | Phase Reversal | Automatic Phase reversal device |
| 1.34 | Over Load Device | Overload non-start and overload protection device. |
| 1.35 | Buffers | Spring buffers |
| 1.36 | Safety Governor | Electro-Mechanical type Safety governors for Car. |
| 1.37 | Safety Instructions | Do's & Don'ts with emergency contact Numbers engraved on a SS Face plate displayed in the car |
| 1.38 | Over travel protection | Terminal and final limit switches to be provided. |
| 1.39 | Controller / Drive / Motor Protection | Trip Device for Over current, Under Voltage and Over voltage than the rated capacity. + 10% <ul style="list-style-type: none"> · Motor overload / over torque · Instantaneous over current · Ground fault · Under voltage · Over voltage – 3 phase |

		<ul style="list-style-type: none"> · Output & Input phase loss · Phase reversal · Output short circuit · Over speed · Spikes & Surges (optional)
1.40	ARD (Automatic Rescue Device)	ARD to be provided.
1.41	Fire Rating of doors	Landing doors to have 2 hour fire resistance rating. Certificates to be provided from the OEM.
1.42	Intercom connection	Car and security cabin at the gate
1.43	CCTV, Fire Detector, Music, PA - Cable Provision.	Provision of suitable cables along the travelling cable for CCTV, Fire detector to be provided. PER CLIENTS NEED
1.44	One car blower	To be provided
1.45	Fascia Plates & Sill angles	Full height Fascia Plates and Sill angles to be provided. Apron of min. height 750 mm to be provided at car side.
1.46	Pit Ladder	MS Pit ladder to be provided and securely fastened inside the pit.
1.47	No Correction Run	System memory should be retained in the event of power failure or disturbance. Lifts should not go in to correction mode or correction run to the lowest floor / highest floor to update its position & memory.
1.48	Safe Landing Feature	If a car has stopped between floors due to some equipment malfunction, the controller checks the cause, and if it is considered safe to move the car, the car will move to the nearest floor at low speed and the doors will open.
1.49	Ascending Car Overspeed Protection Device	To be provided
1.50	Unintended Car Movement Protection Device	To be provided
1.51	Safety	Counterweight derailment device or displacement switches to be provided.
1.52	Counter Weights	Metallic /Concrete filler weights to be provided.
1.53	Major Components Service Life	<ul style="list-style-type: none"> · Ropes / Belts :- 8 years · Over speed governor:- 20 years · Traction machine / motor:- 20 years · Door operator:- 20 years · Safety gear / block :- 20 years · Travelling cables:- 20 years · Inverter Drive:- 20 years · Buffer:- 20 years · Controller & circuits:- 20 years
1.54	Feature List	Standard included & options – to be provided

1.55 Car top / Machine To be provided
room/pit –
rotating / moving
equipment full
guarding ;
rope guards ; car
top rails provision

1.56 Electrical Safety To be Provided
Switch in case of
removable Hand
Winding Device

C) Free Comprehensive Maintenance
One Year Free Comprehensive Maintenance post successful Installation and
commissioning of Lift in satisfactory operating condition.

* Car dimensions may vary (from OEM to OEM), however, LIFT car should
accommodate 13 passengers weighing maximum up to 884kgs load.