



STATE BANK OF TRAVANCORE
(Associate of State Bank of India)
REGIONAL OFFICE :: MUMBAI

No. : DGM / MUM/ ENGG

Date:

Dear Sir,

TENDER INVITATION LETTER

SUB: SHORT TENDER NOTICE FOR ELECTRICAL POWER LIGHTING, DATA CABLING, TELEPHONE WIRING AND ALLIED WORKS AT KHARGHAR BRANCH

Tenders are invited for the captioned work as per bill of quantities, instructions to tenders and drawings enclosed from SBI empanelled contractors who are executing the similar works with public sector Banks. You are invited to quote for the work subject to the conditions stipulated in the enclosures.

Kindly study the enclosures **carefully** before submitting quotations. **All enclosures including this covering letter should be signed and returned by the tenderer.**

Tenders should be submitted to the Deputy General Manager, State Bank of Travancore, Regional Office, 4th Floor, LIC Jeevan Seva Annexe, S V Road, Santacruz West, Mumbai – 400054, in sealed covers superscribed with "Tender for (Name of work) before **07/07/10** by **3.00 PM**. The tenders so received **will be opened on 07/07/10 at 3.30 PM**. The name and address of the tenderer also be written on the cover.

The right to accept or reject any tender / all tenders is reserved by the undersigned.

Enclosures:-

1. Instructions / Specifications
2. Drawings.

**DEPUTY GENERAL MANAGER
REGIONAL OFFICE, MUMBAI**

Signature of Contractor



STATE BANK OF TRAVANCORE
(Associate of the State Bank of India)
REGIONAL OFFICE : : MUMBAI

SUBJECT: ELECTRICAL POWER LIGHTING, DATA CABLING, TELEPHONE WIRING AND ALLIED WORKS AT KHARGHAR BRANCH

TENDER CONDITIONS:

1. Sealed Tenders in duplicate for the above mentioned work should be submitted on or before **07/07/10** at **3.00 PM** superscribing the envelopes "**ELECTRICAL WIRING, U.P.S WIRING, DATA CABLING AND EARTHING WORKS AT KHARGHAR BRANCH**" and addressed to:

The Deputy General Manager
State Bank of Travancore
Regional Office,
4th Floor, LIC Jeevan Seva Annexe,
S V Road, Santacruz (W),
Mumbai – 54

The Tenders will be opened on **07/07/10** at **3.30 PM** in the office of the Deputy General Manager, Regional Office, Mumbai – 54, by the Deputy General Manager or his authorized representative in the presence of the Tenderer or their authorized representatives.

2. Intending Tenderer shall pay as Earnest Money a sum of **Rs. 7,400/-** (Rupees Seven Thousand Four Hundred Only) by a Demand Bank Draft drawn in favour of "**State Bank Of Travancore**" payable at Mumbai. A Tender, which is not accompanied by such, a Demand Draft will not be considered. The Earnest Money will be returned to the unsuccessful Tenderers without any interest after finalization of contract with the successful Tenderer. EMD in any other form (such as fixed deposit receipts or Bank Guarantee or Cheque) will not be accepted and such of those Tender, which do not comply with this clause, will be rejected.
3. EMD shall be forfeited if a Tenderer withdraws his Tender during the period of validity of his Tender. In case of successful Tenderer if he fails to accept the offer within 2 days from the date of award if he refuses / delays to sign and execute the contract, the EMD shall be forfeited.
4. In event of acceptance of tender, the successful Tenderer is required to deposit 2.0 % of the contract amount as Initial Security Deposit (less EMD already paid) within seven days from the date of receipt of intimation of acceptance of tender.

Signature of Contractor

The ISD will form part of the Security Deposit and shall be released after the completion of work satisfactorily and after finalisation of the final bill. Retention Amount @ 10% of the work amount shall be deducted from every interim payment and the final bill payment, which will be released after the satisfactory completion of **'Defect Liability Period'** specified. Any defects notified by the Bank during this period shall be rectified / replaced by the Contractor at no extra cost to the Bank. No interest shall be paid for the above deposits [ie; ISD and Retention Amount] during the defect liability period or during any extended period in which the deposits are with the Bank.

5. The Tenderer who's Tender is accepted shall commence the work within -TWO- days from the date of award of work order.
6. The Tenderer shall pursue carefully the Bill of Quantities and related drawings, before pricing the Bill of Quantities. The Tender drawings should be returned with the Tender duly signed on all prints in token of acceptance of the conditions.
7. The Bank/Architect reserves the right of altering and / or amending the drawings and scope of work by additions or alterations or omissions or without assigning any reason therefore
8. The quoted rate shall remain valid till the completion of work and no claim for escalation will be entertained under any circumstance
9. The entire work should be completed within 15 Days commencing from the day of the date of letter of intent or from the date of handing over of the site, whichever is later.
10. The quantities set out in the Bill of Quantities are approximate and indicative only and may vary. All the items covered in the Bill of Quantities will be paid for actual measurements taken during the work and at the time of final completion of work
11. All the items shall be measured net as finished and the rates quoted by the Contractor shall include for all cuttings, wastage, breakage's etc. Tenderers must include in their rates, sales tax, Excise duty, Octroi, and other taxes & duty levied by the Central Government or local authority and sales tax on works contract if applicable
12. Terms of Payment
 - (a) The minimum value of work for interim / R.A. bill will be Rs.1, 00,000/- (Rupees One Lakh Only)
 - (b) 10% of the value of the work done will be withheld as Retention Money from each running account bill until the retention money and security deposit amounts to 10% of the contract value as a further security for the due fulfillment of contract. The Retention money along with security deposit shall be released after the defect liability

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period of 1 year from the date of virtual completion or 2 months from the date of rectification of defects lastly carried out, whichever is later. Security deposit / Retention money shall not bear any interest.

(c) 75% of the cost of imperishable materials brought to site inclusive of interim payment or 60% of value of the respective item of work quoted whichever is less will be considered for advance against materials along with the R.A. Bill after physical verification at site by the Bank Engineer, subject to the submission of invoice for the material and submission of undertaking as per Bank's Proforma. This amount will be recovered in full from the next R.A. Bill.

13. The contractor shall take adequate cover under workmen's compensation act and also take insurance cover against third party injury, fire, riot, civil commotion etc. within the rates and value, should also take insurance for the whole of work under CAR policy.
14. Water and Power required for execution of work will be provided free of cost at one point only and no items that are to be manufactured / fabricated from outside should be made at site. Conveying of water and power to actual site will be contractor's responsibility.
15. Only the service staircase shall be used for movement of materials and labour. Contractor shall take steps to clean of any debris / dust caused by aforesaid movement. Contractor shall also ensure that the place of work is kept clean after day's work by removing debris out of the site as well as out of the premises. At no point, main staircase use / main lift will be permitted for use of the contractor for their own services.
16. The price of all extra / substitute items will be worked out on the basis of rates quoted for similar items in the contract wherever existing or an engineering rate analysis based on prevalent fair price of labour, material and other components as required with addition of 15% (Fifteen percent) towards contractor's profit and overheads
17. The rate 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 the cost of materials, labour, Sales tax, Octroi, etc. including sales tax on works contract and no extra will be paid
18. The Tender for works shall remain open for acceptance for a period of 90 days from the date of opening of Tender. If any Tenderer withdraws his Tender before the said period, then the Bank shall be at liberty to forfeit Earnest Money Deposited along with the Tender
19. The bank reserves the right to accept or reject lowest any or all Tenders without assigning any reason thereof.

Signature of Contractor

20. The contractor shall not without the written consent of the Bank assign the contract or sublet any portion of work
21. If the contractor fails to complete the work within the specified time, liquidated damages at the rate of Rs. 1000/ Day (Rupees One Thousand per day) will be levied.
22. The Security Deposit and the Retention Money retained by the Bank will be forfeited if the contractor
 - Assigns the contract without the written consent of the bank
 - Fails to show satisfactory progress as per the approved time schedule
 - Fails to comply with any of the condition of the contract

23. TERMINATION OF CONTRACT BY BANK

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 of arrangement with his creditors, or if the Official Assignee in insolvency clause available in RBI civil works Tender may be adopted shall repudiate the contractor if a Receiver of the contractor's firm appointed by the court shall be unable, within fourteen days after notice to him required him to do so, to show to the reasonable satisfaction of the Bank that is able to carry out and fulfill the contract, and is so required by the Bank to give reasonable security therefore, 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 virtual completion clause to be added, encumber this contract or any payments due or which may become due to 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 be use improper material or workmanship in carrying on the works, or shall in the opinion of the Bank 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 Bank of the obligations and liabilities of the Contractor the whole of which shall continue in force as fully as in the contract, had not been so determined and as if the works subsequently executed had been executed by or on behalf of the contractor (without

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thereby creating any trust in favour of the contractor) further the Bank or his agent, or servants, may enter upon and take possession of the work and all plats, 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 works or by employing any other contractors or other persons or person to complete the works, and the contractor shall not in any way interrupt or do any act, matter of thing to prevent or hinder such other contractors or other persons or person employed from completing and finishing or using the materials and plats for the works when the works shall be completed, or as soon thereafter as conveniently may be, the Bank shall give notice in writing to 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 Bank in getting the works carried out, by other contractors shall be adjusted against the amount payable to the contractor by way of selling his tools and plats or due on account of work carried out by the contractor prior to engaging other contractors or against the Security Deposit

24. Insurance against injury to Persons and Property:

Without prejudice to his liability to indemnify the Bank under these conditions, the Contractor shall maintain and shall cause any Contractor to maintain:

Such insurance's as are necessary to cover the liability of the Contractor or as the case may be such Contractor, in respect of personal injuries or deaths arising out of or in the course of or caused by the carrying out of the work; and such insurance's as may be specifically required by the Contract Bills in respect of injury or damage to property movable or immovable arising out of or in the course of or by reason of the carrying out of the work, and caused by any negligence, omission or default of the Contractor, his servants or agents or, as the case may be of such Contractor, his servants or agents.

The Contractor shall produce or cause any Contractor to produce for inspection the relevant policy or policies of insurance together with the receipts in respect of premiums paid under such; policy or policies as and when required so to do by the Architect / Bank provided always that as and when may be reasonably required by the Architect / bank the production by either the Contractor or any Contractor of a current certificate of insurance from the company or firm which shall have issued the policy or policies aforesaid shall be a good discharge of the Contractor's obligation to produce or to cause the production of the policy or policies and the receipts in respect of premium paid

The Contractor shall maintain in the joint names of the Bank and Contractor such insurance's as may be required in respect of any expense, liability, loss, claim or proceedings which the Bank may incur or sustain by reason of injury or damage to property real or personal arising out of or in the course of or buy reason of the carrying out of the work, and caused otherwise than by the negligence, omission or

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default of the Contractor, his servants or agents or any Contractor, his servants or agents.

Any such insurance as is referred to in the immediately preceding paragraph shall be placed with insurers to be approved by the Architect and the Contractor shall have to deposit with him the policy or policies and the receipts in respect of premiums paid for the scrutinizing of the Architect.

Should the Contractor or any Contractor make default insuring or in continuing to insure as provided in these clauses of these conditions the Bank may himself insure against any risk with respect to which the default shall have occurred and may deduct a sum equivalent to the amount paid in respect of premiums from any monies due to or become due to the Contractor.

25. All disputed and difference of any kind whatsoever arising out of or in connection with the contract, whether during or after completion of contract will be settled amicably in the spirit of co-operation and the bank's decision which shall be final on all such matters shall be binding on the contractor
26. Performance Guarantee

It is very much essential that the work have to be completed within the stipulated time period. Contractor should provide a Performance Bank Guarantee for Rs. 5000 /- from a Nationalized Bank towards the completion of the work within the stipulated period reckoned from the 1st day of the award of the work or within the authorised extension of time. In case of failure to fulfill the completion of work within the stipulated period and authorised extension of time, in addition to the penalty clause as specified in the clause of the Conditions of Contract. The Bank shall encase performance guarantee. The draft of the guarantee proforma will be as drafted by the State Bank of Travancore. The successful Tenderer should furnish the Bank Guarantee within a period of one week from the date of issue of letter of advice of Bank about selection. On receipt of the Bank Guarantee the letter of award of work will be issued. The format of Bank Guarantee will be given by Bank. The performance Bank Guarantee should be valid for a period of 3 months beyond the date of stipulated completion Period.

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SUBJECT: ELECTRICAL POWER LIGHTING, DATA CABLING, TELEPHONE WIRING AND ALLIED WORKS AT KHARGHAR BRANCH

TECHNICAL SPECIFICATION (PART – II)

1.0 INTRODUCTION:

- 1.1 The components, fittings, parts and accessories forming part of the specification shall be complete technically and any part or whole equipment not mentioned in this document shall be included in the scope of supply and offered as part of the complete package. The Tenderer shall clearly indicate in his offer such additional equipment / components with all technical details and also include prices for the same in the price schedule.
- 1.2 The total responsibility for the guaranteed operation of individual equipment / components / fittings and the system as whole rests with the Tenderer as regards performance and reliable trouble free working. In this context the Tenderer shall study the specification carefully and critically and establish the correctness and workability of the system.

2.0 BASIC REQUIREMENTS

- 2.1 The equipment covered under this specification shall be designed, manufactured and installed in accordance with the practices outlined in relevant standards of the Bureau of Indian Standards. The equipment, systems and installation shall conform to the latest Indian Electricity Rules with respect to safety aspects, earthing and other essential features outlined therein, as well as fire safety aspects, in accordance with the recommendations of the Tariff Advisory Committee – General Insurance.
- 2.2 The successful Tenderer shall obtain approval for the installation from the Central Electricity Authority (CEA), Karnataka. For this purpose he shall prepare all drawings submit the drawings for approval, follow-up to get the drawings approved, arrange for CEA's inspection, carryout modifications and rectification as demanded by the authority and obtain safety certificate for the installation. All costs for approval by CEA has to be included by the Tenderer in his offer and the bank shall not entertain any extra claim on this account except for inspection fees (legal amounts) which will be reimbursed, on claim. All modifications, rectification also shall have to be carried out without extra cost to Purchaser.

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- 2.3 The electrical installation shall conform to IE rules and regulations as interpreted by CEA and the standards laid down by EB as well as requirements indicated in the National Building Code 1983. The successful Tenderer shall furnish the relevant factory and site test reports.
- 2.4 The installation has to be carried out by an agency holding a valid license issued by the State Government for carrying out installation work of the voltage classes involved under the direct supervision of persons holding valid certificate of competency issued or recognized by the State Government. The Tenderer shall furnish the particulars of the license held by him for carrying out the installation work along with particulars of certificates of competency held by his supervisory staff.
- 2.5 The Tenderer shall visit the Bank premises and ascertain site conditions, existing arrangement and structures and other obstructions if any and suitable allow for these exigencies in his offer. No extra claims will be admissible later on these grounds.
- 2.6 All items and equipment covered under this specification have to be procured indigenously and no foreign exchange or import license will be arranged or provided by SBT
- 2.7 The make of individual equipment covered under this specification shall be from only among those indicated in the approved vendor list enclosed. The Tenderer shall clearly indicate in his offer, make of various items of equipment or components offered by him. In case the offer does not indicate the makes, the Tenderer shall supply equipment and components of particular makes insisted by SBT

3.0 SCOPE OF WORK

- 3.1 The scope of work of the Contractor shall cover manufacture / procurement, assembly, testing, packaging, supply at site, storage, erection and installation, and necessary site fabrication of various equipments forming part of the specification. The scope of work shall also include carrying out of various pre commissioning checks on individual equipment and system, testing and commissioning and handing over of all equipment covered in the specification.
- 3.2 The scope of work shall cover the following equipment, installation accessories and other materials.
 - a) Dismantle, remove and hand over to SBT, all the light fittings ceiling fans, point wiring materials, switches, sockets etc along with associated lighting and power distribution boards where the rewiring is proposed
 - b) Supply and installation of switch fuse type emergency distribution boards
 - c) Supply and installation of MCB type non emergency distribution board for power sockets
 - d) Supply and installation of MCB type distribution board for lighting, 5A sockets and fans
 - e) Supply and installation of point and power wiring materials and accessories which shall include conduits and conduits fittings, wiring cables, switch boards along

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with switches and sockets, junction boxes etc to be embedded in floor, concealed in wall by chase cutting and laying through partitions at no extra cost.

- f) Installation of fans
- g) Installation of lighting fittings.
- h) Supply and installation of incoming power cables for the emergency and non emergency distribution boards
- i) Supply and installation of push button stations for remote control of lighting fittings
- j) Supply and installation of Public Address system complete with pre and booster amplifiers rack, speakers along with conduits and wires as applicable

- 3.2.1 Supply and fixing of danger / caution notice boards in English and vernacular in accordance with Indian Electricity Rules
- 3.2.2 Supply of all foundations bolts and any special type of embedment and inserts that may be required and grouting of all foundation bolts, in the pockets as a part of the installation work
- 3.2.3 Preparation and submission of drawings for distribution boards, working drawings for carrying out lighting and power installation and test certificates
- 3.2.4 Carrying out all routine tests in the manufacturer's works and various type tests in independent testing laboratories / authorities before dispatch of equipment to site and carrying out various site tests after installation
- 3.2.5 Obtaining approval from CEA
- 3.2.6 Arrangement of temporary work facilities that may be required for installation / fabrication at site and upon completing the work, dismantling and clearing of above facilities inclusive of all erection equipment and packaging materials

4.0 EQUIPMENT

The technical specifications for the various items of the equipment under the Tenderers scope of work shall be as follows:

4.1 Emergency Distribution Board

- 4.1.1 The emergency distribution board shall be factory assembled and wired, industrial, floor mounted, totally enclosed cubicle compartmental type, dead front design conforming to IS: 13947 and IS: 8623. The degree of protection of the enclosure shall be IP 50 in accordance with IS: 2147. The unit shall be of pressed CRCA sheet steel and the thickness of load bearing members doors and side panels being not less than 2 mm. However thickness of partitions and other non-load bearing members shall be of 1.6-mm. Base frames shall comprise of 3 mm thick fabricated channel painted black. Operating height of devices in the panel shall not be less than 300 mm or beyond 2000mm. Neoprene / special rubber gaskets shall be provided in all mating metallic joints to make enclosure dust proof. Ventilation openings shall have wire mesh screen to limit the ingress of dust

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- 4.1.2 The emergency distribution board shall have incoming and outgoing feeders controlled by fuse switch units
- 4.1.3 The incoming and outgoing feeders shall be suitable for cable connections and cable entry shall be at the top. The cable termination at each outgoing feeder shall be adequate for the number and size of cables. Single compression type brass cable glands shall be provided for each feeder. In addition, extra knockouts shall be provided in the detachable top gland plat for future cables.
- 4.1.4 Separate bus bar compartment shall be provided at the bottom, housing three phase and neutral electrolytic grade Aluminium bus bars conforming to IS. 5082 and mounted on fiber-reinforced plastic support insulators. The temperature rise of bus bars shall be limited to 45 deg C over an ambient of 45 deg C while carrying rated current and the bus bar support insulators shall have adequate creep age distance and anti tracking properties with bus bars mounted flexibly to enable expansion / contraction without strain on the insulators. Vertical droppers located on the rear / sides of outgoing feeder panels shall have adequately rated bus bars commensurate with the total current rating of each vertical panel and identical to the horizontal main bus at the top in respect of temperature rise, bus bar material, insulator details etc. The entire bus bar system should have been type tested at CPRI or other authorised testing facility for temperature rise at rated current as well as short time current test of at least 45 KA for 1 sec
- 4.1.5 The incoming and outgoing feeders shall be arranged in multi tier formation and located in separate compartments. The switching device inside each outgoing feeder compartment shall have facility for interlock feature with compartment door so that the door can be opened only when the switching device is off. The emergency distribution board shall have access form the front only with rear side bolted cover
- 4.1.6 The incoming and outgoing feeders shall be controlled buy fuse switch units with load break isolating switches of double break design and non deteriorating link type HRC fuses. The isolating switching shall be of AC 23 utilization category at the specified current rating. The HRC fuse links used shall conform to IS: 2208 and the fault interrupting rating shall be at least 50 KA. The operating handle of the fuse switch unit shall be interlocked with the compartment door such that the door can be operated only when the switch is in OFF position. Arrangement with fuse links in dead condition when isolator is in OFF position would be preferred
- 4.1.7 The switchboard shall be provided with adequate size aluminium earth bus at the bottom. Non current carrying parts of the circuit breaker feeders and other devices shall be connected to this earth bus using adequate cross section cables / wires
- 4.1.8 Identification labels shall be provided for control devices and other components. Identification label shall be of durable metal type with lettering etched / engraved in a legible manner ad fixed in a readily

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visible location. The switch board also shall be provided with caution notice boards conforming to IS: 2551

4.1.9 The details of ratings of incoming and outgoing feeders, instruments, control devices, CTs and other accessories, feeder wise, shall be as per the single line diagram

5.2 MCB Lighting and Power Distribution Boards

5.2.1 MCB type lighting and power distribution boards shall comprise of the following:

- MCB lighting distribution board for lighting and 5A sockets
- MCB distribution board for fans
- MCB power distribution board for 15 A power sockets

The lighting and fan distribution boards shall be fed from the Emergency Distribution Boards described above. The power distribution board shall be non emergency type and directly fed from the main switchboard in the substation.

5.2.2 The MCB lighting and power distribution boards shall be of industrial totally enclosed sheet steel wall mounted type. The boards shall have welded back and sides and gasketed hinged door at the front with door handle and suitable locking device. Detectable over plates shall be provided at the top and bottom for cable / conduit entry and suitable knockouts shall be provided for this purpose. Operating knobs of both incoming MCB isolators and outgoing MCBs shall be accessible only after opening the front door of the board. Protective cover plates shall be provided inside the board to shroud all the live parts with only the operating knobs of MCB isolators / MCBs protruding outside the cover plate. Adequate space shall be provided within the board to multicore and wiring cables. The board shall be factory assembled and wired. The incoming ELCB units and MCB outgoing feeders shall be suitable for mounting on the DIN rail provided in the board. Tinned copper bus bar shall be used in the board.

5.2.3 Earth leakage Circuit Breakers (ELCB) and Miniature Circuit Breakers (MCB) used in the board shall be made of heat resisting plastic mounted body with adequately designed contacts and quick break, trip free mechanism in accordance with IS. 8828 –1978. The short circuit breaking capacity of the MCBs shall not be less than 9 KA. The MCBs shall be capable of operating in an ambient temperature of 45 deg C without excessive derating. The MCB unit shall have time delayed over load and instantaneous short circuit releases of the direct acting design. In case of ELCB, necessary residual current sensing arrangement with zero sequence current transformer and tripping device shall be provided which shall have a sensitivity of 30 mA or 100 mA as specified.

5.2.4 All the MCB boards shall be of 3-phase and neutral (TPN) type with incoming feeder controlled by 4 poles ELCB and outgoing feeders controlled by single pole MCB units. On the outgoing side, each phase group shall be segregated and provided with double pole phase in-comer using MCB units.

5.2.5 In case of lighting MCB DBs, on the incoming side after the ELCB, 4-pole lighting control contactor shall be provided. All the lighting and socket points shall be directly

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controlled from the MCB outgoing feeders, except for specific area lighting like in AHU rooms etc., where additional lighting control switches are envisaged. The control of all loads in each MCB board shall be done either automatically using 24 hours programmable time switch of the micro processor based design with Ni-Cd battery backup or from remote push buttons under manual mode of control. Necessary time switch, auto manual selector switch, ON/OFF push buttons shall be provided in the lighting MCB DBs. In case of MCB DB for fans no contactor and associated controls are required

5.2.6 The no. of ways in each MCB board shall be as per single line diagram

5.3 WIRING MATERIALS AND ACCESSORIES

5.3.1 Surface conduit wiring shall carry out the lighting, fans as well as power socket inside the building premises. The wiring shall commence at the outgoing terminals of The MCB distribution boards and shall be carried out up to the switchboards, light fittings, sockets and fan points as applicable. The conduits wiring accessories shall generally include the following but not be limited to these items only.

- Conduits and conduit fittings
- Wiring cables
- Switch boards with switches and sockets, junction boxes etc.,

5.3.2 CONDUITS AND CONDUIT FITTINGS

Black steel conduit pipes and conduit fittings like couplers, bends, elbows, junction boxes etc., used for conduit wiring shall be of good quality conforming to IS 9537 part 2 and IS: 2667. Conduits of 20 mm, 25 mm and 32 mm diameter shall be used depending upon the size and no. of wires to be drawn in, in accordance with IS: 732

5.3.3 WIRING CABLE:

Wiring cable used shall be 1100 volts Grade, FRLS PVC insulated, stranded copper conductor single core cables conforming to IS: 694-1977, for phase, neutral and earth conductor. Size of wiring cable shall be as follows:

- 2.5 sq.mm for phase, neutral and 1.5 sq.mm for earth conductor for lighting, fan and 5A sockets wiring
- 4.0 sq.mm for phase and neutral and 2.5 sq.mm for earth conductor for 15 A socket wiring

5.3.4 SWITCH BOARDS, JUNCTION BOXES, CEILING ROSES ETC.,

Switch and junction boxes shall consist of galvanized or cadmium coated and passivated sheet steel factory made assembly of standardized dimensions with knockouts for cable entry / conduit entry on all four sides. The switch and junction boxes shall be suitable for flush mounting in a wall recess. The switch plates and switch socket assemblies shall be of modular design moulded out of white light stabilized engineering plastic to give excellent surface finish and high durability. All switch socket assemblies shall be sturdily built to ensure long trouble free service. The switch contact tips shall be of silver to ensure good contact. The sockets shall be of 3-pin design with earth pin actuated safety shutter for the phase and neutral

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terminals. All 15 Amps power sockets shall be 5/15 A, 3 pin combined version. Junction boxes shall be identical to the switch boxes except that these shall be provided with blank cover plates. A junction boxes and switchboxes shall have provision for earth connection. The switches and sockets shall conform to IS3854 and IS 1293. Thermosetting plastic moulded ceiling roses suitable for conduit entry shall be provided to facilitate wiring to the fittings at the end of conduit wiring at the locations of light and fan points

5.3.5 POWER SOCKETS FOR AIR – CONDITONERS

15 A power sockets for air conditioners shall be of the porcelain metal clad type with double pole 16 A MCB unit for control mounted in galvanized sheet steel box with powder coated front plate.

5.4 The Bank shall supply wall fans. The scope of work include only installation of fans.

5.5 PUSH BUTTON STATIONS

Push Button stations shall be installed at the entrance to the office area for remote control of lighting. Each lighting MCB DB shall have one push button station. The push button station shall have 1 set of ON and OFF push buttons. The enclosure of the push button station shall be either of fabricated and powder coated sheet steel or of suitable plastic material with elegant finish. Push button station shall be suitable for wall mounting and shall have 2 nos. 22 mm dia push button actuators and control elements fully assembled. The contacts of the push button shall be spring loaded snap action type with silver used as contact material. Sheet steel push button stations shall have earthing terminals.

5.6 EARTHING

The method adopted for system as well as equipment earthing shall be in accordance with the code of practice for earthing IS: 3043 –1966 and shall also comply with the relevant clauses of Indian Electricity Rules. All earthing shall be subject to approval of CEA.

All non-current carrying metallic parts of various electrical equipment as well as cable armoring, cable racks / trays, brackets, supporting structures etc., shall be effectively earthed. Earthing of medium voltage equipment shall be done by means of two separate earth continuity conductors

PROGRESS REPORTS:

The Contractor shall submit fortnightly progress reports on or about the 15th & 30th day of every month, giving the status of the contract work indicating the various stages of erection at site. Te report shall include:

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- A manufacturing status report detailing the progress of procurement of raw material, manufacture, when the particular item or sub-assembly is expected to be ready for delivery
- A report detailing materials and equipment received at site. An erection status report indicating the progress of erection giving equipment, tools and tackle deployed by them for purpose of erection and the number of personnel employed on the work. The list of personnel shall be given under supervisory, skilled and unskilled categories

TESTS AND INSPECTION

All equipment included under the supply scope of this specification shall be designed and manufactured to national and international standards. After manufacture, the various equipment shall be subjected to inspection and testing in the manufacturers works in the presence of the Bank's Engineer. The various tests to be carried out on the major equipment shall be as follows

LV Switchgear and Distribution Boards

1. Assembly inspection
2. Functional test on control circuits

COMMISSIONING CHECKS AND TESTS

After completion of installation of various equipment at site, prior to commissioning the following checks and tests shall be carried out on equipment and systems. These shall be carried out in accordance with relevant standards, codes of practices published by the Bureau of Indian Standards and manufacturer's recommendation.

- a) The new cables, panels etc should be tested for insulation value using 500V meggar and readings should be recorded in the presence of Banks Engineer/ representative.
- b) Earth resistance of each earth pit should be measured with earth meggar and the readings should be recorded.

PERFORMANCE GUARANTEE

The Contractor for workmanship and materials and satisfactory performance shall guarantee all equipment covered under this specification for a period of **twelve (12) months** from final handing over of the system. The guarantee for performance shall be inclusive of individual equipment and the system as a whole for their ratings / output as well as for the integrated operation of the equipment. If any equipment or system fails to meet the performance requirements due to defect material and workmanship the contractors shall replace the same free.

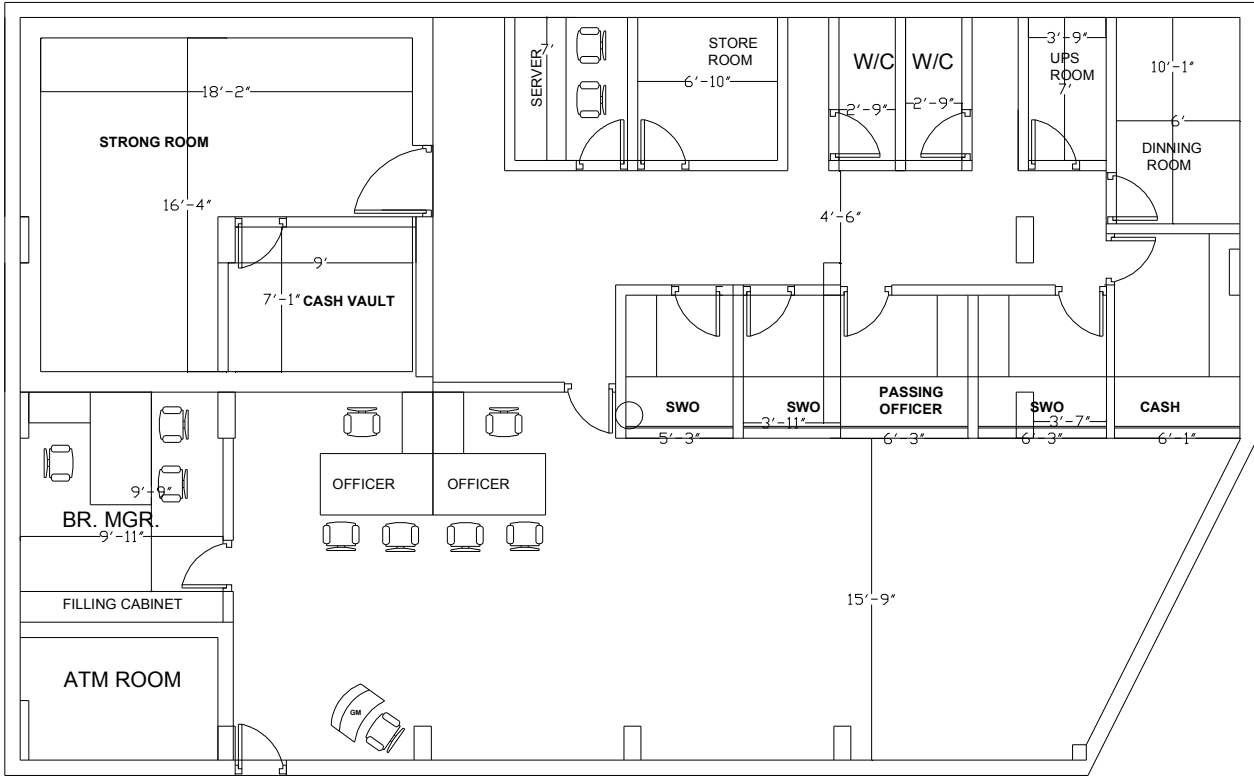
Signature of Contractor

LIST OF APPROVED MAKES

The tenderer shall indicate against each item of equipment the make or manufacturer's name from whom the equipment will be procured. The make of equipment shall be from among those mentioned in this section only.

Emergency Switch Board MCB Distribution Boards	:	ELTECH, VIVIN, Legrand
Fuse Switch Units	:	SIEMENS, GE, L&T, C&S
ELCB and MCB Units	:	Havell's, GE, SIEMENS, MDS
24 HRS time switches	:	THEBAN, GE, L&T
Contactors	:	SIEMENS, GE, L&T, SCHNEIDER
Push Button Stations	:	SIEMENS, GE, L&T, SCHNEIDER
Wiring cable	:	FINOLEX, NICCO
Wiring Accessories (Switches, Sockets, Switch Boxes etc.,	:	MK, LK
Metal Clad Power Sockets	:	C&G, BCH
PA System	:	PHILIPS, AHUJA
LT Cables	:	CCI, ICC, FINOLEX, UNIVERSAL, NICCO
Copper Wires	:	Finolex / V – Guard / Havells
PVC Pipe and Accessories	:	Precision / Atul / Elephant / MODI (Having ISI Mark)
Flush Type switches, sockets	:	Anchor / Crabtree
Bulbs / Tube / CFL Fittings	:	Philips / Crompton Greaves
MCCB	:	Siemens/L&T/ Havells/Standard/C&S
MCB	:	Standard/MDS/Indokopp/ Havells
SFU/Changeover switches	:	Siemens/L&T/Standard/Havells
Telephone Cables	:	Deltan
Exhaust Fans	:	Crompton Greaves
Ceiling Fans	:	Crompton Greaves
Data Cables	:	AT & T CAT - 5 E, D-Link / Avaya
I/O Jacks	:	Avaya, Krone

Signature of Contractor



KHARGHAR LAYOUT

Signature of Contractor

TENDER FOR ELECTRICAL WIRING AND OTHER ALLIED WORKS AT OUR PROPOSED BRANCH AT KHARGHAR					
Sr.no	Description	Qty	Unit	Unit Rate	Total Amount
A	MAIN ELECTRICAL Cubical type panel.				
	Supply, Installation, erection and commissioning of				
1.1	Main Panel				
	With 16 SWG CRCA sheet as per standard Incomer: 200/150 A MCCB (25KA) Outgoing: 100A MCCB (25KA) - 3 nos Copper Busbar of 200A capacity. Digital multifunction meter with CT showing voltage and current	1	Set		
1.2	PDB Panel				
	6 way TPN vertical type double door DB having copper busbar Incomer: 100A 4P Isolater Outgoings: 32A TP MCB - 3 nos 20A SP MCB- 3 nos	1	Set		
1.3	Generator Panel				
	6 way TPN vertical type double door DB having copper busbar Incomer: 100A 4P Isolater Outgoings: 32A TP MCB - 4 nos 32A SP MCB- 2 nos, 20A SP MCB - 3 nos, 10A SP MCB - 1 no.	1	Set		
1.4	LDB				
	4way TPN MCB DB(Double Door) consists of the following Incomer : 63A TP Isolater and 4P 63A 30mA ECCB Outgoings: 6 Amp MCB - 9 nos, 10 Amp MCB - 3 nos.	1	Set		
1.5	Change Over Switch (CoS)				
	4 Pole 100A On-load AC23 duty change over switch in sheet steel enclosure with adaptor box	1	Set		
1.6	Supply and laying armoured AL U G cable (AYFY) from Main Panel to PDB (31/2 x 95 Sq.mm.)	100	Mtr		

B	CABLES				
2.0	Providing 1.1KV stranded aluminium / copper conductor 3½ & 4 core insulated conductor, flat steel wires armoring, tough heat resisting outer sheets of following sizes.				
2.1	3½ C x 35 Sq. mm. Al. Arm. Cable (For Main Incomer) (AYFY)	70	Mtrs		
3.0	Termination of cables with single compression Brass cable gland and with crimping type copper lugs suitable for aluminum conductor cable with consumable such as tape, hard ware.				
3.1	3½ C x 35 Sq. mm. Al. Arm. Cable (For Main Income	2	Nos		
3.2	Supply laying & connection of UPS incomming (from PDB) and out going power line (to MCBDP) with 4x6mmsq + 1x2.5 PVC insulated copper wire (3phase) (From 5KVA UPS and LDB)	100	Mtrs		
3.3	Same as above 2x4 + 1x1.5 Sq.mm Cu. Wire from 2KVA UPS	50	Mtrs		

C	LIGHTING / FIXTURES				
4.0	Concealed points wiring for light, fan, 6A socket switch point, using ISI marked rigid PVC 25 mm dia. Conduit along with heavy duty PVC conduit accessories, GI boxes, Modular switches, regulators, sockets, plug top, mounting plates, hardware, ceiling rose, holders, ball socket, anchor hooks, M. S. clamps etc. Wiring through PVC conduit including termination				
	2 Nos. of 2.5 mm ² copper conductor PVC wire for phase, neutral and 1.5 mm ² copper conductor PVC wire for earthing will be used.				
	2 nos of 1.5 mm ² copper conductor PVC wire for phase & neutral will be used for-				
	wiring from primary point to looped point said as				
	Point wiring will be done as per IE rules				
4.1	Primary Light point	15	Nos		
4.2	Primary Emergency Light point	12	Nos		
4.3	Secondary Light point looped from above mentioned Primary Light point.	15	Nos		
4.4	Secondary Emergency Light point looped from above mentioned Primary Emergency Light point.	10	Nos		
4.4	Exhaust Fan Point	4	Nos		
4.5	Wall Fan Point	7	Nos		
4.6	Ceiling Fan Point	12	Nos		
4.7	2 Module Step Type Fan Regulator	12	Nos		
4.8	Lighting Circuit using 2 nos x 2.5 Sqmm + 1 nos x 1.5 Sqmm in PVC Conduit	750	Rft		
4.9	Emergency Light Circuit using 2 nos x 2.5 Sqmm + 1 nos x 1.5 Sqmm in PVC Conduit	600	Rft		
4.10	Raw Power Circuit using 2 nos x 2.5 Sqmm + 1 nos x 1.5 Sqmm in PVC Raceway.	1000	Rft		
4.11	UPS Power Circuit using 2 nos x 2.5 Sqmm + 1 nos x 1.5 Sqmm in PVC Raceway.	1000	Rft		
4.12	A.C. Circuit using 2 nos x 4 Sqmm + 1 nos x 1.5 Sqmm in PVC Conduit (For BM & Server Room)	700	Rft		
5.0	Providing following equipments along with accessories, hardware etc. Light fittings to be suspended individually at all four corners. Providing Fluorescent / CFL Tube fitting with electronic ballast, starter, condenser and 36W/18W Fluorescent Tube Rods/CFL Tubes/ as specified bellow				
5.1	S & I of (2'X2') Philips Mirror Optic fitting with 2 nos 36W CFL. (Complete Set)	18	Nos		
5.2	S & I of 1 x 36W Mirror Optic fitting with 1 nos 36W Tube. (Complete Set)	0	Nos		
5.3	S & I of 1 x 18W PL Round Fitting with 1 nos of 18W CFL Spot Light.	20	Nos		
5.4	S & I of 1 x 36W Tubelight Patti fitting with 1 nos 36W Tube. (Complete Set)	7	Nos		
5.5	S & I of Ceiling Fan	12	Nos		
5.6	S & I of 9" PVC Blade Ex - Fan.	3	Nos		
5.7	S & I of 12" Wall Fan	7	Nos		
5.8	S & I of 32" LA32B450 LCD TV of Samsung or equivalent make	1	Nos		

D	POWER WIRING				
6.0	Concealed points wiring for power plug point.				
6.1	6 A switch and 6A socket mounted on switchboard along with lighting switches.	7	Nos		
6.2	S & I of 3x6 OR 16Amps,6pin socket in single galvanized MS box with Hylamshut cover controlled by 1x6A/16A switch as per directions.	16	Nos		
6.3	S & I of 3x6Amps,6pin socket in single galvanized MS box with Hylamshut cover (under table) controlled by 1x6A/16A switch in another board above table as per directions.	15	Nos		
6.4	Supply & Installation of 20A SP MCB with 20A Metal Socket with Metal Box for A.C.	3	Nos		
E	GENSET WIRING				
7.0	Supply laying fixing main power with 4 core 16 Sq,mm PVC insulated, PVC sheathed Alu. Conductor, 1100 v. grade armoured cable complete with 02 nos 8 SWG bear GI wire as running earth.(Main Panel to Genset Panel)	200	Rft		
7.1	End termination of 4 core 16sq.mm armoured cable , complete with brass cable gland, Alu, Lug, PVC tape.	2	Nos		

F	EARTHING				
8.0	Providing earthing pit				
8.1	Providing earthing Pit by using 600 x 600 x 6 mm thick G.I.plate with 50 mm Watering pipe, funnel wire mesh, salt and charcoal treatment, including excavation, back filling, masonry work and 300 x 300 mm cast iron cover complete	1	Nos		
8.2	Providing single core 10 mm ² copper conductor PVC insulated PVC sheathed cable in PVC conduit from earth busbar to UPS D. B.	120	Rft		
8.3	Supply & Laying of 8 SWG Copper Bare earthing with necessary accessories.	20	Rfts		
G	RACEWAYS				
9.0	Providing raceways in the floor comprising PVC Conduits including chasing of floor and tiles, cleaning wherever necessary, fixing the raceways, minor civil work with providing sealing at joints at junction boxes and proper alignment, and connection of following sizes				
9.1	8 nos 25mm PVC conduit Raceway with accessories. (for Raw Power / UPS / Cat -6 / Telephone)	2000	Rft		
10.0	Providing junction boxes for raceways fabricated out of ms sheet steel, powder coated, having following sizes made out of 2 mm thick crca sheet, 50 mm deep, with cut outs for raceways and anodized SS cover duly champhered. Cover plate of the junction box will be flush with top of cement screed floor				
10.1	Junction Box of size 200 mm x 200 mm.	10	Nos		
10.2	Junction Box of size 300 mm x 300 mm.	5	Nos		
H	DATA / VOICE				
11.0	Providing of Cat - 6 cable in PVC Raceway (for Work Staion)	1800	Rft		
11.1	Providing of RJ - 45 Computer Jack Plate make D - Link	15	Nos		
11.2	Providing of 4 pair Telephone cable in PVC Raceway	1800	Rft		
11.3	Providing of RJ 11 Telephone Double Jack in Concealed Box & Plate with End Termination	12	Nos		
11.4	Supply, laying & connection of 30 pair KRONE connector DB complete with PVC moulded Telephone DB box with locking system	1	Nos		
11.5	24 port D-Link Switch	1	Nos		
11.6	Cat-6 cable with RJ - 45 connector (patch cord)	15	Nos		

I	Out Door Type Glow Sign Board				
12.0	Supply & laying of main line with 2x2.5 + 1x1.5 mmsq through MS conduit from main panel to glow sign board	320	Rft		
12.1	Supply & Installation of 16/20A on-off timer (24 hrs dial type) of L&T/Legrand make with one no. 16 amp MCB in MS concealed box mounted at main entrance for Glow Sign Board.	1	Nos		
12.2	Supply and Installation of Glow Sign Board (min 4' ht.) at the Branch Entrance	200	Sq. Ft		
12.3	Supply and Installation of Glow Sign Board (min 4' ht.) for ATM Room Entrance.	40	Sq. Ft		
J	Provision of Music System				
13.0	Wiring for speaker line by 2 core Cu. Flat cable through PVC pipe (wire size 1.5 sqmm) copper flexible.	1200	Rft		
13.1	S & I of 8/12 watt philips speakers	12	Nos		
13.2	S & I of Ahuja make Amplifier	1	Nos		
	Grand Total				

Amount in Words: