Institute of Physics

(An autonomous Research Institute of Department of Atomic Energy, Govt. of India)
P:O: Sainik School, Bhubaneswar, Orissa-751005

TENDER CALL NOTICE
FOR ELECTRICAL WORK

Sealed tenders in two bid system (Technical & Financial bid separately) are invited from the Electrical Contractors with valid electrical contractor license issued by Chief Electrical Inspector, Government of Orissa for the "AC & UPS power supply wiring of Administration & Accounts section & other Electrical works". For details log on to **www.iopb.res.in.**

The estimated cost of the total job is Rs.5,09,625.00 (Rupees Five Lakh Nine Thousand Six Hundred twenty five) only.

The sale of tender paper will be from 08.11.2010 to 08.12.2010 up to 12 noon.

The tender papers will be received up to 3PM on 08.12.2010 and Technical Bid will be opened on the same day at 4.30PM.

The authority of IOP reserves the right to reject any or all tenders without assigning any reason thereof.

REGISTRAR

INSTITUTE OF PHYSICS

(AN AUTONOMOUS RESEARCH INSTITUTION OF DEPARTMENT OF ATOMIC ENERGY GOVERNMENT OF INDIA)

P.O. SAINIK SCHOOL, BHUBANESWAR-751005

TENDER DOCUMENT
FOR

"AC & UPS power supply wiring of Administration & Accounts section & other Electrical works"

TECHNICAL BID

No._____/IP-AC & Electrical Date._____

TENDER CALL NOTICE

Sealed tenders are invited by the "Director", Institute of Physics, Bhubaneswar-751005, Orissa, comprising of technical and financial bid separately, from registered and reputed contractors, with valid Electrical License issued by Electrical Inspector of Government of Orissa for the "AC & UPS power supply wiring of Administration & Accounts section & other Electrical works"

Name of the work	Estimated Cost	Cost of the tender paper	EMD required for the work	Time for completion
"AC & UPS power supply wiring of Administration & Accounts section & other Electrical works"	Rs.5,09,625.00 (Rupees Five Lakh Nine Thousand Six Hundred twenty five only)	Rs.500.00	Rs.12750.00 (Rupees Twelve Thousand seven hundred fifty only)	Three Months from the date of issue of work order

The tender documents may be purchased from the office (Accounts Section) on payment of Rs.500.00 (Rupees five hundred only) (non refundable) by cash during the office hours from 10AM to 3 PM on working days only.

Bidders may down load the Tender Documents and submit their bids as per the procedure mentioned in the tender document accompanied by a DD of Rs.500.00 (Non refundable) favoring "Institute of Physics" payable at "Bhubaneswar" towards the cost of tender paper along with the DD for EMD and other documents.

The estimated cost of the work is Rs.5,09,625.00 (Rupees Five Lakh Nine Thousand Six hundred twenty five only).

The sale of tender paper will be from 08.11.2010 to 08.12.2010 up to 12 noon.

The tender papers will be received up to 3PM on 08.12.2010 and Technical Bid will be opened on the same day at 4.30PM (in case that day becomes a non-working day tenders (Technical Bid) shall be opened on next working day at the same time). The bidders or their authorized representative may remain present at the time of opening the tender (technical bid).

Date and time for opening of tender (Price bid): After evaluation of technical bid it will be intimated to the technically successful bidders.

The tender paper should accompany with the following documents at the time of submission:

1. Proof of registration with Govt. /Semi Govt. organizations like CPWD, State Electricity boards, Railways, Public sectors, DCSEM of DAE or worked for IOP etc.
2. Copy of PAN card, VAT clearance certificate
3. Copy of the Valid Electrical Contractor License.
4. Experience having successful completion of similar type of work during last three years.
5. List of similar type of works in hand/ continuing.

6. List of equipments, accessories and infrastructure facilities possessed by the bidder.
7. EMD amounting to Rs. 12750.00 (Rupees Twelve thousand seven hundred fifty only) in shape of demand draft or bankers cheque drawn in favor of the Institute of Physics, Bhubaneswar.
8. Any other document as mentioned in the section of special instructions to the tenderer of the tender document.
9. If worked for Institute of Physics copies of the work orders is to be attached.

In the absence of any of the documents listed above the tender papers will not be entertained.

Address for submission of tender: DIRECTOR, INSTITUTE OF PHYSICS, BHUBANESWAR – 751005, ORISSA.

Tenders should be submitted in sealed envelopes in two parts separately, i.e. "Technical bid" and "Price bid". Both the parts should be further sealed in an envelope super-scribing Tender no. & name of work i.e. **"AC & UPS power supply wiring of Administration & Accounts section & other Electrical works"*****, due date for opening, bidder's name and address. The tender duly filled in & signed on each page, accepting the terms and conditions, may be sent to above mentioned address either by post or hand delivered in tender box kept in the office of the Director, It should not be handed over to any employee of the Institute. No tender shall be accepted later than the time schedule specified above. Institute will not be responsible for delay in transit if sent by post.***

Note: 1) The tenderer is requested to go through the tender documents in detail and visit the work site to make himself conversant regarding the work before filling up the tender paper.

2) Authority, Institute of Physics reserves the right to reject any or all tenders without assigning any reason thereof.

REGISTRAR

PART - II
SPECIAL INSTRUCTIONS TO TENDERERS

PART-II: SPECIAL INSTRUCTIONS TO TENDERERS:

1. **Introduction**: Sealed tenders are invited on two part basis (i.e. 1.Technical Bid & 2. Price Bid), by the "Director, Institute of Physics, Bhubaneswar, Orissa for the work of "AC & UPS power supply wiring of Administration & Accounts section & other Electrical works". The tender paper consists of the following:

TECHNICAL BID

- Part-I - Tender Notice
- Part-II - Special Instructions to tenderers
- ANNEXURE - I, II, III, IV (For Drawings)
- ANNEXURE - V (Form for the credential of the bidder)
- Draft for EMD
- Draft towards cost of tender paper or the cash payment receipt if purchased from IOP.

PRICE BID - Schedule of quantities and rates

2. **Acceptance of Tenders:**

The Authority of Institute of Physics, Bhubaneswar reserves the right to reject any or all tenders without assigning any reasons therefore. The lowest or any tender will not necessarily be accepted. Any tender not supported by the information requested in tender documents or not complying the provisions in the tender is liable to be rejected.

3. **Compliance with specification and tender clarifications:**

Each bid shall deemed to be in full compliance with every clause of the specifications asked, unless exceptions are clearly defined and set forth in a separate sheet.

The tenderer shall note that if any clarifications regarding specifications, conditions of contract, schedule of quantities and scope of work required, he should contact Institute of Physics, Engineer-in-Charge. No claim on account of any ambiguity in any respect will be entertained after issue of work order.

4. **Sub Contractors:**

The contractor shall not sublet any/ whole part of the work without written consent of the competent authority of Institute of Physics.

5. **PRICES:**

The tenderers shall bid for the works in Indian Rupees for the Items listed in PRICE BID – Schedule of quantities and Rates.

Each tenderer shall submit unit prices and total price (as per schedule of quantities and rates). The quantities mentioned in this schedule (Price Bid – Schedule of quantities and Rates) shall be considered approximate only and the unit price entered in the schedule shall apply to the actual quantities measured in the completed work in accordance with the specifications. The prices quoted by the tenderer shall include the full cost of material, labour, equipment, transportation, overheads, insurance, taxes, profit and other costs associated with the completion of the work involved under the items and shall account for the full scope of the work.

Income Tax and Work Contract Tax at the prescribed rate shall be deducted at source from your bill and will be deposited with the concerned authority. Necessary TDS certificate will be issued in your favor.

The tenderer's prices shall include all insurance, taxes and duties, all traveling, transportation and accommodation costs of all his staff including supervisory personnel.

6. **Miscellaneous Works:**

In addition to the items of work specifically set out in the form of tender schedule to be performed by the contractor as per the agreement, the contractor shall at the request of Engineer, whose decision in this regard shall be final, perform such works and supply such materials, facilities and services which are contingent to the work covered by the contract or are required for the completion of the works.

7. **Co-ordination of Works:**

The contractor shall plan his works suitably so as to avoid interference with the operations of the existing systems and the work will be carried out with minimum shut down of PDBs to be connected.

8 **Information to be included with the tender:** The tender shall be submitted as mentioned below:

8.1 **PRICE-BID:** All supporting data as required in PRICE-BID i.e. Schedule of Quantities and Rates has to be filled in the space provided in the same and to be submitted in separate sealed envelope as Price Bid. No other document is to be kept inside this envelope and the envelope is to be super scribed as ***"Price Bid for the AC & UPS power supply wiring of Administration & Accounts section & other Electrical works".*** In this bid the bidder is required to quote his rates/ prices for the works mentioned in the scope of work & technical specifications. The rates/ price should be inclusive of all material cost, labor, services, charges for the plant/ machinery/ tools & tackles required for work, freight, insurance, octroi, Govt. duties, taxes, levies up to IOP site basis. No charges towards quantity variation, escalation, site difficulties, other hidden cost even though they may not have been explicitly mentioned in the scope and schedule of works shall be payable extra or separately. It is mandatory on bidder to quote all items rate as asked for in the BOQ/ Price schedule. Failure to adhere to this condition will lead to rejection of tender. The bidders should quote unconditional rates, neatly written without any overwriting/ white fluid/ erasing and duly signed & stamped at all pages.

8.2 **TECHNICAL-BID:** In this bid, the bidder should submit his company profile, organizational setup, credentials, list of plant, machinery & tools in his possession, copies of work orders successfully executed during last three years and earnest money draft. No deviations in respect of tender conditions are acceptable. **The bidder is required to attach entire tender conditions including the annexure (excluding Price Bid) & Drawings duly signed & stamped on each page as a token of acceptance to the tender conditions with this bid.** This envelope is to be super scribed as ***"Technical Bid for the AC & UPS power supply wiring of Administration & Accounts section & other Electrical works".***

The following specific conditions/ documents are essential for pre-qualification:

The full tender document duly signed by the bidder on each page with seal has to be submitted as a token of acceptance of the terms and conditions mentioned therein.

8.2.3 Receipt of the cash deposit for the cost of tender paper/ DD towards the same

8.2.4 The tenders shall contain sufficient information to permit a detailed comparison and evaluation of the tenders.

8.2.5 Copies of work orders of the similar works executed earlier shall be enclosed.

8.2.6 Schedule of similar works executed earlier shall be submitted (Annexure-V).

8.2.7 Details of any deviations from the specifications.

8.2.8 Copy of TIN under VAT & PAN under IT act.

8.2.9 Copy of the Valid Electrical Contractor License.

8.2.10 Draft for EMD
8.2.11 Draft towards cost of tender paper or the cash payment receipt if purchased from IOP.

*Both the parts (Technical Bid & Price Bid) should be further sealed in an envelope super-scribing Tender no. & name of work (*AC & UPS power supply wiring of Administration & Accounts section & other Electrical works*), due date for opening, bidder's name and address. The tender duly filled in & signed on each page, accepting the terms and conditions may be sent to DIRECTOR, INSTITUTE OF PHYSICS, BHUBANESWAR – 751005, ORISSA, either by post or hand delivered in tender box kept in the office of the Director, It should not be handed over to any employee of the Institute. No tender shall be accepted later than the time schedule specified above. Institute will not be responsible for delay in transit if sent by post.*

09 **Terms of Payment:** 90% of the total work order value will be paid after supply, installation, testing and successful commissioning of all equipments. Balance 10% will be retained as security deposit, which will be refunded after successful completion of defect liability period (Guarantee period). However contractor may raise one running bill for payment after completion of 50% of the total work, which will be released after deduction of 10% towards SD and 20% towards commissioning of the total work. This 20% will be released along with the final bill payment.

10 **Penalty for the delay in completion:** If the contractor fails to execute and complete the work within the time specified i.e. 3 months from the date of work order or within the period of extension granted, except is so far as the delay is on the IOP account, the contractor shall accept reduction in the total amount payable to him by the IOP at the rate of **0.5% (Half percent) per week** of the contract value for the actual pay occasioned and until the work shall have been completed under the contract. Subject to maximum deduction of 5% of the total value of the work.

11 **Proof of Ability:** The contractor shall submit the details of similar works executed by him in the form given in the Annexure-V as a proof of his ability to carry put the specified work.

12 **Increase or Decrease in Scope of Work:** The contractor shall carry out extra work at their quoted prices in their tender document for respective items of work so long as the entire total cost of the work executed is within the limits of ±20% of the contract value. **The quantities mentioned in schedule of quantities are indicative only and actual requirement may vary in field.**

13 Guarantee: All supplied materials including hardware's and work executed by the contractor shall be guaranteed for one year from the date of commissioning.

14. VALIDITY: The **tenders submitted should remain valid for acceptance for a period of 180 days from the date set for opening of the tender**. The tenderer shall not be entitled during the said period of validity to revoke or cancel his tender or vary the tender given or any item thereof. In case of tenderer revoking or canceling his tender, varying any terms in regard thereof, the earnest money paid by the tenderer along with the tender shall be forfeited by the Institute of Physics.

15 Security Deposit: 10% of contract value will be deducted as security deposit and will be released after one year from the date of completion of work (Defect liability period). No interest shall be paid on EMD/ Security deposit or the amount to the contractor under contract. However the amount towards security deposit can be released against submission of Bank Guarantee for the equivalent amount valid for the defect liability period by the contractor issued by a Nationalized/ Schedule Bank.

16 **EMD:** An earnest money of Rs.12750.00 has to be deposited along with the technical bid. The EMD shall be only in the form of Bank Draft in favor of Institute of Physics, payable at Bhubaneswar. No Cheques/ cash shall be accepted. EMD of technically disqualified bidders will be returned within 30 days from the date of evaluation of the technical bids. EMD of successful bidder will be retained by IOP during pendency of the contract & shall be adjusted towards security deposit. No interest shall be given on such EMD

18. **Escalation:** No escalation over and above items' rates quoted by the bidder shall be paid during the execution of contract.

19 **Rights reserved by IOP:** Institute of Physics reserves the right to reject any or all the tenders in full or in part without assigning any reasons whatsoever, and the decision of the Institute in this regard will be binding on all the bidders. Tenders not complying any of the provisions stated in this tender document are liable to be rejected. **Director, IOP reserves the right to accept or reject any tender, either in full or part, without assigning any reasons thereof and does not bind himself to accept the lowest tender.**

20. Entry and exit of materials from IOP campus: Materials belonging to the contractor whether consumable or non consumable should be brought inside the IOP campus with proper entry at the main gate and any material to be taken out with proper gate pass issued by the Institute.

21. **Termination of the contract:** The Director, IOP reserves the right to terminate the contract on account of poor workmanship, failure to mobilize site, non-compliance of set norms/ specifications for the works, delay in progress of work, violation of any contract provisions by the contractor. In such cases the contractor is liable to pay liquidated damages amounting to 10% of the total work value.

22. **Fabrication work:** The sample of the items like JB, switch box, DBs etc, to be used are to be got approved by EIC before execution at site. **The distribution boards mentioned in work schedule/ price bid has to be fabricated in electrical panel fabrication shop approved by Institute of Physics**. The DBs will be inspected by our Engineer In-charge in 3 stages and for which it has to be informed accordingly.

23. **Communication Address of Bidder:** Bidder should mention their detailed contact address, telephone & Fax number, E-mail address, name of authorized contact person for this tender, mobile phone number etc. in their letter head pad and same is to be attached along with the technical bid.

23. **Dispute:** Any dispute arising out of this contract will be subjected to jurisdiction of Bhubaneswar.

24. **Statutory condition:** Tender once submitted will remain with the Institute and will never be returned to the bidders. The bids will be IOP property.

Signature of the tenderer with seal

PRICE BID

SCHEDULE OF QUANTITIES FOR "POWER SUPPLY TO AC & UPS POWER DISTRIBUTION OF ADMINSTRATION & ACCOUNTS SECTIONS AND OTHER ELECTRICAL WORKS"

Sl. no	Description	Qty.	Unit	Supply	Installation	Total unit price	Amount (in Rupees)
01	**M.V. PVCA CABLES:** Supply, installation testing & commissioning of 1.1KV grade PVC insulated, inner sheath tapped, outer sheath PVC extruded, GI strip/armored, multi stranded/ Aluminum conductor power cable as per IS 1554 specifications, fixed on wall/column/slab/in existing hume pipes/ trenches by 5mm thick GI spacer fixed/coach screws/anchor fasteners in brick/stone wall /column/slab with 2mm thick GI saddle, all fixing accessories etc. complete including painting of saddle /flat/angle iron etc. The space between two supports shall be generally 600mm or in ground at a depth of 900mm, below ground including excavation in all types of soil excluding hard rock if any cutting of existing footpath, roads etc, sand bedding, laying of baked bricks as per IS on side & top, temporary reinstatement, back filling, de-watering if necessary, consolidation, disposal, of excess earth with in the radius of 500mtr. Etc. all as per the instructions of engineer-in-charge. The tinned copper earth wires to be laid along with the cables should be painted with two coats of black bituminous compound for earth wire in ground and green enamel paint for earth wire on surface & Jointing of the earth wire shall be solder joints with tinned copper cable sockets & GI nuts & bolts. Note: Scope includes all types of masonry work required making good to its original finish of holes through wall, roads, slopes etc. after laying of the cable. Make of cables: Finolex/ NICCO/ CCI/ Polycab or approved equivalent of the same.						
1.4	**1 no x 4 core x 16 Sqmm Al. PVCA cable** and 2 **no.s of 8 SWG tinned copper earth wires. (From Main panel to AC DB-1 & Lab room of Old hostel to DB-2 Old Hostel)**	120	Mtr				
02	**Wiring in PVC Casing & Capping:** Supply Installation, testing & commissioning of 1100V FRLS grade PVC insulated multi stranded copper conductor wires in suitable casing & capping with double interlock, meeting with IB/IS specification. Arrangements to be made for holding the wires in position in trunk, on ceiling/ wall with counter sunk tinned brass wood screw fixed with nylon plug etc. complete with all accessories like right angle bend, outer inner bend, T-stopper, PVC clamps (preferable) suitable pull boxes/ junction boxes of suitable size as per the site condition wherever required & with necessary leads at both ends by approved copper lug, complete as per the instructions of Engineer-in charge.						

	Note: 1. Connection shall be done with crimped type tinned copper lugs and washers. 2. Casing & Capping should be white & make: Precision, Asian & circle IS 14927 marked or approved equivalent of the same. 3. All PVC insulated copper conductor FRLS grade shall be ISI marked. 4. Make of wires: Finolex/ L&T or approved equivalent of the same.						
2.1	10 nos. of 4Sqmm + 1no. of 6Sqmm wire in PVC casing & capping.	10	Mtr				
2.2	08 nos. of 4Sqmm & 1 no. of 06Sqmm wire in PVC casing & capping.	36	Mtr				
2.3	06 nos. of 4Sqmm & 1 no. of 06Sqmm wire in PVC casing & capping.	17	Mtr				
2.4	04 nos. of 4Sqmm & 1 no. of 06Sqmm wire in PVC casing & capping.	14	Mtr				
2.3	2 no.s of 4 Sqmm + 1 no. of 06 Sqmm wire in PVC casing & caping	200	Mtr				
2.4	2 no.s of 4 Sqmm + 2 no. of 06 Sqmm wire in PVC casing & caping	200	Mtr				
2.5	2 no.s of 0.75 Sqmm + 1 no. of 1.5 Sqmm wire in PVC casing & caping	200	Mtr				
2.6	3 nos. of 06Sqmm wire in PVC casing &caping	05	Mtr.				
2.7	5 nos. of 06Sqmm wire in PVC casing & caping	15	Mtr.				
3	**DISTRIBUTION BOARDS**: Supply, Installation, testing & commissioning of following medium voltage (415V) TP&N/ SP & N distribution boards single door complete with necessary SFU, MCCB, MCBs, etc. **suitable for wall mounting** with M.S. frame work of 40x40x5mm angle mounting with M.S. enclosure fabricated out of 16SWG thick M.S. CRCA sheet with concealed hinged door, cam type locking arrangement etc. **Suitable tinned copper bus bars have to be provided for all phases, neutral and earth connections both for incoming and outgoing connections.** Cable end box, wire way box, including interconnections with appropriate size of PVC insulated copper conductor, phase barriers, earth of DB, enameled danger board, name plate, neoprene gasket for joints & door has to be provided. Necessary metal treatment, two coats of red oxide paint & two coats of enameled paint has to be provided. The front door (MS sheet) should have necessary cutouts for knobs/ operating levers of MCB's/ MCCB/ SFU etc. Phase distribution drawing etc. all as per drawings specifications etc. relevant IS & instruction of Engineer-in-charge (G.A. & fabrication drawing to be got approved before fabrication) Note: 1.MCB's shall be minimum 10KA breaking capacity 2. All tinned copper bus bars should be minimum of 200A rating or more than that as mentioned in the drawing. 3. All SFU units should have to be provided with HRC fuses 4. Make of SFU: L & T, Siemens, or approved equivalent of the same & make of MCB: Legrand/ Siemens or approved equivalent of the same.						

	5. All feeders including the Incoming are to be provided with proper nomenclature in anodized Aluminium plates near the each MCB, output terminals & on DB as per requirement/ as per instruction of EIC. 6. All terminals inside the DB has to be provided with suitable copper lugs/sockets for connection. 7. The DBs are to be fabricated in electrical panel fabrication shop approved by Institute of Physics. The DBs will be inspected by our EIC in 3 stages and for which it has to be informed accordingly.						
3.1	**DB-1(As per annexure-III)** a) 63A TPN MCB for In-comer -01no. b) 20A DP MCB for outgoing – 10 no.s c) 25A DP MCB for outgoing – 02 no.s	01	Set				
3.2	**DB-2 (As per annexure-III)** a) 40A TPN MCB for In-comer - 01set b) 25A TPN MCB for outgoing – 01 no. c) 20A TPN MCB for outgoing – 01 no. d) 25A DP MCB for outgoing – 01no. e) 20A DP MCB for outgoing – 01 no.	01	Set				
3.3	**DB-3 (As per annexure-IV)-Single Phase distribution.** a) 40A DP for incomer -01 no. b) 40A DP MCB for outgoing – 02no c) 10A DP MCB for outgoing – 01 no	01	Set				
04	**MCB BOX:** Fabrication, supply, installation, Testing and commissioning on concrete/brick wall/ plywood partition of local control MCB box made out of 16 SWG thick galvanized MS sheet with top cover also galvanized MS sheet duly fixed by SS screws. Necessary cut outs to be provided on the top cover for the operating lever of the MCB and suitable size gland holes at two ends has to be made for the MS conduits. MCB shall be minimum of 10 KA breaking capacity. All complete as per the instructions of Engineer-in-charge. Note: All MCB should be of Legrand or approved equivalent make.						
4.1	MCB box with DP MCB of 25A rating (for UPS supply at old hostel)	01	Set				
4.2	MCB box with DP MCB of 20A rating (for 11 nos. of AC units)	11	Set				

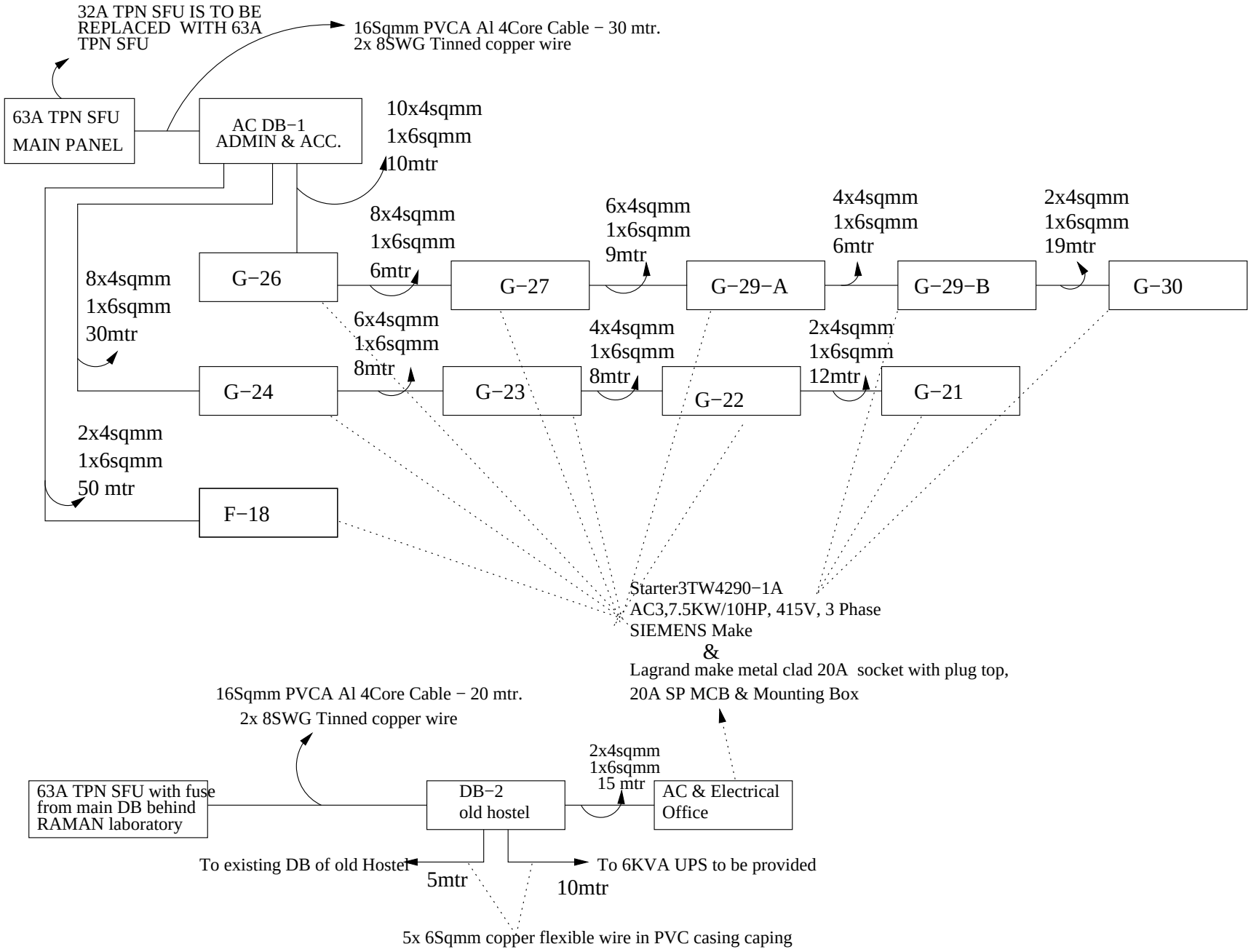
05	**OUTLET SWITCH & SOCKET BOXES:** Fabrication, supply, installation, Testing and commissioning on concrete/brick wall/ plywood partition of outlet switch boards made out of 16 SWG thick galvanized MS sheet with top cover 3mm thick Bakelite Hylam laminated sheet duly fixed by SS screws. Necessary wiring inside the board has to be carried out using 1.5Sqmm copper PVC insulated single core flexible wire. One suitable nut and bolt has to be provided on the side wall of the board for earth connection. All complete as per the instructions of Engineer-in-charge. Note: 1. All switches, sockets & Plug Top should be of Anchor make or approved equivalent. 2. All wires to be used should be of Finolex/ L&T make. 3. All MCB to be provided should be of Legrand make. 3. All terminals of the wires to be connected inside the board should be provided with suitable copper lugs/ sockets. 4. Sample of all materials is to be got approved from EIC, IOP before execution.						
5.1	**Switch & Socket box with 03no.s of 5 Amp, 250Volt, 5pin socket & 01 no. of 6Amp DP MCB**	32	Set				
5.2	**Switch & Socket box with 01no.s of 5 Amp, 250Volt, 5pin socket & 01 no. of 5 Amp, 250Volt Switch**	25	Set				
5.3	**Switch & Socket box with one no. of 15Amp, 6pin Socket & one no. 15Amp, 3pin Plug top.**	11	Set				
06	**JUNCTION BOX:** Fabrication, supply, installation, testing and fixing on concrete/brick wall/ plywood partition of suitable Junction box made out of 16 SWG thick galvanized MS sheet with top cover 3mm thick Bakelite Hylam laminated sheet duly fixed by SS screws. The JB will contain one 4 way bolted type terminal block. 2no.s of suitable size gland holes to be provided on 3 sides of JB for cable connection. All terminals are to be provided with suitable copper lug for connection. All complete as per the instructions of the EIC.						
6.1	Suitable junction box containing one bolted type terminal block of 20A rating and provision for connection of PVC casing capping wiring for lights and fans.	45	No.s				
07	**DOL STARTER UNIT FOR AC UNITS:** Supply, Installation, Testing & Commissioning (on concrete/brick wall/ plywood partition) of DOL starter units with Bimetallic O/L Relay, suitable for AC units, preferably of SIEMENS make 3TW4290-1A, AC-3, 7.5KW/10HP, 415V, 3Phase.	11	Set				

8	**END TERMINATION OF ARMOURED CABLES:** End termination and connection of the following cables by crimping with supply of all jointing materials like tinned copper cable sockets, cable glands, gland earthing insulation tape, flux, duplicate interconnection between gland earthing strip and the nearest earthing bus terminals as per the drawing, specifications, Aluminum cable tag is to be provided with each end termination and all as per the instruction of the Engineer in charge. Make of lugs/sockets: Dowels/Jainson.						
8.1	4 core x 16 Sqmm Al. PVCA cable	04	No.s				
9	**EARTHING CONNECTION:** Supply, laying/fixing, testing & commissioning of tinned copper earth wire fixed to wall side of trench/slab/column/beam/shaft with thick GI spacers and GI saddles or in ground at 750mm below including excavation in ground with protective baked bricks, excavation in ground refilling and back filling of trench, interconnection of earth wire /strip with GI nut bolts and washers and solder jointing, painting with two coats of black bituminous compound for earth wire/strip in ground and green enamel paint for earth wire/strip on surface as per the specifications and as per the instruction of Engineer-in-charge. Jointing of the earth wire shall be solder joints with tinned copper cable sockets						
9.1	Two numbers of 06 SWG copper wire	30	Mtr				
9.2	25 x 6 mm tinned copper strip (Scope includes supply and fixing of the suitable insulator for fixing the copper earth strip on concrete/ brick/ stone wall one at a span of 0.5 meter).	1	Mtr				
10	**EARTH STATION:** Supply, installation, testing & commissioning of tinned copper plate electrode earth station, 2.5 mtr. below ground level conforming to latest IS specifications complete with all required materials like coke/charcoal, salt, brass, nut bolts & washers, watering arrangements (GI funnel), G.I. pipe-25mm (B class), masonry chamber, heavy duty cast iron cover plates and excavation in all types of soil in ground, refilling and removal of excess earth within a radius of 500mtr etc. as per instruction of EIC drawing & specification. Note: 1. Measurement of resistance of earth station and resistance of complete scheme of earthing shall be measured, recorded & got approved by EIC. 2. The copper plate should be of electrolytic grade. 3. Two nos. of 25 x 6 mm tinned copper earth flat is to be bolted to the earth plate and to be brought up to the top of pit.						
10.1	600 x 600 x 3.15 mm tinned copper plate electrode earth station	01	Set				

11	**63Amp TPN SFU:** Supply, Installation, Testing and Commissioning of 63A TPN SFU with fuse in the existing Main Distribution panel replacing the existing 32A TPN SFU. The job includes the following items: 1. Dismantling/ Removal of the existing 32A TPN SFU from the panel along with the connected wires from main Bus-Bar to the same SFU. The items dismantled/ removed is to be handed over to EIC, IOP. 2. Supply & Installation of the 63A, TPN, SFU in the same cabinet from which the 32A TPN SFU removed as per point no.1. 3. Supply & connection of 4 x 16sqmm x 1.5mtr copper flexible wires, both side terminals provided with suitable copper sockets, from incoming of the 63A TPN SFU installed as per item no.2 to the main Bus-bars of the panel 4. The 63A, TPN, SFU should be of L&T make for better compatibility as the existing SFU is of L&T make. All complete as per the instruction of EIC, IOP.	02	Set				
12	**400Amp TPN SFU:** Supply, Installation, Testing & Commissioning of 400A TPN SFU with Fuse as a replacement of the existing defective SFU in the main feeder pillar panel & 33KV LT panel. The job involves the following: 1. Dismantling & Removal of the existing SFU from the panel, by disconnecting it from the Bus-bars & Cable connections. 2. Supply & Installation of the new 400A, TPN SFU with fuse & connection of the Bus-bars & Cables to the same unit. Note: Make of the 400A TPN SFU should be L&T / SIEMENS or approved equivalent of the same.	02	Set				
13	Supply, Installation, testing and commissioning of Battery charger in 33KV LT panel room with the following specifications: Make: Industrial Enterprises, Kolkata or approved equivalent. ***Model: 12B10, Input: 200/250 Volts, 50Hz, AC, Output: 6 to 72 Volts with steps of 12, 24, 36 & 48Volt, Current: 10Amps max. in steps, Controls: Voltage selector switch –Six position, Current selector switch – Six position, mains off and High/Low switch, Rectifier: Selenium Full Wave Bridge rectifier stack, Protection: H.R.C. Fuses, Instrument: Moving coil Ammeter.***	01	Set				
14	Supply of 630Amp TPN SFU with HRC, fuse of SIEMENS make.	01	Set		---		
15	Supply of 400Amp, HRC fuse, 415V, 80KA of GEC, ALSTOM make, TSK-400 or approved equivalent of the same.	06	Nos.		----		
16	Supply of 315Amp, HRC fuse, 415V, 80KA of GEC, ALSTOM make, TSK-315 or approved equivalent of the same.	06	Nos.		---		
						Total	

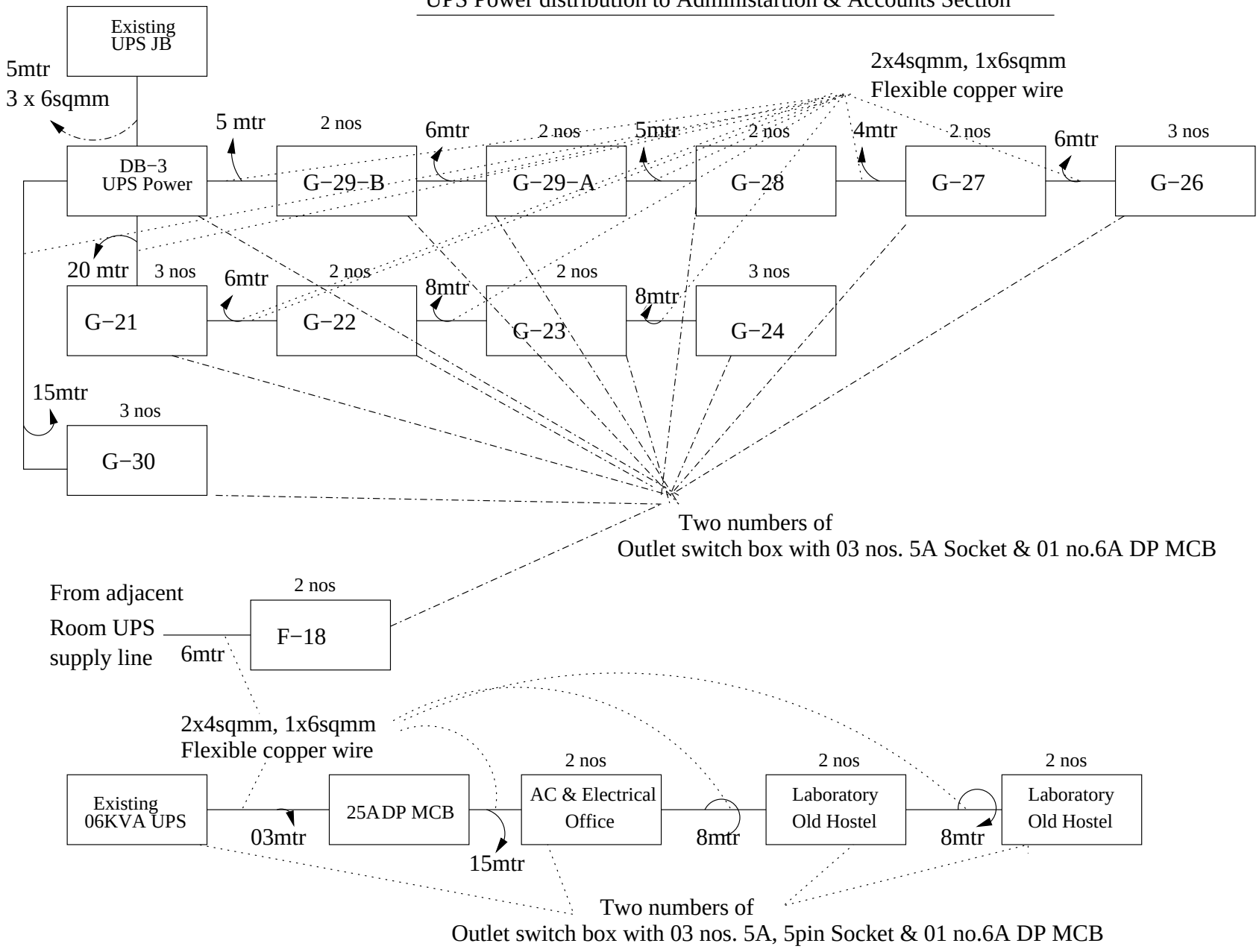
ANNEXURE−I

AC POWER SUPPLYDISTRIBUTION FOR ADMN. & ACCTS SECTION

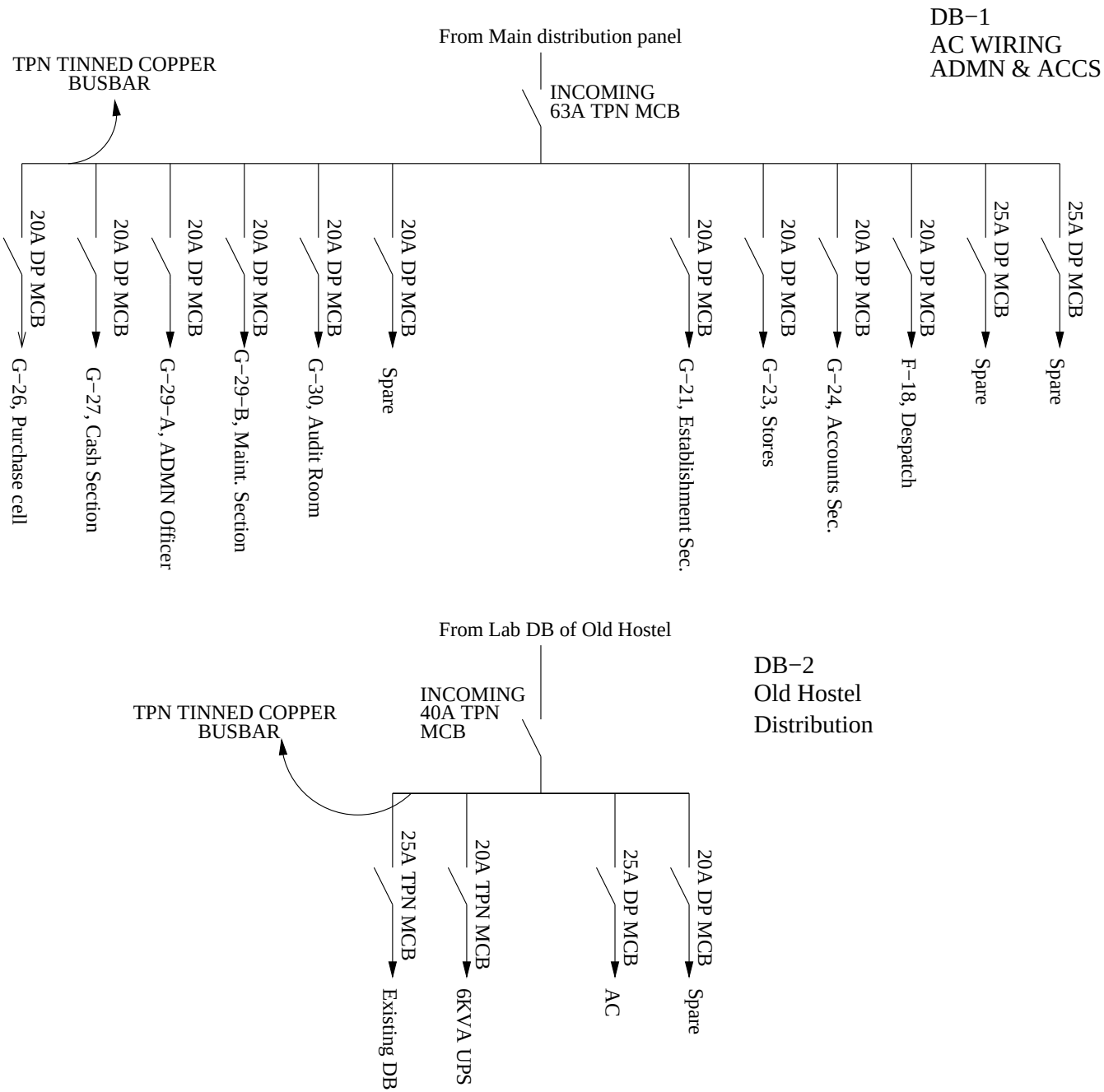


ANNEXURE–II

UPS Power distribution to Administartion & Accounts Section

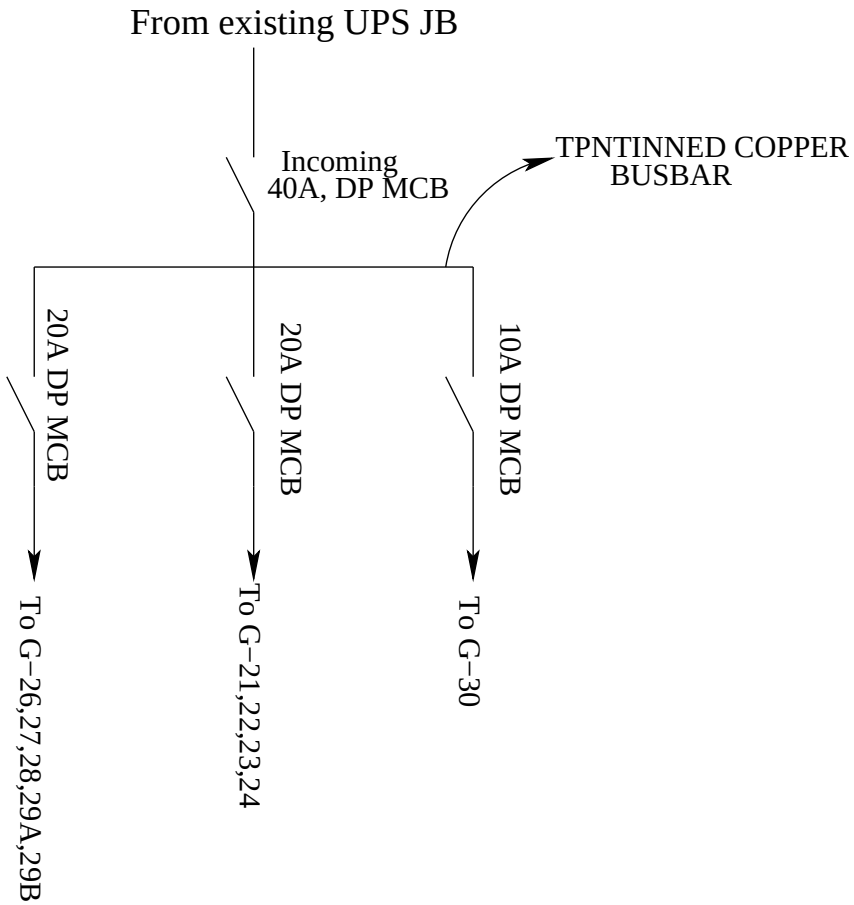


ANNEXURE−III



ANNEXURE−IV

DB−3
UPS POWER DISTRIBUTION
Administration & Accounts section



ANNEXURE-V

SIMILAR WORKS COMPLETED AND IN PROGRESS DURING THE LAST 3 YEARS {ADD ADDITIONAL SHEETS, IF NECESSARY}

Sl. No.	Description of Work	Period of Contract	Value of the contract	Name, Designation & Complete address of the Authority for whom the Work was done with phone number & E-mail address.

Signature of the tenderer with seal