INVITATION OF TENDERS

TENDER SCHEDULE
FOR ELECTRICAL WORKS OF
UNION BANK OF INDIA
NAGARAM BRANCH AT NAGARAM,
HYDERABAD, TELANGANA

FOR BANK'S EMPANELLED CONTRACTOR
UNDER TELANGANA REGION
ONLY NEED TO APPLY

Name of the contractor to whom issued:

Address:

CONSULTANTS

abhikram-s
Architects, Interiors Designers, Valuers,
Urban Planners, Project Managers

#3-6-134, FLAT NO 302, SVC-ROYAL DM apartments,
Street no 18, Himayatnagar, Hyderabad.
Ph. 040-35561296

CLIENT
UNION BANK OF INDIA
REGIONAL OFFICE-SECUNDERABAD
1st Floor, Bunglow no -109, New no – 1-7-252-254,
Oxford street, SD Road, Secunderabad-500003.
Ph.no – 040-27885300.

Signature of Contractor

NOTICE OF INVITATION TO TENDER

Sealed tenders on item rate/percentage over estimated cost basis are invited from enlisted ELECTRICAL Contractors for ELECTRICAL works of NAGARAM BRANCH AND ATM AT NAGARAM, HYDERABAD, TELANGANA.

Estimated Cost of Work :**Rs.4,42,655.00**

Earnest Money :**Rs.4,500.00** by crossed demand draft payable at HYDERABAD and drawn in favor of **UNION BANK OF INDIA, REGIONAL OFFICE, SECUNDERABAD.**

Time of completion :**30 DAYS**

Time and last date of submission of Tender : before 09-05-2022 at 15.00 hr instructions in tender documents.

Time and date of Opening of tender : On 09-05-2022 at 16.00 hr

The Bank will not be bound to accept the lowest tender and reserves the right to accept or reject any or all the tenders without assigning and reason whatsoever.

CLIENT:-

UNION BANK OF INDIA
REGIONAL OFFICE-SECUNDERABAD
1st Floor, Bunglow no -109, New no – 1-7-252-254,
Oxford street, SD Road, Secunderabad-500003.

Signature of Contractor

PROCEDURE FOR SUBMISSION OF TENDER DOCUMENTS

Sealed item rate tenders are invited on behalf of

REGIONAL HEAD
UNION BANK OF INDIA
REGIONAL OFFICE,
SECUNDERABAD.

For the following work:-

Name of the work	: ELECTRICAL works of NAGARAM BRANCH AND ATM.
Location of the work	: NAGARAM, HYDERABAD, TELANGANA.
Estimated cost of the project	: **11,98,243.00**
Time of completion	: 30 Days

Earnest money : 1 % of the value of the amount the contractor quote in the shape of Crossed Demand Draft/ pay order/ bankers cheque for rupees drawn **Rs.4,500.00 (FOUR THOUSAND AND FIVE HUNDRED ONLY)** In Favour of **UNION BANK OF INDIA, REGIONAL OFFICE, SECUNDERABAD** payable at **Hyderabad.**

No interest will be paid on the Earnest Money Deposit

b) Availability of Tender document : **UNION BANK OF INDIA**
REGIONAL OFFICE-SECUNDERABAD
1st Floor, Bunglow no -109, New no - 1-7-252-254,Oxford street, SD Road, Secunderabad-500003. **(or)**
Downloaded from Bank's Website
From 30-04-2022 to 09-05-2022

c) Submission of Tender document : **UNION BANK OF INDIA**
REGIONAL OFFICE-SECUNDERABAD
1st Floor, Bunglow no -109, New no - 1-7-252-254,Oxford street, SD Road, Secunderabad-500003.
On or before 09-05-2022 at 15.00hr

d) Opening of the tender : **UNION BANK OF INDIA**
REGIONAL OFFICE-SECUNDERABAD
1st Floor, Bunglow no -109, New no - 1-7-252-254,Oxford street, SD Road, Secunderabad-500003.
On 09-05-2022 at 16.00 hrs

Signature of Contractor

e) Clarifications, if any to be : M/s abhikram-s architects, interior designers, urban planners, #3-6-134, FLAT NO 302, SVC-ROYAL DM apartments, St no 18, Himayatnagar, Hyderabad.
Ph. 040-35561296

f) Mode of Submission of tender : The tender shall be submitted in sealed envelope of appropriate size, which shall be sealed marking as **"Tender for the Electrical works of NAGARAM BRANCH AND ATM AT NAGARAM, HYDERABAD, TELANGANA.**

The tender is valid for three months.

The employer does not bind itself to accept the lowest tender and reserves to itself the right to reject any or all tenders received without assigning any reasons thereof. The notification of award of the contract will be made to the successful tenderer in writing by the consultant.

Yours truly,

UNION BANKOF INDIA
REGIONAL HEAD

Signature of Contractor

FORM OF TENDER

To,

Dear Sir/s,

Having duly examined the tender documents including drawings, specifications, schedule of quantities relating to the works and having visited the site of the said work and having acquired all the requisite information relating thereto as affecting this tender I/ We hereby offer to execute the works specified within the time specified therein at the rates specified in the schedule of quantities and in accordance, in all respects, with this specifications, drawings and instructions in writing referred in articles of Agreement, the priced scheduled of quantities and special conditions and with such materials as are specified by and in all other respects in accordance with such conditions in the priced schedule and conditions of contract so far as applicable.

We all are well aware and are familiar with India Standard Codes, which shall be applicable this contract to supplement and missing details in this contract document.

I/We undertake and agree to abide by this tender until ninety days from the due tender date and shall keep the tender open till the expiry of the said ninety days.

I/We agree that you are not bound to accept the lowest or any tender you may receive and also that you may split the complete work and award the split works to two or more as you deem fit.

I/We hereby agree that unless and until a formal agreement is prepared and executed in accordance with the Articles of Agreement this tender together with your written letter of acceptance there to an the order authorizing me/ us to start the work shall constitute a building contract on me/ us.

I/ We enclose herewith the latest Income Tax Clearance certificate dated _____ issued to me/ us by _____.

Our Bankers are:
(Name and Address)

1)

2)

OR

Signature of Contractor

Name of the Person having power of Attorney to sign the Contract Is: _____
(Certified copy of the power of Attorney is attached hereto)

Yours faithfully

(Signature of the tenderer)

(Seal and address of the Company)

Place:
Date:

Signature of Witnesses (with address)

1)

2)

ARTICLES OF AGREEMENT

This agreement is made on the ……..….day of ……. 2022 between the **UNION BANK OF INDIA, REGIONAL OFFECE, SECUNDERABAD** represented by its ……..... (Hereinafter called "THE EMPLOYER") which expression shall include their heirs, executors, administrators and assignees of the ONE PART.
AND
…….…. A Company/ Firm registered under Companies Act of 1913 having it registered office at ……. represented by administrators and assigness of the OTHER PART.

WHEREAS THE EMPLOYER is desirous of getting Interior Decoration done at their NAGARAM BRANCH AND ATM AT NAGARAM, HYDERABAD, TELANGANA and has caused drawings, specifications, terms and Conditions and Schedule of Quantities describing the work to be done, to be prepared or got prepared by **M/s. Abhikram-S** architects, interior designers, urban planners, Valuers office at # 3-6-134, Flat No 302, SVC-ROYAL DM APARTMENTS, Street No 18, Himayatnagar, Hyderabad – 500 029 (herein after called "ARCHITECT") and whereas the said drawings, specifications, terms and conditions and schedule of quantities have been signed by or on behalf of the parties here to.

and whereas THE CONTRACTOR has agreed to execute upon and subject to the conditions set forth herein called special conditions schedule of quantities, all of which are collectively (hereinafter referred to as "The Said Conditions"), the works shown upon the said drawings and described in the said specifications and included in the said schedule of quantities at the respective rates set forth therein amounting to the sum of Rs. _____ (Rupees _____ only) or such other sum as shall become payable hereunder (hereafter referred as the said contractor amount).

and whereas THE CONTRACTOR has deposited Rs.4500.00 (RUPEES FOUR THOUSAND AND FIVE HUNDRED Only) as earnest money to be retained with THE EMPLOYER for the due performance of this Agreement.

Now it is hereby agreed as follows:

1. In consideration of the sum of Rs._____ (Rupees_____ _____ Only) to be paid at the time and in the manner set forth in said conditions, THE CONTRACTOR will upon and subject to the said conditions execute and complete the works shown upon the said drawings and such further detailed drawings as may be furnished to them by the said Interior Designer and described in the said specifications and the said schedule of Quantities.

2. THE EMPLOYER shall pay to THE CONTRACTOR the said contract amount of Rs._____ (Rupees_____ only) Or such other sum as shall become payable at the time and the manner herein after Specified in the said conditions provided the said Interior Designer has

Signature of Contractor

certified such payments or have otherwise been authorized such payment by THE EMPLOYER.

3. The term THE ARCHITECT in the said conditions shall mean **M/s. Abhikram-S** architects, interior designers, urban planners, Valuers office at # 3-6-134, Flat No 302, SVC-ROYAL DM APARTMENTS, Street No 18, Himayatnagar, Hyderabad – 500 029 (herein after called "ARCHITECT") Or in the event of their ceasing to be the Interior Designer for the purpose of this CONTRACT, such other person as shall be nominated in writing for this purpose by the EMPLOYER, not being the person to whom THE CONTRACTOR shall object for reason considered to be sufficient by the Arbitrator, mentioned in the said conditions provided always that no person subsequently appointed to be Interior Designer under the CONTRACT shall be entitled to disregard or overrule any decision or approval or direction given or expressed by the Interior Designer of the lime being.

4. The said drawings, schedule of quantities and special conditions and other documents herein mentioned shall form the basis of this CONTRACT, and the decision of the said Interior Designer as mentioned in the conditions of contract in reference to all matters of dispute as lo the materials, workmanship, the intended interpretation of the clause of this Agreement, or any other document attached hereto shall be final and binding.

5. The following documents shall be deemed to form and be read as integral part of the Agreement, (viz).

i) Letter of Acceptance _____ work order letter dated _____

ii) Schedule of quantities. Tender Notice, Form of tender. Articles of Agreement, Special Conditions, Specified Makes, BOQ and Tender Drawings.

Following Correspondence:

a)_____

b)_____

c)_____

d)_____

e)_____

and the parties hereto will respectively abide by and submit themselves to the conditions and stipulations and perform the agreements on their parts respectively in such conditions, specifications and schedule of quantities.

6. THE EMPLOYER and THE CONTRACTOR bind themselves, their partners, successors in interest, executors, administrators and assign if any to the other partners, successors in interest executors, administers and assigns of such other party in respect of all covenants of this Agreement.

7. The said CONTRACT comprises the works 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 consultant/ Employer even though such works may not be shown in the Drawings or described in the said specifications or the

schedule of quantities, but may be fairly intended for successful completion and functioning of the project.

8. THE EMPLOYER through the Interior Designer reserves to himself the right of altering the drawings and the nature of work and of adding to or omitting any items of work or of having portions of the same carried out departmentally or otherwise. From other sources such alterations or variations shall be carried out without prejudice to this CONTRACT and the Contractor shall not be entitled to any compensation for such work.

9. The contractor shall not assign, sublet or transfer his/their interest in this Agreement without the written consent of the EMPLOYER.

10. THE CONTRACTOR shall afford every reasonable facility to the representative of the said Interior Designer and EMPLOYER for inspection, checking or otherwise to the site enable them to find out the actual carrying out of all works in (he manner laid down in said conditions.

11. Time shall be considered as the essence of this CONTRACT and the CONTRACTOR hereby agrees to commence the work in accordance with the said conditions and to complete the entire and all the works connected thereto or as ordered from time to time within the time period stipulated herein and to execute the same diligently and consistently throughout the entire time period so specified and the Contractor shall strictly adhere to the detailed program for completion of work.

12. If the CONTRACTOR shall fail to comply with any of his obligations hereunder or shall be dissolved or any receiver is appointed or any attachment is made in respect of any of any of his properties or the contractor shall otherwise fail or neglect to complete the work in the stipulated period, then or on the happening of any such event the Employer shall be entitled to cancel this contract and to get the unfinished work done at the cost and the risk of the contractor by a third party and if the Employer suffers any losses in this regard the Employer shall look to the contractor for the same i.e. payment or reimbursement to such losses. The decision of the consultant in regard to the quantum of such losses will be final and binding on parties hereto. Upon such termination of the contract there shall be adjustment of any payments made to the CONTRACTOR by the EMPLOYER and the CONTRACTOR shall, if required by the Interior Designer refund any such amounts to the EMPLOYER.

13. All disputes arising out of or any way connected with this Agreement shall be deemed to have arisen in Hyderabad and only Court in Hyderabad shall have jurisdiction to determine the same.

14. All payments by the EMPLOYER under this CONTRACT will be made at Hyderabad.

15. Advance Income Tax deduction will be made in the CONTRACTORS bill as per the Income Tax Act rules based on the bill value.

Signature of Contractor

16. Appropriate deduction as per relevant sales tax rules on works contract applicable at the time shall be deducted from bills submitted by the CONTRACTOR.

17. Contractor shall provide the vouchers for full quantity of any of the materials brought for the project whenever asked by the employers.

18. The CONTRACTOR will carry out the testing of any of the materials at his own cost from a recognized laboratory as per the relevant IS CODES before it is used in (the work whenever desired by the Interior Designer.

19. All parts of this CONTRACT have been read by us and fully understood by us. As witness there of the parties hereto have hereunto set their hands the day and the year first above written.

Signed by the said this Employer: _____

In the presence of witness:

Name : _____ Name : _____
Occupation: _____ Occupation : _____
Address : _____ Address : _____

Signed by the said this Contractor : : _____
In the presence of witness:

Name : _____ Name : _____
Occupation: _____ Occupation : _____
Address : _____ Address : _____

In the presence of witness:

Name : _____ Name : _____
Occupation: _____ Occupation : _____
Address : _____ Address : _____

GENERAL RULES AND INSTRUCTIONS FOR THE GUIDANCE OF TENDERERS

1. Tenders are hereby invited on behalf of **UNION BANK OF INDIA, REGIONAL OFFICE, SECUNDERABAD** for the ELECTRICAL WORKS at an estimated cost of Rs. **4,42,655.00**

2. Contract documents consisting of the plans, complete specifications, the schedule of quantities of the various classes of work to be done, and the set of conditions of contact to the complied with by the persons whose tenders may be accepted, and which will also be found in the form of tenders, can be seen/purchased at the **M/s. Abhikram-S** architects, interior designers, urban planners, Valuers office at # 3-6-134, Flat No 302, SVC-ROYAL DM APARTMENTS, Street No 18, Himayatnagar, Hyderabad – 500 029. between the hours of _____ and every day, except on Sundays and Bank holidays.

The site for the work is available or the site for the work shall be made available in parts as specified below.

3. Tenders, which should always be placed in sealed cover, with the name of the project written on the envelopes will be received by REGIONAL OFFICE, SECUNDERABAD up to _____ 2022 and will be opened by him in his office on

3.1. In case of two part tenders, dates of submission opening of the tenders and the parts thereof along with the superscription on the packages should be as per specific instruction on the tenders notice/form.

4. The time allowed for the carrying out of the work will be _____from the fifteenth day after date of written orders to commence work.

5. The contractors should quote in figures as well as in words the rate, and amount tendered by them. The amount for each item should be worked out the requisite totals given

6. When a contractor signs a tender in an Indian language the percentage above or below and the tendered amount and the total amount tendered should also be written in the same language. In the case of illiterate contractors the rates or the amounts tendered should be attested by a witness.

7. Issue of tender form will be stopped two days before the date fixed for the opening of tenders.

8. Earnest money, amounting to Rs.**4500.00** in the form of bank draft drawn in favour of **UNION BANK OF INDIA, REGIONAL OFFICE, SECUNDERABAD**. Must accompany each tender and each tender is to be in a sealed cover super scribed "Tender for ELECTRICAL WORKS OF BRANCH AND ATM AT NAGARAM and addressed to the REGIONAL OFFICE, SECUNDERABAD.

Alternatively, a Bank Guarantee of like amounts valid for four months on a Bank other than clientele Bank may be furnished where EM in form of Cash or CDR cannot be furnished.

Signature of Contractor

9. The contractor, whose tender is accepted will be required to furnish by way of security deposit for the due fulfillment of his contract, such sum as ill amount.

10.00% on the first Rs.1,00,000 of the cost of work.
7.5% on the next Rs.1,00,000/- of the cost of work.
5.0% on the next amount upto Rs.2 crores of the cost of work.
2.0% for the amount in excess of Rs.2 crores of the cost of work subject to a ceiling on the Total security at Rs.25,00,000.

The security deposit shall be collected as detailed in clause no.11 of the General Conditions of the Contract.

The EMD of the contractor whose tender is accepted, shall be forfeited in full in case he does not remit the initial security deposit within the stipulated period or start the work by the stipulated date mentioned in the award letter.

10. The acceptance of a tender will rest with the (Name of the Bank) which does not bind itself to accept the lowest tender and reserves to itself and authority to reject any or all of the tenders received without the assignment of a reason. All tenders in whom any of the prescribed conditions are not fulfilled or are incomplete in any respect are liable to be rejected.

The Bank reserves the right to accept the tender in full or in part and the tendered shall have no claim for revision of rates or other conditions if his tender is accepted in parts.

11. Canvassing in connection with tenders is strictly prohibited and the tender submitted by the contractors who resort to canvassing will be liable to rejection.

12. All rates shall be quoted on the proper form of the tender alone.

13. An item rate tender containing percentage below/ above will be summarily rejected. However, where a tenderer voluntarily offers a rebate for payment within a stipulated period, this may be considered.

14. On acceptance of the tender, the name of the accredited representatives of the contractor who would be responsible for taking instruction from the employer/ architects shall be communicated to the employer.

15. Special care should be taken to write the rates in figures as well as in words and the amounts in figures only, in such a way that interpolation is not possible. The total amount should be written both in figures and in words. In case of figures the words “Rs. Should be written before the figure or rupees and words “P” after the decimal figures, e.g., the words “Rs.” Rupees” should precede and the word “Paise” should be written at the end unless the rate is in whole rupees and followed by the words “only” it should invariably be up to two decimal places. While quoting the rate in schedule of quantities, the word “only” should be written closely following the amount and it should not be written in the next line.

Signature of Contractor

16. The bank does not bind itself to accept the lowest or any tender and reserves to itself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.

17. The contractor shall give a list of his relatives working with the Bank along with their designations and addresses.

18. No employee of the bank is allowed to work as a contractor for a period of two year of his retirement from bank service, without the previous permission of the bank. The contract is liable to be cancelled if either the contractor or any of his employee is found at any time to be such a person who had not obtained the permission of the bank as a foresaid before submission of the tender or engagement in the contractors service.

19. The tender for works shall remain open for acceptance for a period of …….days from the date of opening of tenders. If any tenderer withdraws his tender before the said period, then the bank shall be at liberty to forfeit earnest money paid along with the tender.

20. The tender for the work shall not be witnessed by a contractor or contractors who himself/ themselves has/ have tendered or who may and had/ have tendered for the same work. Failure to observe this condition would render tenders of the contractors tendering as well as witnessing the tender liable to summary rejection.

21. It will be obligatory on the part of the tendered to tender and sign and tender documents for all the component parts and that, after the work is awarded, he will have to enter into an agreement for each component with the competent authority in the bank.

22. The tenderer, a part from being a competent contractor must associate himself with agencies of the appropriate class who are eligible to tender for (i) Electrical ii) Sanitary and Water supply installations and (iii) Horticulture.

Signature of the Competent Authority

UNION BANK OF INDIA
REGIONAL OFFICE-SECUNDERABAD
1st Floor, Bunglow no -109, New no - 1-7-252-254,Oxford street, SD Road, Secunderabad-500003.

Signature of Contractor

GENERAL CONDITIONS OF CONTRACT

Except where provided for in the description of the individual items in the schedule of quantities and in the specification and conditions laid down hereinafter and in the drawings the work shall be carried out as per standard specification and under the directors of employer architect.

1. Interpretation

In constructing these conditions the specification the schedule of quantities tender and agreement the following words shall have the meaning herein assigned to them except where the subject or context otherwise requires.

i) Employer the term employer shall denote **UNION BANK OF INDIA** with their head office at MUMBAI and any of its employees representative authorizes on their behalf.

ii) Architects consultants the term architects shall mean **M/s. Abhikram-S** architects, interior designers, urban planners, Valuers office at # 3-6-134, Flat No 302, SVC-ROYAL DM APARTMENTS, Street No 18, Himayatnagar, Hyderabad – 500 029 or in the event of his/ their ceasing to be the architects for the purpose of this contract such other person/as the employer shall nominate for the purpose. The architect with the approval of the bank may engage a local architect consulting engineer for supervision and co-ordination of the work at the site. He will be considered representatives of the architect. The bank may also engage a project management consultant for the supervision of the work. He will be designated by the term PMC and works as employer agent at the site.

iii) Contractor the term contractor shall mean _____ and his/their heirs. Legal representative's assigns and successors.

iv) Site: The site shall mean the site where the works are to be executed as shown within boundary in red border on the site plan including any building and erections thereon allotted by the employer for the contractor's use.

v) Site Engineer: The site engineer shall be appointed by the bank, the bank may also determine the number of site engineers and the supporting staff at site office to assist them and also whether the site engineer shall be temporary or permanent. As far as possible the site engineer should assume charge of is post before the contractor reports on site of work. Where more than one site engineer is appointed, one of them shall be designated as senior site engineer by the premises department and the other site engineer shall be reporting to the senior site engineer. Wherever PMC is engaged. Site engineer, if any, will work in close co-ordination with PMC.

vi) Drawings: The work is to be carried out in accordance with drawings, specification, the schedule of quantities and any further drawings, which may be supplied, or any other instruction, which may be given by the employer during the execution of the work.

All drawings relating to work given to the contractor together with a copy of schedule of quantities and any further drawings, which may be supplied or any

other instruction, which may be given by the employer during the execution of the work.

In case any detailed drawings are necessary contractors shall prepare such detailed drawings and / or dimensional sketches therefore and have it confirmed by the employer / architects/ PMC as case may be prior to taking up such work.

The contractor shall ask in writing for all clarification on matters occurring anywhere in drawings, specification and schedule of quantities or to additional instructions at least 10 days ahead from the time when it is required for implementation so that the employer may be able to give decision thereon.

vii) "The works" shall mean the work or works to be executed or done under this contract.

viii) "Act of Insolvency" shall mean any act as such as defined by the Presidency town's insolvency act or in provincial insolvency act or any amending stature.

ix) "The Schedule of Quantities" shall mean the schedule of quantities as specified and forming part of this contract.

x) "Priced Schedule of Quantities" shall mean the schedule of quantities duly priced with the accepted quoted rates of the contractor.

2. Scope

The work consists of construction of employers_____ in accordance with the "drawing" and "Schedule of Quantities" the civil, sanitary, plumbing, electrical work and construction of internal road and pathways etc., are within the scope of this tender. It includes furnishing all materials, labour, tools and equipment and management necessary for and incidental to the construction and completion shall conform to the lines,. Elevations and grades as shown on the drawings furnished by the employer/architects. Should any detail essential for efficient completion of the work be omitted from the drawings and specification it shall be the responsibility of the contractor to inform the employer/architects and to furnish and install such detail with employer's / architect's concurrence, so that upon completion of the proposed work the same will be acceptable and ready for use. Employer or his agent (PMC) / Architects may in their absolute discretion issue further drawings and or written instructions details directions and explanations, which are, hereafter collectively referred to as "The Employer's/ Architect's instructions" in regard to: The variation or modification of the design quality or quantity of works or the addition or omission or substitution of any work. Any discrepancy in the drawings or between the schedule of quantities and / or specification.
Any removal from the site of any defective material brought thereon by the contractor and the substitution of any other material thereof. The demolition removal and / or re-execution of any work executed by the contractors. The dismissal from the work of any persons employed thereupon. The opening up for inspection of any work covered up.
The rectification and making good of any defects under clauses hereinafter mentioned and those arising during the maintenances period (retention period).The contractor shall forthwith comply with and duly execute any work comprised in such employer's or his agent/ Architect's instructions, provided

always that verbal instructions, directions and explanations given to the contractor's or his representatives upon the works by the employer or his agent/architects shall, if involving a variation, be confirmed in writing to the contractors within seven days. No works, for which rates are not specifically mentioned in the priced schedule of quantities, shall be taken up without written permission of the employer or his agent/ architects. Rates of item not mentioned in the priced schedule of quantities shall be fixed by the employer in consultation with the Architect as provided in Clause "Variation"

The contractor shall set up a field laboratory with necessary equipment for day to day testing of materials like grading of coarse and fine aggregates, silt content and bulk age of sand etc.,

Regarding all factory made products for which ISI marked products are available, only products bearing ISI marking shall be used in the work.

Architects/PMC whose decision shall be final and binding. The contractor shall provide himself for ground and fresh water for carrying out of the works at his own cost. The Employee shall on no account be responsible for the expenses incurred by the contractor for hired ground or fresh water obtained from elsewhere.

3. Tenderer shall Visit the Site

Intending tenderer shall visit the site and make himself thoroughly acquainted with the local site condition, nature and requirements of the works, facilities of transport condition, effective labour and materials, access and storage for materials and removal of rubbish. The tenderer shall provide in their tender for cost of carriage freight and other charges as also for any special difficulties and including police restriction for transport etc., for proper execution of work as indicated in the drawings. The successful tenderer will not be entitled to any claim of compensation for difficulties faced or losses incurred on account of any site condition which in the opinion of the employer or his agent/architects might be deemed to have reasonably been inferred to be so existing before commencement of work.

4. Tenderers

The entire set of tender paper issued to the tenderer should be submitted fully priced and also signed on the last page together with initials on every page. Initial/signature will indicate the acceptance of the tender papers by the tenderer.

(Also see para 15 of General Rules and Instructions for the Guidance of Tenderers).

The schedule of qualities shall be filled in as follows:

i). The "Rate" column to be legibly filled in ink in both English figures and English words.

ii). Amount column to be filled in for each item and the amount for each sub head as detailed in the "Schedule of Quantities".

iii). All corrections are to be initialed.

iv). The "Rate Column" for alternative items shall be filled up.

v). The "Amount" Column for alternative items of which the quantities are not mentioned shall not be filled up.

vi). In case of any errors/ omissions in the quoted rates, the rates given in the tender marked "Original" shall be taken as correct rates.

No modifications, writings or corrections can be made in the tender papers by the tenderer, but may at his option offer his comments or modifications in a separate sheet of paper attached to the original tender papers.

The Employer reserves the right to reject the lowest or any tender and also to discharge any or all of the tenders for each section or to split up and distribute any item of work to any specialist firm or firms, without assigning any reason.

The trenderers should note that the tender is strictly on the item rate basis and their attention is drawn to the fact that the rates for each and every item should be correct, workable and self supporting. If called upon by the Employer/Architects detailed analysis of any or all the rates shall be submitted. The employer/Architects shall not be bound to recognize the contractor's analysis.

The works will be paid for as "measured work" on the basis of actual work done and not as "lump sum" contract, unless otherwise specified. All items of work described in the schedule of quantities are to be deemed and paid as compete works in all respects and details including preparatory and finishing works involved, directly related to and reasonably detectable from the drawings, specifications and schedule of quantities and no further extra charges will be allowed in this connection. In the case of lump sum charges will be allowed in this connection. In the case of lump-sum charges in the tender in respect of any item of works, the payment of such items of work will be made for the actual work done on the basis of lump-sum charges as will be assessed to be payable by the Employer/Architects.

The employer has power to add to, omit from any work as shown in drawings or described in specifications or included in schedule of quantities and intimate the same in writing but no addition, omission or variation shall be made by the contractor without authorization from the Employer. No variation shall vitiate the contract. Please also refer to Para 9 hereinafter.

5. Agreement

The successful contractor may be required to sign agreement as may be drawn up to suit local conditions and shall pay for all stamps and legal expenses, incidental thereto.

6. Permits and Licenses

Permits and licenses for release of materials, which are under Government control, will be arranged by the contractor. The employer will render necessary assistance, sign any forms or applications that may be necessary assistance.

The basic price of controlled materials, if any, for the purpose of valuing the Tender, is to be considered as stipulated below. This will also be the basis of adjustments in settling the contractor's bills.

However, the basic rates of steel for the purpose of calculation of escalation only if provided for separately for the purpose of PVA, will be as under, at the time of tendering.

1. Mild Steel @ Rs……per M.T.
2. Torsteel @ Rs……per M.T.

It may be clearly understood that no compensation or additional charges can be claimed by the contractor for non-receipt of the cement or any controlled materials in due time on this account or according to his own requirements.

The contractor will, however, be eligible to a proportionate extension of time on this account, which in the opinion of the Employer/Architects is reasonable. The contractor shall at his own cost arrange for storage shed adequate for taking delivery and storing of the quantity of controlled materials released by the authorities or supplied by the Employer. The costs of storing, transporting etc., of all materials including those under Government control are to be included by the tenderer in his quoted rates.

The employer / architect / PMC shall be indemnified against all Government or legal actions for theft or misuse of cement M.S. rods and any controlled materials in the custody of the contractor.

7. Government and Local Rules

The contractor shall conform to the provisions of all local Bye-laws and Acts relating to the work and to the Regulations etc., of the Government and Local Authorities and of any company with whose system the structure is proposed to be connected. The contractor shall give all notices required by said Act, Rules, Regulations and Bye-laws etc., and pay all fees payable to such authority/ authorities for execution of the work involved. The cost, if any, shall be deemed to have been included in his quoted rates, taking into account all liabilities for licenses, fees for footpath encroachment and restorations etc., and shall indemnify the Employer against such liabilities and shall defend all actions arising from such claims or liabilities.

8. Quantity of Work to be Executed

The quantities shown in the schedule of quantities are intended to cover the entire new structure indicated in the drawings but the Employer reserves the right to execute only a part or the whole or any excess thereof without assigning any reason therefore. Variation in the value is however not expected to be more than ± 25%.

9. Other Persons Engaged by the Employer

The employer reserves the right to execute any part of the work included in this contract or any work which is not included in this contract by other Agency or persons and contractor shall allow all reasonable facilities and use of his scaffolding for the execution of such work. The main contractor shall extend all cooperation in this regard.

10. Earnest Money and Security Deposit

The tenderer will have to deposit an amount of Rs 4500.00 In the form of Bank Draft drawn in favour of **UNION BANK OF INDIA REGIONAL OFFICE, SECUNDERABAD** at the time of submission of tender as an Earnest Money. The employer is not liable to pay any interest on the Earnest Money. The Earnest Money of the unsuccessful tenderers will be refunded without any interest soon after the decision to award the work is taken or after the expiry of the validity period of the tender.

The successful tenderer to whom the contract is awarded will have to deposit as initial security deposit a further sum to make up 2% of the value of the accepted tender including the Earnest Money. The initial Security Deposit will have to be made within 14 days from the date of acceptance of tender, failing which the Employer at his discretion may revoke the letter of acceptance and forfeit the Earnest Money Deposit furnished along with the tender. The initial Security Deposit will be invested by the Employer in a fixed deposit account for the duration of the contract period. It shall be refunded to the contractor along with accrued interest within fourteen days after the issue of certificate of virtual completion.

Apart from the Initial Security Deposit made as above, retention money shall be deducted from progressive running bills @ 8% of the gross value of each running bill until the Total Security Deposit, i.e., the initial Security Deposit plus the retention money equals:

a. 10.00% on the first Rs. 1,00,000 of the cost of work.
b. 7.5% on the next Rs. 1,00,000 of the cost of work.
c. 5.0% on the next amount up to Rs. 2 crores of the cost of work

The retention amount will be refunded to the contractor 14 (fourteen) days after the end of defects liability period provided he has satisfactorily carried out all the work and attended to all defects in accordance with the conditions of the contract. No interest is allowed on retention money.

A part of the Security Deposit if and as decided by a constituent Bank can also be furnished in the form of a Bank guarantee' on a Bank other than that of the constituent Bank.

11. Contractor to Provide Everything Necessary

The contractor shall provide everything necessary for the proper execution of the work according to the intent and meaning of the drawings, schedule of quantities and specifications taken together whether the same may or may not be particularly shown or described there in provided that the same can reasonably be inferred there from and if the contractor finds any discrepancies therein he shall immediately and in writing, refer the same to the Employer/Architects/PMC whose decision shall be final and binding. The contractor shall provide himself for ground and fresh water for carrying out of the works at his own cost. The Employee shall on no account be responsible for the expenses incurred by the contractor for hired ground or fresh water obtained from elsewhere.

The rates quoted against individual items will be inclusive of everything necessary to complete the said items of work within the contemplation of the contract, and beyond the unit price no extra payment will be allowed for incidental or contingent work, labour and/or materials inclusive of all taxes and duties whatsoever except for specific items, if any, stipulated in the tender documents.

The contractor shall supply, fix and maintain at his own cost, for the execution of any work, all tools, tackles, machineries and equipments and all the necessary centering, scaffolding, staging, planking, timbering, strutting, shoring, pumping, fencing, boarding, watching and lighting by night as well as by day required not only for the proper execution and protection of the said work but not only for the proper execution and protection of the said work but also for the protection of the public and safety of any adjacent roads, streets, walls, houses, buildings, all other erections, matters, and things and the contractor shall take down and remove any or all such centering, scaffolding, planking, timbering, strutting, shoring etc., as occasion shall be required or when ordered so to do, and shall fully reinstate and make good all matters and things disturbed during the execution of works to the satisfaction of the Employer/ Architects.

The contractor shall also provide such temporary road on the site as may be necessary for the proper performance of the contract and for his own convenience but not otherwise. Upon completion, such roads shall be broken up and leveled where so required by the drawings unless the Employer shall otherwise direct.

The contractor shall at all times gives access to workers employed by the Employer or any men employed on the buildings and to provide such parties with proper sufficient and if require, special scaffolding, hoists and ladders and provide them with water and lighting and leave or make any holes, grooves etc., in any work, where directed by the employer as may be required to enable such workmen to lay or fix pipes, electrical wiring, special fittings etc., the quoted rates of the tenderers shall accordingly include all these above mentioned contingent works.

12. Time of Completion, Extension Of Time & Progress Chart

1. Time of Completion: The entire work is to be completed in all respects within the stipulated period. The work shall deemed to be commence within fourteen days from the date of handing over of site, whichever is later. Time is the essence of the contract and shall be strictly observed by the contractor.

The work shall not be considered as complete until the Employer/Architects have certified in writing that his has been completed and the Defects Liability Period shall commence from the date of such certificate.

2. Extension of Time: if an opinion of the Employer/ Architects/PMC the works be delayed (a) by reason of any exceptionally inclement weather, or (b) by reason of instructions from the Employer in consequence of proceedings taken or threatened by or disputes, with adjoining or neighboring owners or (c) by the works, or delay, of other contractors or tradesmen engaged or nominated by the Employer 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 strikes or lock-out affecting any of the building trades or (f) from other causes which the Employer may consider being beyond the control. Of the contractor, the Employer at the completion of the time allowed for the contract shall make fair and reasonable extension of time for completion in respect therefore. In the event of the Employer 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 lockouts, as are referred to above, the contractor shall, immediately give the Employer, written notice thereof. Nevertheless, the contractor shall use his best endeavors all that to prevent delay, and shall do all that may be reasonably required, to the satisfaction of the Employer to proceed with the works and on his doing so that it will be ground of consideration by the Employer for an extension of time as above provided. The decision of the Employer as to be period to be allowed for an extension of time for completion date. The provision in clause 15 with respect to payment of liquidated damages shall, in such case, be read and construed as if the extended date fixed by the Employer were substituted for and the damage shall be deduced accordingly.

3. Progress of Work: During the period of construction the contractor shall maintain proportionate progress on the basis of a Programme Chart submitted by the contractor immediately before commencement of work and agreed to by the Employer/Architects. Contractor should also include planning for procurement of scarce material well in advance and reflect the same in the Programme Chart so that there is no delay in completion of the project.

13. Liquidated Damages

Should the work be not completed to the satisfaction of the Employer/Architects within the stipulated period, the contractor shall be bound to pay to the Employer a sum calculated as given below by way of liquidated damages and not as penalty during with the work remains uncommenced or unfinished after the expiry of the completion date.

a)	For contracts having time for completion 6 months and less	1.00% of the estimated amount shown in the tender per week subject to a ceiling of 10% of the accepted contracted sum.
b)	For contracts having time for completion exceeding 6 months but not exceeding 2 years (24 months)	0.50% of the estimated amount shown in the tender per week subject to a ceiling of 7.5% of the accepted contracted sum but not exceeding the total S.D. of the contract
c)	For contracts having time for completion in excess of 2 years	0.25% of the estimated amount shown in the tender per week subject to a ceiling of 5% of the accepted contracted sum but not exceeding the total S.D. of the contract.

14. Tools, Storage of Materials, Protective Works and Site Office Requirements

The contractor shall provide, fix up and maintain in an approved position proper office accommodation for the contractor's representative and staff which offices shall be open at all reasonable hours to receive instruction notices or communications and clear away on completion of the works and make good all work disturbed.
All drawings maintained on the site are to be carefully mounted on boards of appropriate size and covered with a coat of approved varnish. They are to be protected from ravages of termites, ants, and other insects.

The contractor shall provide a suitable temporary hut for the watchmen and clear away the same when no longer required and to provide all necessary attendance, lights etc., required.

The contractor shall arrange for temporary latrines for the use of workers and field staff and keep the same in a clean and sanitary condition to the satisfaction of the Public Health Authorities and shall cause such latrines and soil to be cleared away whenever necessary and shall make good all the works disturbed by these conveniences.

Every precaution shall be taken by the contractor to prevent the breeding of mosquitoes on the works during the construction, and all receptacles, cisterns, water tanks etc., used for the storage of water must be suitably protected against any breach of rules in respect of anti-malarial measures.

The contractor shall not fix or place any placards or advertisement of any description or permit the same to be fixed or placed in or upon any boarding, gantry, building structure other than those approved by the Employer.

Protective Measures: The contractor from the time of being place in possession of the site must make suitable arrangements for watching, lighting and protecting the work, the site and surrounding property by day, by night, on Sundays and other holidays.

Contractor shall indemnify the Employer against any possible damage to the building, roads, or members of the public in course of execution of the work.

The contractor shall provide necessary temporary enclosures, gates, entrances, etc., for the protection of the works and materials and for altering and adopting the same as may be required and removing on completion of the works and making good all works disturbed.

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.

Cement godown shall be constructed for storing about six weeks requirement of cement and stored as per norms with a stack of 10 bags each and 2 feet opening all around with 2 feet passage of each stack. Structure shall be waterproof from all the sides and top. Cement should be stored one feet above the ground level and have pucca-raised floor.

So also reinforcement bars are to be stored above the ground level to prevent the same from getting rusted.

Tools: The odolite levels, prismatic compass, chain, steel and metallic tapes and all other surveying instruments found necessary on the works shall be provided by the contractor for the due performance of this contract as instructed by the Site Engineer.

All measuring tapes shall be of steel and suitable scaffolding and ladders that may be required for safely taking measurement shall be supplied by the contractor.

The mistries and the supervisors on the works shall carry with them always a one meter or two meter steel tape, a measuring tape of 30 meters, a spirit level, a plumb bob and a square and shall check the work to see that the work is being done according to the drawing and specifications. The Site Engineer will use any or all measuring instruments or tools belonging to the contractors as he chooses for checking the works executed or being executed on the contract.

The contractor should cover in his rates for making provisions for all reasonable facilities for the use of his scaffolding, tools and plant etc., by sub-contractors for their work.

15. Notice and Patents of Appropriate Authority and Owners

The contractor shall conform to the provisions of any Acts of the Legislature relating to the work, and to the Regulations and Bye-laws of any authorities, and/or any water, lighting and other companies, and/or authorities with whose systems the structures were proposed to have connection and shall before making any variations from the drawings or specification that may be associated to so conform, give the Employer/Architects written notices specifying the variations proposed to be made and the reasons for making them and apply for instruction thereon. The Employer/Architects written notices specifying the variations proposed to be made and the reasons for making them and apply for instruction thereon. The Employer/Architects on receipt of such intimation shall give a decision within a reasonable time.

The contractor/s shall arrange to give all notices required for by the said Acts, Regulations or Bye-laws to be given to any authority, and to pay to such authority or to any public officer all fees that may be properly chargeable in respect of the work and lodge the receipts with the Employer.

The contractor shall indemnify the Employer against all claims in respect of patent rights, royalties, damages to buildings, roads or members of public in course of execution of work and shall defend all actions arising from such claims and shall keep the Employer save harmless and indemnified in all respects from such actions, costs and expenses.

16. Clearing Site and Setting out Works

The site shown on the plan shall be cleared of all obstructions, loose stone, and materials rubbish of all kinds. All holes or hollows whether originally existing or produced by removal or 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 works 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 Employer. The Contractor shall further set out to works 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.

17. Datum

The average ground level will be considered as the crown of the nearest road, which should be taken as “Datum” which is however, subject to final confirmation by the Employer/Architects. All levels shown in the drawings are to be strictly adhered to.

18. Benches

The contractor is to construct and maintain proper benches of all the main walls, in order that the lines and levels may be accurately checked at all times.

These benches will consist of salwood post of adequate length and minimum diameter 75 mm to be driven in the ground at suitable distance as directed encased with brickwork. The wire nails will be driven on the top of salwood post on the centre lines of columns, walls, inside and outside faces of foundation trenches, in order that lines may be stretched between the benches and accurate intersection of excavation. Centre line of walls, columns etc., may be clearly indicated and checked at any time if it is so required.

19. Contractor Immediately to Remove All Offensive Matters

All soil, filth or there 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 place provided by him.

The contractor shall keep the foundations and works 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 Employer for the purpose, until the building is handed over to the Employer. The contractor shall arrange for the disposal of the water so accumulated to the satisfaction of the Employer and local authority and no claims will be entertained afterwards if he does not include in his rates for the purpose.

20. Access

Any authorized representative of the Employer shall at all reasonable times have free access to the works 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 Employer no person shall be allowed at any time without the written permission of the Employer.

21. Materials, Workmanship, Samples, Testing of Materials

All the works specified and provided for in the specifications or which may be required to be done in order to perform and complete any part thereof shall be executed in the best and most workmanlike manner with materials of the best and approved quality of the respective kinds in accordance with the particulars contained in and implied by the specifications and as represented by the drawings or according to such other additional particulars, and instructions as may from time to time be given by the Employer/Architects during the execution of the work, and to his entire satisfaction.

If required by the Employer/Architects the contractor shall have to carry out tests on materials and workmanship in approved materials testing laboratories or as prescribed by the Employer/Architects at his own cost to prove that the materials etc., under test conform to the relevant I.S. Standards or as specified in the specifications. The necessary charges for preparation of mould (in case of concrete cube) transporting, testing etc., shall have to be borne by the contractor. No extra payment on this account should in any case be entertained.

All the materials (except where otherwise described) stores and equipment required for the full performance of the work under the contract must be provided through normal channels and must include charge for import duties, sales tax, control and other charges and must be the best of their kind available and the contractor/s must be entirely responsible for the proper and efficient carrying out of the work. The work must be done in the best workmanlike manner. Samples of all materials to be used must be submitted to the Employer/Architects when so directed by the Engineer/Architects and written approval from Employer/Architects must be obtained prior to placement of order.

During the inclement weather the contractor shall suspend concreting and plastering for such time as the Employer/Architects may direct and shall protect from injury all work when in course of execution. Any damage (during constructions) to any part of the work for any reasons due to rain, storm, or neglect of contractor shall be rectified by the contractor in an approved manner at no extra cost.

Should the work be suspended by reason of rain, strike, lockouts or any other cause, the contractor shall take all precautions necessary for the protection of work and at his own expenses shall make good any damage arising from any of these causes.
The contractor shall cover up and protect from damage, from any cause, all new work and supply all temporary doors, protection to window, and any other requisite protection for the execution of the work whether by himself or special tradesmen or sub-contractor and any damage caused must be made good by the contractor at his own expenses.

22. Removal of Improper Work

The Employer shall during the progress of the work have power to order in writing from time to time and 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 Employer/Architects are not in accordance with specification or instructions, the substitution or proper re-execution of any work executed with materials or workmanships not in accordance with the drawings and specifications or instructions. In case the contractor refuses to comply with the order the Employer 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 Employer/Architects 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 Architects shall relieve the contractor from his liability in respect of unsound work or bad materials.

23. Site Engineer/Project Management Consultant

The term “Site Engineer/PMC” shall mean the person/agencies appointed and paid by the Employer to superintend the work. The contractor shall afford the Site Engineer/PMC every facility and assistance for examining the works and materials and for checking and measuring work and materials. The Site Engineer/PMC shall have no power to revoke, alter, enlarge or relax any requirements of the

contractor or to sanction any day work, additions, alterations, deviations or omissions or any extra work whatever, except in so far as such authority may be specially conferred by a written order of the Employer.

The Site Engineer/PMC shall have power to give notice to the contractor or to his foreman, of non approval of any work or materials and such work shall be suspended or the use of such materials shall be discontinued until the decision of the Employer is obtained. The work will from time to time to examined by the Architects, Engineer from the Premises Department of the Employer and the Site Engineer if any. But such examination shall not in any way exonerate the contractor from the obligation to remedy any defects which may be found to exist at any names of peRsons who shall be presently unconnected with the organization for which the work is executed.
stage of the work or after the same is complete. Subject to the limitations of this clause the contractor shall take instructions only from the Architects/Employer or his representative.

24. Office Accommodation for the Site Engineer/PMC

The contractor shall provide, erect and maintain at his cost a separate simple watertight office accommodation for the Site Engineer/PMC. This accommodation shall be well lighted and ventilated and Provide with windows, door with a lock. The Site Engineer's/PMC office shall be minimum of 150 sq.ft. and the contractor shall provide a desk, chairs, drawers for keeping drawings, a cupboard having proper lock and a tack board for displaying drawings. The accommodation shall be demolished when directed.

25. Contractor's Employees

The contractor shall employ technically qualified and competent supervisors for the work who shall be available (by turn) throughout the working hours to receive and comply with instructions of the Employer / Architects. The contractor shall engage at least one experienced Engineer as site-in-charge for execution of the work. The contractor shall employ in connection with the work persons having the appropriate skill or ability to perform their job efficiently.

The contractor shall employ local labourers on the work as far as possible.

No labourer below the age of sixteen years and who is not an Indian National shall be employed on the work.

Any labourer supplied by the contractor to be engaged on the work on day-work basis either wholly or partly under the direct order or control of the Employer or his representative shall be deemed to be a person employed by the contractor.

The contractor shall comply with the provisions of all labour legislation including the requirements of

a. The Payment of Wages Act

b. Employer's Liability Act

c. Workmen's Compensation Act

d. Contract Labour (Regulation & Abolition) Act, 1970 and Central Rules 1971.

e. Apprentices Act 1961

f. Minimum Wages Act

g. Any other Act or enactment relating thereto and rules framed there under from time to time.

The contractor shall keep the Employer saved harmless and indemnified against claims if any of the workmen and all costs and expenses as may be incurred by the Employer in connection with any claim that may be made by any workmen.

The contractor shall comply at his own cost with the order of requirement of any Health Officer of the Sate or any local authority or of the Employer regarding the maintenance of proper environmental sanitation of the area where the contractor's labourers are housed or accommodated, for the prevention of small pox, cholera, plague, typhoid, malaria and other contagious diseases. The contractor shall provide, maintain and keep in good sanitary condition adequate sanitary accommodation and provide facilities for pure drinking water at all times for the use of men engaged on the works and shall remove and clear away the same on completion of the works. Adequate precautions shall be taken by the contractor to prevent nuisance of any kind on the works or the lands ad jointing the same.

The Contractor shall arrange to provide first-aid treatment to the labourers engaged on the works. He shall within 24 hours of the occurrence of any accident at or about the site or in connection with execution of the works, report such accident to the Employer and also to the Competent Authority where such report is required by law.

26. Dismissal of Workmen

The contractor shall on the request of the employer immediately dismiss from works any person employed thereon by him, who may in the opinion of the Employer be unsuitable or incompetent or who may misconduct himself. Such discharges shall be the basis of any claim for compensation or damages against the Employer or any of their officer or employee.

27. Assignment

The whole of the woks included in the contract shall be executed by the contractor and the contractor shall not directly or indirectly transfer, assign or underlet the contract or any part, share or interest therein nor, shall take a new partner, without written consent of the Employer and no subletting shall relieve the contractor from the full and entire responsibility of the contract or from active superintendence of the work during their progress.

28. 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 whatsoever in any way connected with the carrying out of this contract. The clause shall be held to include inter-alia, any damage to the buildings whether immediately adjacent or otherwise, and any damage to roads, streets, foot paths or ways as well as damages caused to the buildings and the works forming the subject of this contract by rain, wind or other inclemency of the weather. The contractor shall indemnify the Employer and hold harmless 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 works 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 Employer entirely from all responsibility in this respect. The insurance must be placed with a company approved by the Employer and must be effected jointly in the name of the contractor and the Employer 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. Insurance is compulsory and must be effected from damage to any property arising out of incidents, negligence or defective carrying out of this contract.

The employer shall be 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 or damages from any sums due or to become due to the contractor.

29. Insurance.

Unless otherwise instructed the contractor shall insure the works and keep them insured until the virtual completion of the contract against loss or damage by fire and/or earthquake, flood. The insurance must be placed with a company approved by the Employer, in the joint names of the Employer and the contractor for such amount and for any further sum if called to do so by the employer, the premium of such further sum being allowed to the contractor as an authorized extra.

The contractor shall deposit the policy and receipt for premiums paid with the Employer within 21 (twenty one) days from the date of issue of work order unless otherwise instructed. In default of the contractor insuring as provided above, the Employer on his behalf may so insure and may deduct the premiums paid from any money due, or which may become due to the contractor. The contractor shall as soon as the claim under the policy is settled or the work reinstated by the Insurance Company should they elect to do so, proceed with due diligence with the completion of the works in the same manne4r as though the fire has not occurred and in all respects under the condition of the contract. The contractor in case of

rebinding or reinstatement after fire shall be entitled to extension of time for completion as the Employer may deem fit.

30. Accounts Receipts & Vouchers

The contractor shall, upon the request of the Employer furnish them with all the invoices, accounts, receipts and other vouchers that they may require in connection with the works under this contract. If the contractor shall use materials less than what he is required under the contract, the value of the difference in the quantity of the materials he was required to use and that he actually used shall be final and binding on the contractor as to the amount of materials the contractor is required to use for any work under this contract.

Before taking any measurement of any work the Site Engineer or a subordinate deputed by him shall give reasonable notice to the contractor. If the contractor fails to attend at the measurements after such notice or fails to countersign or to record the difference within a week from the date of measurement in the manner required by the Site Engineer then in any such event the measurements taken by the Site Engineer or by the subordinate deputed by him as the case may be is final and binding on the contractor and the contractor shall have no right to dispute the same.

31. Payments

All bills shall be prepared by the contractor in the form prescribed by the Employer/Architects. Normally one interim bill shall be prepared each month subject to minimum value for interim certificate as stated in these documents. The bills in proper forms must be duly accompanied by detailed measurements in support of the quantities of work done and must show deductions for all previous payments, retention money, etc.

The Employer/Architect shall issue a certificate after due scrutiny of the contractors bill stating the amount due to the contractor from the Employer and the contractor shall be entitled to payment thereof, within the period of honoring certificates named in these documents. In case of delay due to some reasons in the processing of such bills for payment, an adhoc advance of 75% of the billed amount may be paid on the request o9f the contractor for the smooth progress of the work.

The amount stated in an interim certificate shall be the total value of work properly executed and 75% of invoiced value of material brought to site for permanent incorporation into the work up to the date of the bill less the amount to be retained by the Employer as retention money vide clause 12 of these conditions and less installments previously paid under these conditions, provided that such certificate shall only include the value of said material and goods as and from such time as they are reasonably, properly and not prematurely brought to or placed adjacent to the work and then only if adequately protected against weather or other causalities.

The Employer will deduct retention money as described in clause 12 of these conditions. The refund of retention money will be made as specified in the said clause.

If the Employer has supplied any materials or goods to the contractor, the cost of any such materials or goods will be progressively deducted from the amount due to the contractor in accordance with the quantities consumed in the work.

All the interim payments shall be regarded as payments by way of advance against the final payment only and not as payments for work actually done and completed, and shall not preclude the requiring of bad, unsound, and imperfect or unskilled work to be removed and taken away and reconstructed, or re-erected or be considered as an admission of the due performance of the contract, or any part thereof in any respect or the accruing of any claim, nor shall, it conclude, determine or affect in anyway the power of the Employer under these conditions or any of them as to the final settlement and adjustment of the accounts or otherwise or in any other way vary or affect the contractor within one month of the date fixed for completion of the work or of the date of certificate of completion furnished by the Site Engineer and payment shall be made within three months.

Final Payment

A certificate of completion shall accompany the final bill from the Employer/Architects. Payments of final bill shall be made after deduction of Retention Money as specified in clause 12 of these conditions, which sum shall be refunded after the completion of the Defects Liability Period after receiving the Employer's/Architects' certificate that the contractor has rectified all defects to the satisfaction of the Employer/Architects. 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.

32. Variation/Deviation

The price of all such additional items/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, material and other components as required. The tender rates, shall hold good for any increase or decrease in the tendered quantities up to variation of 25%. For variation beyond 25% , the rate for the respective item may be reviewed on mutually agreed terms.

33. Substitution

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

34. Preparation of Building Works for Occupation and Use on Completion

The whole of the work will be thoroughly inspected by the contractor and deficiencies and defects put right. On completion of such inspection the contractor shall inform the Employer that he has completed the work and it is ready for inspection.

On completion the contractor shall clean all windows and oiling if necessary, of all hardware, inside and outside, all floors, staircases, and every part of the building. He will leave the entire building neat and clean and ready for immediate occupation and to the satisfaction of the Bank.

35. Clearing Site on Completion

On completion of the works the contractor shall clear away and remove from the site all constructional plant, surplus materials, rubbish and temporary works of every kind and leave the whole of the site and the works clean and in a workmanlike condition to the satisfaction of the Employer/Architects.

36. Defects after Completion

The contractor shall make good at his own cost and to the satisfaction of the Employer all defects, shrinkage, settlements or other faults, which may appear within 12 months after completion of the work. In default the Employer 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 Employer or may be deducted by the employer, 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 under clause No. 12 together with any expenses the Employer may have incurred in connection therewith.

37. Concealed Work

The contractor shall give due notice to the Employer/Architects 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 opinion of the Employer/Architect be either opened u for measurement at the contractor's expense or no payment may be made for such materials. Should any dispute of differences 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 Employer/Architects shall be accepted as correct and binding on the contractor.

38. Escalation

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 cost of materials, labour, sales tax, octroi, etc. unless specifically provided in these documents.

39. Idle Labor

Whatever the reasons may be, claim for idle labour, additional establishment cost of hire and labour charges of tools and plants would be entertained under any circumstances.

40. Suspension

If the contractor except on account of any legal restraint upon the Employer preventing the continuance of the work or in the opinion of the Employer 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 Employer shall have the power to give notice in writing to the contractor requiring the work to be proceeded within a reasonable manner and with reasonable dispatch, such notice purport to be a notice under this to be a notice under this clause.

After such notice shall have been given the contractor shall the contractor shall not be at liberty to remove from the site of the works 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 fails to start the work within seven days after such notice has been given to proceed with the works as therein prescribed, the Employer may proceed as provided in clause 43 (Termination of Contract by Employer).

41. Termination of Contract by Employer

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 employer that he is able to carry out and fulfill the contract, and if so required by the employer 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 encumber this contract or any payments due or which may become due to the contractor, there under, 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 works, or shall in the opinion of the employer 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 employer 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 effecting the powers of the employer 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 works subsequently executed had been executed by or behalf of the contractor (without thereby creating any trust in favour of the contractor) further the employer 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 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 plants for the works when the works shall be completed, or as soon thereafter as conveniently may be, the employer 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 employer may sell the same by publish Action and shall give credit to the contractor for the amount so realized. Any expenses or losses incurred by the employer 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 plants or due on account of work carried out by the contractor prior to engaging other contractors or against the Security Deposit.

42.0 Arbitration

All disputes or differences of any kind whatsoever which shall at any time arise between the parties hereto touching or concerning the works or the execution or maintenance thereof this contract or the rights touching or concerning the works or the execution of maintenance thereof this contract or the construction remaining operation or effect thereof or to the rights or liabilities of the parties or arising out of or in relation thereto whether during or after determination foreclosure or branch of the contract (other than those in respect of which the decision of any person is by the contract expressed to be final and binding) shall after written notice by either party to the contract to the other of them and to the Employer hereinafter mentioned be referred for adjudication to a sole Arbitrator to be appointed as hereinafter provided.

For the purpose of appointing the sole Arbitrator referred to above, the Employer will send within thirty days of receipt of the notice, to the contractor a panel of three The contractor shall on receipt of the names as aforesaid, select any one of the persons name to be appointed as a sole Arbitrator and communicate his name to the Employer within Thirty days of receipt of the names. The Employer shall thereupon without any delay appoint the said person as the Sole Arbitrator. If the contractor fails to communicate such selection as provided above within the period specified, the Competent Authority shall make the selection and appoint the selected person as the Sole Arbitrator.

If the Employer fails to send to the contractor the panel of three names as aforesaid within the period specified, the contractor shall send to the Employer a panel of three names of persons who shall all be unconnected with either party. The Employer shall not receipt of the name as aforesaid select any one of the person’s names and appoint him as the Sole Arbitrator. If the Employer fails to

select the person and appoint him as the Sole Arbitrator within 30 days of receipt of the panel and inform the contractor accordingly, the contractor shall be entitled to appoint one of the persons from the panel as the Sole Arbitrator and communicate his name to the Employer.

If the Arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever another Sole Arbitrator shall be appointed as aforesaid. The work under the Contract shall, however, continue during the arbitration proceedings and no payment due or payable to the contractor shall be withheld on account of such proceedings.

The Arbitrator shall be deemed to have entered on the reference the date he issued notice to both the parties fixing the date hearing.
The Arbitrator may from time to time, with the consent of the parties, enlarge the time for making and publishing the award.

The Arbitrator shall give a separate award in respect of each dispute or difference referred to him. The Arbitrator shall decide each dispute in accordance with the terms of the contract and give a reasoned award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award including the fees, if any, of the Arbitrator who may direct to and by whom and in what manner, such costs or any part thereof shall be paid and may fix or settle and amount of costs to be so paid.

The award of the Arbitrator shall be final and binding on both the parties.
Subject of aforesaid the provisions of the Arbitration Act 1992 or any statutory modification or re-enactment thereof and the rules made hereunder, and for the time being in force, shall apply to the arbitration proceeding under this clause.

The employer and the contractor here by also agree that arbitration under clause shall be a condition precedent to any right to action under the contract with regard to the matters hereby expressly agreed to be so referred to arbitration.

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SAFETY CODE

Scaffolds

Suitable scaffolds shall be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except in the case of short duration work which can be done safely from ladders. When a ladder is used it shall be of rigid construction made either of good quality wood or steel. The steps shall have a minimum width of 450 mm and a maximum rise of 300 mm. Suitable hand holds of good quality wood or steel shall be provided and the ladder shall be given an inclination not steeper than ¼ to (1/4 horizontal and 1 vertical).
Scaffolding or staging more than 4 m. above the ground floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail property bolted, braced or otherwise secured, at least 1 m. above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
Working platforms, gangways and stairways shall be so constructed that they do not sag unequally and if the height of the platform, gangway or stairway is more than 4ms above ground level or floor level, they shall be closely boarded and shall have adequate width and be suitably fenced as described in (ii) above.
Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1 m.
Wherever there are open excavations in ground, they shall be fenced off by suitable railing and danger signals installed at night so as to prevent persons slipping into the excavations.
Safe means of access shall be provided to all working places. Every ladder shall be securely fixed. No portable single ladder single ladder shall be over 9m. in length while the width between side rails in rung ladder shall in no case, be less than 290mm. For ladder up to and including 3m. in length for longer ladders this width shall be increased at least 20mm for each additional meter of length.
A sketch of the ladders and scaffolds proposed to be used shall be prepared and approval of the Engineer obtained prior to construction.

Other Safety Measures

All personnel of the contractor working within the plant site shall be provided with safety helmets. All welders shall wear welding goggles while doing welding work and all metal workers shall be provided with safety gloves. Persons employed on metal cutting and grinding shall wear safety glasses.
Adequate precautions shall be taken to prevent danger from electrical equipment.
No materials on any of the sties of work shall be so stacked or placed as to cause danger or inconveniences to any person or the public.

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Excavation & Trenching

All trenches, 1.25m. or more in depth shall at all times be supplied with at least one ladder for each 30m. in length or fraction thereof. The ladder shall be extended from bottoms of the trench to at least 1m. above the surface of the ground. Sides of trenches which are 1.5m or more in depth shall be stepped back to give suitable slope or securely held by timber bracing so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5m. of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom under no circumstances undermining or undercutting shall be done.
The contractor shall take all measures on the site of the work to protect the public from accidents and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any persons for injury sustained owing to neglect of the above precautions and to pay any such persons or which may with the consent of the contractor, be paid to compromise claim by any such person.

Demolition

Before any demolition work is commenced and also during the process of the work. All roads and open areas adjacent to the work site shall either be closed or suitably protected. No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by the operator shall remain electrically charged. All practical steps shall be taken to prevent danger to persons employed from the risk of fire or explosion or flooring. No floor, roof or other part of the building shall be so over loaded with debris or materials as to render it unsafe.

Personal Safety Equipments

All necessary personal safety equipment as considered adequate by the Engineer should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned.

Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and proactive goggles.
Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes shall be provided with protective goggles.
Those engaged in welding works shall be provided with welder’s protective eyesight lids.
Stone breakers shall be provided with protective with welder’s clothing and seated at sufficiently safe intervals.
When workers are employed in sewers and manholes, which are in use, the contractor shall ensure that the manhole covers are opened and are ventilated at least for an hour before the workers are allowed to get into manholes and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public.

The contractor shall not employ men below the age of 18 years and women on the work of painting with products containing lead or any toxic material in any form. Wherever men above the age of 18 are employed on the work of such painting the following precautions should be taken.
No paint containing leas or lead products shall be used except in the form of paste or readymade paint. Paints like vinyl and epoxies having toxic fumes should be applied after following all precautions laid down by manufactures.
Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scrapped.
Overalls shall be supplied by the contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.

When the work is done near any public place where there is risk of drownings all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

Hoisting Machines

1. a). These shall be of good mechanical constructions sound material and adequate strength and free from patent defect and shall be kept in good repair and in good working order.

b). Every rope used in hoisting or lowering materials or as means of suspension shall be of durable quality and adequate strength and free from patent defects.

2. Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years shall be in charge of any hoisting machine including any scaffolding which or give signals to operator.

3. In case of every hoisting machine and of every chain ring hook, shackle shovel and pulley block used in hoisting or as means of suspension the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.

4. In case of departmental machines, the safe working load shall be notified by the Engineer,. As regards contractor’s machines, the contractor shall notify the safe working load of the machine to the engineer whenever he brings any machinery to site of working and get it verified by the engineer concerned.

Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum of the risk of any part of a suspended load becoming accidentally displaced. When workers are employed

on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The workers should not wear any rings, watches and carry keys or other materials which are good conductors of electricity.

All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use.

Adequate washing facilities should be provided at or near places of work.

These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person reasonable for compliance of the safety code shall be named therein by the contractor.

To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractors shall be open to inspection by the labour officer's engineers of the department or their representatives

Not with standing the above clause from (i) to (xviii), there is nothing in these to exempt the contractor from the operations of any other Act or rule in force in the Republic of India.

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MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS

Applications

1. The rules shall apply to all buildings and construction works in charge of UNION BANK OF INDIA REGIONAL OFFICE, SECUNDERABAD.

Definition

2. a) "Work place" means a place at which, at an average 50 workers are employed in connection work.

b). "Large work place" means a place at which an average 500 or more workers are employed in connection with construction work.

First Aid

3. a) At every work place, there shall be maintained in readily accessible place first aid appliance including an adequate supply of sterilized dressing and sterilized cotton wool. The appliance shall be kept in good order and in large work place they shall be placed under the charge of a responsible person who shall be readily available during working hours.

b). At large work places, where hospital facilities are not available within easy distance of the works, first aid posts shall be established and be run by a trained compounded.

c). Where large work places are remote from regular hospitals, an indoor ward shall be provided with one bed for every 250 employees.

d). Where large work places are situated in cities, towns in their suburbs and no beds are considered necessary owing to the proximity of city or town hospitals, suitable transport shall be provided to facilitate removal of urgent cases to the hospitals.

At other work places, some conveyance facilities such as a car shall be kept readily available to take injured person or persons suddenly taken ill to the nearest hospitals.

Drinking Water

4. a) In every work place, there shall be provided and maintained at suitable places easily accessible to labour sufficient supply of cold water fit for drinking.

b). Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.

c). Every water supply of storage shall be at a distance of not less then 15m. from any latrine, drain or other source of pollutions . where water has t be drawn from an existing well which is within the proximity of latrine, drain or any other source of pollution, the will shall be properly chlorinated before water is drawn from it form drinking. All such wells shall be entirely closed in and be provided with a trap door which shall be dust and water proof.

d). A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

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Washing & Bathing Places

5. a) Adequate washing and bathing places shall be provided, separately for men and women.

b). Such place shall be kept in clean and drained conditions.

Scale of Accommodation in Latrines & Urinals

6. There shall be provided within the precincts of every work place latrines and urinals **in** an accessible place and the accommodation, separately for each of the them shall not be less than the following scale.

No. of seats	
Where the number of persons does not exceed 50	2
b) Where the number of persons exceeds 50 but does not exceed 100	3
c) For every additional 100	3 per 100

In particular cases, the engineer shall have the powers to vary the scale where necessary.

Latrines & Urinals for women.

7. If women are employed separate latrines and urinals screened from those for men and marked in the vernacular in conspicuous letters "For Women Only" shall be provided on the scale laid in rule 6. those for men shall be similarly marked "For Men Only" a poster showing the figure of a man or a women shall also be exhibited at the entrance of latrines for the respective sex. There shall be adequate supply of water close to the urinals and latrines.

Latrines & Urinals

8. All latrine shall be provided with septic tanks or leach pits in case of small units. All the latrines shall be kept in good sanitary conditions.

Construction of Latrines

9. The inside walls shall be constructed of masonry or some suitable heat resisting non-absorbent materials and shall be cement washed inside and outside at least once a year. The dates of cement washing shall be noted in a register maintained for this purpose and kept available for – inspection. Latrines will not be of a standard lower then bore-hole system and should have thatched roofs.

Disposal for Excreta

10. Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta shall be made by septic tank or leach pit duly approved by the engineer and in conformity with the requirements of local public health authorities.

Provision of Shelter during Rest

11. At every work place there shall be provided free of cost, two suitable sheds, one for meals and the other for rest separately for men and women for the use of labour. The height of the shelter shall not be less than 3.5 m; from the floor level,. To the lowest part of the roof. The sheds should be roofed with at least thatch and mud flooring will be provided with a dwarf wall around not less than

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750 mm. Sheds should be kept clean and the space should be on the basis of at least 0.50 square meter per head.

Creches

12. At every work place at which 50 or more women workers are ordinarily employed , there shall be provided two huts for the use of children under the age of 6 years belonging to such women, one hut shall be used for infants, games and paly and the other as their bed room. The huts shall not be constructed on a lower standard than the following.

i) Thatched roof

ii) Mud floors and walls

iii) Planks spread over the mud floor and covered with matting.

The huts shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provisions of sweepers to keep the place clean. There shall be two dais in attendance. Sanitary utensils shall be provided to the satisfaction of the Health officer of the area concerned. The use of the hut shall be restricted to children their attendants and mothers of the children.

a. Where the number of women workers is more than 25 years but less then 50, contractor shall provide at least one hut and one dai to look after the children of women workers.

b. The size of crèche or crèches shall vary according to the number of women workers.

c. The crèche or crèches shall be properly maintained and necessary equipment like toys etc., shall be provided.

Canteen

13. A cooked food canteen on a moderate scale shall be provided for the benefit of workers wherever it is considered expedient.

14. The above rules shall be incorporated in the contracts and in notices inviting tenders and shall form an integral part of the contract.

CONDITIONS FOR ELECTRICAL WORK:

CONTENTS:

SPECIAL CONDITIONS

1. General:

1.1 These special conditions shall be read in conjunction with the description of the item of work in the Bill(s) of Quantities, the particular Specifications, Local Statutory Regulations, Indian Standards Specifications/Codes and the drawings. All the above quoted documents, shall be considered supplementary to each other. However, in the case of conflict amongst the various provisions the owner's and the consultants opinion will be final and shall be adopted.

1.2 The tenderer is advised to inspect the site to ascertain the nature of site, access thereto, local facilities for procurement of materials and working labour rates prevalent in the area, in fact all matters affecting his prices and execution of the work. The tenderer shall be deemed to have full knowledge of the site and drawings whether or not he actually inspects them.

2. Rates :

2.1 The rates quoted shall be deemed to allow for all minor extras and constructional details which are not specifically shown on drawings or given on the specifications but are essential in the opinion of the Engineer-in-charge to the execution of works to confirm to good workmanship and sound engineering practice. The Consultant/Employer reserves the right to make any minor changes during the execution without any extra payment.

2.2 The Consultants decision to clarify any item under minor changes, minor extras and constructional details shall be final, conclusive and binding on the Contractor.

2.3 The rates quoted by the Contractor shall be net so as to include all requirements described in the contract agreement and no claim whatsoever due to fluctuations in the price of material and labour will be entertained.

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2.4 The rates quoted by the Contractor shall include for supplying materials and labour necessary for completing the work in the best and most workmanship like manner to the satisfaction of the Consultant/Employer and which in the opinion of the Consultant cannot be made better, and for maintaining the same. The rates shall be complete in all respects also including cost of materials, erection, fabrication, labour, supervision, tools and plant, transport, sales and other taxes royalties, duties and materials, contingencies, breakage, wastage, sundries, scaffoldings, etc., on the basis of works contract. The rates quoted shall include all taxes, duties, transport, insurance, octroi, or any other levies applicable under the statute.

3.0 Materials:

3.1 The Contractor shall ensure to the satisfaction of the Consultant/Employer that the materials are packed in original sealed containers/packing bearing manufacturer's markings and brands etc., except where the gross quantity required is a fraction of the smallest packings. Materials not complying with this requirement shall be rejected.

3.2 Testing of Materials:
a) When required by the Consultant, the Contractor shall provide all facilities at site or at manufacturer's works or in an approved laboratory for testing the materials and/or workmanship. All the expenditure in respect of this shall be borne by the Contractor unless specified otherwise in the Contract. The Contractor shall, when required to do so by the Consultant shall submit at his own cost, manufacturer's certificate of tests, proof sheets, mill sheets etc., showing that the materials have been tested in accordance with requirements of these specifications. The samples for Tests shall be selected by the Client/ Consultant.

4.0 Rectification of Defects:

4.1 Any defect in the work done or materials used in the works pointed out by the Consultant shall be rectified within a week or such extended time as may be allowed in this failing which the said defect shall be got rectified by the Consultant at the risk and cost of the Contractors.

5.0 Conduit and Cables Layout :

5.1 Prior to the pulling of wires, the Contractor shall verify the conduits laid at site by Civil Contractors and satisfy themselves about the adequacy of the same. The contractors shall prepare Wiring layout along with Conduit layout and submit for approval. Prior to laying of the cables, the Contractor shall submit to the Consultant detailed layout plans of the cable net work and get the same approved. The layout plans shall contain particulars regarding size and routes of the cables. The Cables shall be procured only after approval of Layout Drawings.

6.0 Regulations & Standards :

6.1 The installation shall conform in all respects to Indian Standard Code of Practice for Electrical Wiring Installation IS:732 and IS:2274. It shall also be in conformity with the current Indian Electricity Rules and Regulations and requirements of the local Electric Supply Authority in so far as these become applicable to the installation. Wherever this specification calls for higher standard of material and/or workmanship than those required by any of the above regulations then this specification shall take precedence over the said regulations and standards.

7.0 Shop Drawings:

7.1 The Contractor shall prepare and submit to the Consultant for the approval of detailed fabrication drawings for Main LT Panels/SwitchGears/Rising Mains special boxes and Distribution Board, switch board, special any other equipment to be fabricated by Contractor within 45 days of signing of the contract.

8.0 Completion Drawings:

8.1 At the completion of the work and before issuance of certificate of virtual completion the contractor shall submit to the consultant/Employer layout drawings drawn at approved scale indicating the complete wiring system "As Installed". These drawings shall in particular, give the following information.
(a) Run and size of conduits, inspection, junction and pull boxes.

(b) Location and rating of sockets and switches, controlling the light and power outlets.

(c) Number and size of conductors in each circuit.

(d) Location and details of distribution boards, mains, switches, switchgear and other particulars.

(e) A complete wiring diagram, as installed and schematic drawings showing all connections in the complete electrical system.

(f) Location of telephone outlets, T.V. Music & Fire Alarm outlet boxes, junctions boxes, sizes of various conduits.

(g) Locations of all earthing stations, routs and size of all earthing conductors, manholes etc.

(h) Layout and particulars of all cables.

9.0 Manufacturer's Instructions:

9.1 Where manufacturers have furnished specific instructions, rating to the materials used in this job, covering points not specifically mentioned in the documents, these instructions shall be followed in all cases.

10.0 Completion Certificate :

10.1 On completion of the Electrical Installation a certificate shall be furnished by the Contractor counter signed by a licensed supervisor, under whose direct supervision the installation was carried out.
This certificate shall be in the prescribed form as required by the local supply authority. The Contractor shall be responsible for getting the drawings and Electrical Installation inspected and approved by the local Authority concerned.

11.0 Qualified Competent Supervision :

11.1 The Contractor shall employ competent fully licensed, qualified full time Engineer to direct the work of Electrical installation in accordance with drawings and specifications. The Engineer shall be available at all times on the site to receive instructions from Consultant in the day to day activities, through out the duration of the contract. The foremen shall co-relate the progress of the work in conjunction with all relevant requirements of the supply authorities.

12. Approval from SEB/ Electrical Inspectorate:
The Contractor shall prepare and submit all the relevant drawings as per the Requirement of AP TRANSCO/ Electrical Inspectorate and obtain the Approvals from CEIG,CEA, Hyderabad. No incidental expenses will be paid towards the same. Only statutory fees if any will be paid by UBI

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TECHNICAL SPECIFICATIONS
CHAPTER 1
INTERNAL ELECTRIFICATION

1.0 Scope :

This specification is intended to cover the requirements of supply, installation, testing and commissioning of electrical wiring installation and other accessories required for its satisfactory operation. This covers the essential requirements or precautions regarding wiring installations for ensuring satisfactory and reliable service.

2.0 Standards :

The Electrical wiring installations and other accessories shall comply with latest IS : 732 - 1989 and National Electrical code - 1985.

3. Construction :

Wall mounted switch boards shall be installed such that the bottom is at a minimum height of 1.35 m above finished floor level wherever applicable, as indicated in the drawing.
Equipment which is on the front of a switch board shall be so arranged that inadvertent personnel contact with live parts is unlikely during the manipulation of switches, changing of fuses or similar operation.
In every case in which switches and fuses are fitted on the same pole, these fuses, shall be so arranged that the fuses are not live when their respective switches are in 'OFF' position.
No fuses other than fuses in instrument circuit shall be fixed on the back or behind a switch board panel or frame.

4. Capacity of circuit :

Lighting Circuits shall not have more than a total of ten points of fans, 5A socket outlets and light points and its total load shall not exceed 800 watts. Lights, fans, and 5A socket outlets can be wired on a single common circuit. If fan circuit is drawn separately, circuit shall not be used more than eight points and load shall not exceed more than 800 watts. In the circuit, the neutral and earth wires can be looped up to 10points. From distribution boards Neutral & Earth wires shall be run for every circuit.
The power circuits shall not have more than two outlets per circuit if load to be fed by each outlet is less than 1KW, and if load is more than 2KW, each outlet shall be connected to a separate circuit.

Switches : All switches shall be placed in the live conductor of the circuit and no single pole switch or fuse shall be inserted in the earth or earthed neutral conductor of the circuits. Single pole switches (other than for multiple control) carrying not more than 15amperes may be of the piano flush type and the switch shall be 'ON' When the knob is down.

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Lamp holders : Lamp holders for use on brackets and the like shall have not less than 1.3 cm nopple and all those for use with flexible pendant shall be provided with cord grips. All lamp holders shall be provided with shade carriers. Where centre contact Edison screw lamp holders are used, the outer or screw contact shall be connected to the 'middle wire' or the neutral or to the earthed conductor of the circuit.

Lamps : All incandescent lamps, unless otherwise specified shall be hung at a height of not less than 2.5 m above the finished floor level.

Ceiling rose : a) A ceiling rose or any other similar attachment shall not be used on circuit, the voltage of which normally exceeds 250 volts.
A ceiling rose shall not embody fuse terminals as an integral part of it.
Every socket outlet shall be controlled by a switch. The switch controlling the socket shall be on the 'live' side of side line.5 Amps and 15 Amps socket-outlet shall normally be fixed at any convenient place 60 cm above the floor level or near such level as indicated in drawing. 15 Amps socket outlets in kitchen shall be fixed at convenient place 23cm above the working platform. In a room containing a fixed bath or shower, there shall be no socket outlet and there shall be no provision for connecting a portable appliance.

5. Recessed MS conduit wiring system

a) Making of chase : The chase in the wall shall neatly be made and shall be of suitable dimension to permit the conduit to be fixed in the manner desired by the Engineer-in-charge. In the case of buildings under construction, chases shall be provided in the wall, ceiling, etc. at the time of their construction and shall be filled up neatly after erection of conduit and brought to the original finish of the wall.

b) Fixing of conduit in chase : The conduit shall be fixed by means of staples or by means of saddles not more than 600 mm apart. Fixing of standard bends or elbows shall be avoided as far as practicable and all curves maintained by bending the conduit pipe itself with a long radius which will permit easy drawing-in of conductors. All the threaded joints of rigid steel conduits shall be treated with approved preservative compound to ensure protection against rust.

c) Inspection boxes : To permit periodical inspection and to facilitate replacement of wires, suitable inspection boxes shall be provided at convenient locations. They shall be mounted in flush with the wall. The minimum size of inspection boxes shall be 75 x 75 mm. Suitable ventilating holes shall be provided in the inspection box covers.

d) Types of accessories to be used : All outlets, such as switches and sockets, may be either of flush mounting type or of surface mounting type.
The switches and other outlets shall be mounted on such boxes. The metal box shall be efficiently earthed with the earth continuity wire run along the conduit. When crossing through expansion joints in buildings, the conduit sections across the joint may be through flexible copper bellows of the same size as PVC conduit. The Number of wires that can be drawn through a conduit shall be strictly as per IS 732 and as mentioned in Drawings.

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6. MS Conduits :

MS conduit shall be black enameled and of thickness not less than 16SWG and of size minimum 19 mm dia. The Conduit shall conform to IS 9537/ Part II
Bunching of cables : Separate conduits shall be used for bunching of conductors of AC supply and DC supply for lighting and small power outlet circuits.
All outlets of conduit systems shall be properly drained and ventilated, but in such a manner so as to prevent the entry of insects etc. as far as possible.
Bends in conduit : Wherever necessary, bends or diversions may be achieved by bending the conduits or by employing normal bends, inspection bends, inspection boxes, elbows or similar fittings.In case of plain conduit, heat may be used to soften the conduit for bending and forming joints. Positioning of conduit in close proximity to hot surfaces should be avoided.

7. TESTING OF WIRING:

The following tests shall be carried out on all types of wiring on completion of the work & before energizing the installation :
i) Insulation resistance test,
ii) Electrical continuity test,
iii) Earth continuity test,
iv) Earth electrode resistance test,
v) Switch polarity test.

i) Insulation Resistance test :
The insulation resistance shall be measured by using 500 v megger between the following points.

Phase and neutral conductor with all fuses in position and all switches in closed condition and main switch in OFF position with lamps and other devices removed.

Between earth and whole system of conductors with all fuses in place, all switches closed and all lamps in position.

Between all conductors connected to one phase of the supply of the above tests shall not be less than 50 divided by the number of points on the circuit. Where a whole installation is being tested, a lower value than that given by the above formula is acceptable subject to a minimum of one megaohm.

The insulation resistance in megaohm as obtained by each of the above tests shall not be less than 50 divided by the number of points on the circuit. Where a whole installation is being tested, a lower value than that given by the above formula is acceptable subject to a minimum of one megaohm.

(ii) Electrical continuity test :
Each and every circuit shall be tested for electrical continuity by using a multimeter.

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The earth continuity conductor including metal conduit shall be tested for electrical continuity and the resistance of the same along with the earthing lead measured from the connection with the earth electrode to any point in the earth continuity conductor in the complete installation shall not exceed one ohm.

iv) Earth electrode resistance test :
The earth electrode resistance shall be tested as specified in section

(v).Switch polarity test :
Test shall be made to verify that all switches in every circuit have been fitted in the same conductor throughout and such conductor shall be marked for connection to the phase conductor.

8 Distribution Boards:

All the distribution boards shall be with MCBs as described in the respective schedule.

The distribution boards shall be controlled by a switch fuse, miniature circuit beaker or an isolator as described in the respective schedule. Each outgoing circuit shall be provided either with MCB or a fuse on the phase. The neutral shall be connected to a common link and be capable of being disconnected individually for testing purposes.

The distribution boards shall be located as indicated in the respective electrical working drawings and as directed by Engineer - in - charge. The distribution boards shall be fixed on wall in the niche provided and marked with the details of circuits, source of supply, size of incoming wires Etc.,

All marking shall be clear and legible.

The total load of the consuming devices shall be evenly distributed between the number of ways of distribution board.

The consuming devices circuit shall be connected to distribution board in proper sequence, so as to avoid unnecessary crossing of wires.

Cables shall be connected to a terminal only by crimped lugs.

Cables shall be rigidly fixed in such a manner that a clearance of at least 2.5cm is maintained between conductors of opposite polarity or phase and between the conductors and any material other than insulating material.

The incoming and outgoing cables shall be neatly bunched.

9. MOUNTING HEIGHTS :

The Mounting heights of various fixtures shall be as specified in the Drawings.

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CHAPTER 2

POWER CONTROL CENTRES

1.0 Scope :

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

2.0 Standards :

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

3.0 Design and construction :

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

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

3.2 Constructional requirements :

The power control centre shall be of

i) Metal clad, cubicle, indoor, free standing type suitable for Mounting on Built up
Trenches with U Channels of adequate size.

ii) Made up of the requisite vertical sections, which when coupled together shall form
continuous dead front switch board.

iii) Dust and damp protected, the degree of protection shall be better than IP - 54 as
specified in IS-2147.

iv) Readily extendable on both sides by the addition of vertical sections after removal of the end covers.

v) Single front construction with the circuit beaker feeder and switch fuse feeders suitable for operation from the front of the panel.

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

3.3 Vertical Sections :Each vertical section shall comprise a front framed structure rolled folded sheet steel channel section of minimum 2 mm thickness rigidly bolted together. This structure shall house the components contributing

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

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

3.4 Sheet Steel Cubicle :

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

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

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

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

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

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

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

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

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

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

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

3.5 Metal treatment and finish :
All steel works used in the construction of the switch boards shall have undergone a suitable rigorous metal treatment process so as to remove oxide scales and rust formation and to facilitate a durable coating of the paint on the metal surfaces and also to prevent the spreading of rust, in the event of the paint film being mechanically damaged.
Two coats of Anti Corrosive primer followed by a finishing coat of Epoxy spray power coating of the shade 631 of IS : 5 (i.e. Siemens grey) shall be given. The total thickness of paint shall not be less than 25 micron.

3.6 Bus Bars :
3.6.1 The busbars shall be housed in non-segregated sheet steel compartments in the cubicle at convenient locations with provision for access to the buses from the front of the panel.

3.6.2 The busbar shall be suitably braced with DMC/SMC supports to provide a through fault withstand capacity of 50 KA RMS symmetrical for one second and a peak short circuit withstand capacity 150 KA minimum. The neutral as well as the earth bus shall be capable of withstanding the above fault level.

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

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

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

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

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

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

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

4.0 Circuit Breakers :

4.1 General :

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

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

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

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

4.2 Operating Mechanism :

The operating mechanism shall be of robust design, with minimum number of linkages to ensure maximum reliability. Manually operated circuit breakers shall be provided with spring operated closing mechanism which are independent of speed of manual operation. Electrically shall be independent of the motor which shall be used slowly for charging the closing spring.
The operating mechanism shall be such that the breaker is at all times free to open immediately when the trip coil is energized.
Mechanical operation indicators shall be provided to show open and close positions of the breaker. Electrically operated breakers shall be additionally provided with mechanical indications to show charged and discharged conditions of the charging spring.

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

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

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

The breaker shall have three distinct positions within the castle as follows :
i) ` power and control circuits shall be of robust design and fully self aligning. The Service' position : With main and auxiliary contacts connected.
ii) `Test' position : with power contacts fully disconnected and control circuit contacts connected.
iii) `Isolated' position : with both power and control circuit contacts fully disconnected.

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

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

i) It shall not be possible either to isolate it from the connected position, or to plug it in from the Isolated position with the breaker closed.
ii) The circuit breaker can be closed only when it is in one of the three positions or when it is fully out of the castle.
iii) It shall not be possible to open the hinged door of the castle unless the breaker is drawn to the isolated position.
iv) Inadvertent with drawl of the circuit breaker too far beyond the supporters is prevented by the suitable stops.

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

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

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

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of the breaker. Even in the isolated position positive earthing contact should exist.

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

5.0 Switch Fuse Units :

5.1 General :

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

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

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

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

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

5.2 Interlocks and Safety :

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

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

5.3 HRC Fuses :

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

6.0 Current Transformers.

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

7.0 Indicating / Integrating Meters :

All indicating instruments shall be of flush mounted industrial pattern conforming to the relevant latest amended IS. The instrument shall have non reflecting bazels, clearly, divided and indelibly marked scales, and shall be

provided with zero adjusting devices in the front. Integrating instruments shall be of flush mounted switch board pattern complying with the requirements of relevant latest IS.

8.0 Relays :

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

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

9.0 Control switches/Selector switches :

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

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

10.0 Indicating lamps and push buttons :

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

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

11.0 Cable terminations :

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

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

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

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

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

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12.0 Control wiring :

All control wiring shall be carried out with 1100/650 V grade single core Copper cable conforming to relevant IS having stranded copper conductors of minimum 2.5 sq.mm. section for CT Wiring and 1.5sq.mm for Control/indicating Instruments. Wiring shall be neatly bunched, adequately supported and properly routed to allow easy access and maintenance.
Wires shall be identified by numbered ferrules at each end. The ferrules shall be of the ring type of non-deteriorating material. They shall be firmly located on each wire so as to prevent free movement.
All control circuit fuses shall be mounted in front of the panel and shall be easily accessible.

13.0 Terminal blocks and lables :

Terminal block shall be of 500 volts grade of the stud type. Insulating barriers shall be provided between adjacent terminals.
Terminal block shall have minimum current rating of 10 amps and shall be shrouded.
Provisions shall be made for lable inscriptions.
Lables shall be made of anodized aluminum, with white engraving on black background. They shall be properly secured with fasteners. Danger plate of size and descriptions as recommended in the relevant IS shall be provided on the PCC.

14.0 Tests :

i) The power control centre shall be completely assembled, wired, adjusted and tested for operation under simulated conditions to ensure correctness of wiring and interlocking and proper functioning of all components.
ii) Each power control centre and components shall be subjected to standard routine tests as per applicable clauses of relevant standards.
iii) All current carrying parts and wiring of power control centre shall be subjected to power frequency voltage withstand test.

15.0 Drawings :

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

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

a) Busbar clearances;
b) power and control cable entry points;
c) Configuration of busbars;
d) Details of support insulations and spacings;
e) Outgoing power cable termination arrangements.

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

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16.0 Installation Testing and commissioning :

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

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CHAPTER 3

LAYING OF CABLES

1.0 Scope :

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

2.0 Standards :

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

3.0 Laying of Cables :

3.1 General :

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

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

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

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

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

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

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

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

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

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3.1.9 Identification tags indicating the size of the cable and feeder designation shall be securely attached at both ends of the cable. Such tags shall also be attached to the cable at intervals of 50 Mtrs. The materials of the tag shall be of either 12 SWG GI sheet. In case of plastic, the details have to be engraved and incase of GI sheet, the details should be punched. Cable route markers shall be provided at the intervals of 200 M with a minimum of one number route marker. The details of the route makers shall be as per the drawing. At the locations of straight through joints, necessary joint-markers shall be provided.

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

3.2 Cable laid in ground :

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

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

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

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

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

3.3 Cables laid in built up trench :

3.3.1. Before the commencement of cable laying the cable trench shall be drained properly. Cable shall be laid as explained in item

3.2. Cable shall be properly clamped to the cable supports , which are provided in the cable trench. The method of clamping shall suit the size of the cable and the cable supports, which are provided in the cable trench. The method of clamping shall suit the size of the cable and the cable supports, as directed by the Engineer-in-Charge.

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

3.4. Cable terminations and straight through joints :

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

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

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

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

3.5 Sealing boxes :

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

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

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

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

3.5.5 The sealing box shall be provided with compound filling orifices with suitable covers or plugs of size that will permit easy pouring of the compound. In all cases where screwed plugs are used, one or more air vents shall be provided to ensure complete expulsion of air and total filling of the box with compound.

3.5.6 The box shall be of sufficient length to allow for manipulation of the insulated cover without damage to them or to the insulation.

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

3.5.8 Cable sealing and dividing boxes intended for use in the flame proof

areas shall comply additionally with the relevant requirements of IS:2148-1968.

4.0 Testing

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

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

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

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CHAPTER 4
EARTHING

1.0 SCOPE:

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

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

2.0 STANDARDS:

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

3.0 Earth electrode arrangement :

3.1 Pipe electrode :

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

3.1.2 Electrodes shall be embedded below permanent moisture level.

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

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

3.2 Plate electrode :

For plate electrodes, minimum dimensions of the electrode shall be as under.
3.2.1 GI plate electrode : 600 x 600 x 6 mm thick.

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

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

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

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

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lead shall be securely bolted the plate with two bolts, nuts, check nuts and washers.

3.3. Strip or conductor electrodes :

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

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

4.0 General :

i) All materials used for connecting the earth lead with electrode shall be of GI in case of GI pipe and GI plate electrodes, and of tinned brass in case of copper plate electrode. The eaarthing lead shall be securely connected at the other end to the main board.

ii) The earthing lead from electrode onwards shall be suitably protected against mechanical injury by routing the earth wire / strip through a suitable size of GI pipe.

iii) All medium voltage equipments shall be earthed by two separate and distinct connections with the earth. In the case of high and extra high voltages, the neutral points shall be earthed by not less than two separate and distinct connections with the earth, each having its own electrode at the generating station or substation.

iv) All materials, fittings etc. used in earthing shall conform to Indian standard specifications wherever they exist. In the case of materials for which Indian standard specifications do not exist, such materials shall be approved by the Engineer-in-Charge.

v) The earth electrode shall be kept free from paint, enamel and grease.

vi) It shall be ensured that similar materials for respective earth electrodes and earth conductors are used.

vii)Earth electrode shall not be installed in proximity to a metal fence.

viii)Copper/GI strip shall be connected to the respective earth electrodes, either by brazing or welding respectively. The Copper/GI strip shall be jointed only either by brazing or by riveting at the end of over lapping portions. The over lap shall
not be less than 50 mm.

ix) Earthing clamps used for supporting earth strips shall be made of such materials so as to avoid bimetallic action between strip and clamps.

5.0 Testing :

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

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PROPOSED ELECTRICAL WORKS

LIST OF APPROVED MANUFACTURERS / NATURAL SOURCES OF MATERIALS TO BE USED IN THE ELECTRICAL WORKS SUBJECT TO THE APPROVAL OF SAMPLES BY THE CONSULTANT.

S.No.	Material Name.	Brand / Manufacturer / Recommended Make.
1.	Switches/Sockets	MDS (Mosaic) / MK India / Anchor Woods / Clipsal.
2.	Copper Conductor wires	Finolex / Qflex/ Lapp/ Anchor/Polycab
3.	PVC conduits & Accessories	Precision / Sudhakar/ Avon plast
4.	MS Conduits	Gupta / Bharat
5.	Metal clad Sockets	MDS /L&T- Hager /Merlingerin /BCH
6.	MCBs /MCB Distribution boards	MDS /L&T- Hager /Merlingerin(Compact)
7.	MCCBs/Switchgear	GE Power /Merlin Gerin(Compact) /BCH /L&T /MD
8.	Under ground Cables	CCI /Unistar /Nicco /Gloster
9.	Cable Glands	HMI /Comet
10.	Capacitor Bank	Epcos /Neptune
11.	Cable Lugs	Dowell's / 3D
12.	MV Panels (PCCs)	Manufacturers with CPRI Test Certificate.
13.	ELRs/CBCT	Prokdvs /Nagoba
14.	Measuring Instruments	Prokdvs /Enercon
15.	Selector Switches	Vaishno / Salzer / Kaycee
16.	Indication Lamps LED (protected type)	Schneider / Vaishno / Binay
17.	Resign cast CTs	AE / Kappa
18.	Telephone Wires	Lapp / Delton /National
19.	Light Fixtures	Philips / /Wipro/Havells
20.	Ceiling Fans & Exhaust Fans	Usha / Polar / Khaithan / Bajaj/Havells/

NOTE: The contractor shall use only above mentioned material or equivalent make to be approved by the Consultant. All other materials shall confirm to the specifications laid down. The tenderer shall take this into account while tendering rates / prices. The Consultant / Owner has got every right to select any of the above Makes for the Project. However, the samples of every material including all fixing accessories shall be got approved by Owner / Consultant before Execution.

NOTE: All wires to be used should be of FRLS Grade.

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ABSTRACT TERM AND CONDITIONS:

1.	Defects Liability Period	:	12 calendar months
2.	Period for final measurement valuation	:	2 weeks
3.	Date of commencement	:	Within 2 days after confirmation
4.	Date of completion	:	30 Days from date of commencement
5.	Agreed liquidated damages	:	1% of the total contract Amount per week beyond the date of completion subject to maximum of 5% of tender Value
6.	Retention Money	:	10 % of interim certificate amount of running account bill, including the E.M.D 10 % of the total retention money will be paid upon submission of completion certificate
7.	Period of honoring certificate	:	2 weeks
8.	Income Tax Deduction and S.T. under	:	As per Central / State Government rules works contract act.
9.	Insurance, Custom duties and taxes	:	To be provided and paid by contractor
10.	Price Escalation	:	Will not be considered
11.	Rate of BOQ's items	:	To include item complete in all respects

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DECLARATION

I/We have inspected the site of works and have made me / us fully acquainted with the local conditions in and around the sites of works. I/We hereby declare that I/We have gone through the conditions laid down in the Notice Inviting Tender, Conditions of Contract, Technical Specifications and understood the same and on the basis of the same I/We quoted our rates in the Schedule of Quantities attached with the tender documents.

I/We shall also uniformly maintain such progress as may be directed by the Employer / Architect to ensure completion of same within the target date as mentioned in the tender document.

Witness: _____

Signature of Tenderer

Address_____

_____

_____

Date: _____

BOQ FOR THE PROPOSED NAGARAM BRANCH AT NAGARAM BELONGING TO UNION BANK OF INDIA REGIONAL OFFICE SECUNDERABAD.					
S.NO	**DESCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
A	**BRANCH ELECTRICAL WORKS**				
1	**MAIN LT PANEL / DBs**				
1.1	Supply and installation of main LT panel, wall mounted front operated totally enclosed vermin proof, indoor non-drawout-cubicle type power panel fabricated out of 2mm thk CRCA sheet having gasketed hinged cover on each cubicle fully powder coated after seven tank treatment, incorporating horizontal and vertical sleeved copper busbars, complete with all internal wiring, danger board, two earthing legs, cable chamber etc. as required, housing below-mentioned switchgears / meters. (GA drawing of the panel got to be approved by Bank / Architect)				
	(MCCB - L&T/MDS, MCB-MDS/Hager)				
a	1No.,100A,FP, Changeover Switch +				
b	1 no.125A,TP,MCCB 25 KA as incomer				
c	5 nos. 63A, TPN, MCB outgoing				
d	3 nos.32/40 DP MCB outgoing				
e	3 nos.16/25 SP MCB outgoing				
f	1 no., 0-125 A, Ammeter with CT and selector switch				
g	1no., 0-500V, Voltmeter with selector switch and fuse				
h	2 Set, TPN, Copper busbars of size 25mm x 5mm				
i	thk PVC insulated suitable for 200 Amp load				
j	1Set, RYB, indicating lamps with resistors and fuses				
	Full Set as above	**SET**	**1**		
1.2	Suply and installation of 4 way, TPN MCB type lighting distribution Board flush mounted on wall, sheet metal fabricated, powder coated , having dust - proof and vermin proof, gasketed and hinged door with all internals such as DIN rails, neutral - link, interconnected wiring, complete with earthing lugs housing following switchgears (LDB / PDB), (Double Door DB of MDS / SEIMENS)				
a	1 no.,63A, TPN, ELCB (100mA) incomer				
b	12 nos, 6-16A, SP, MCB outgoing				
	Full Set as above	**SET**	**2**		

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1.3	S & I of 12 WAY SPN, DB similar to above but for distribution of input power to UPSs as per SLD having below mentioned switch gears (Earth bar inside these DB should be insulated from the body) (UPS - INPUT - DB)				
a	1 no, 40/63A, DP, MCB incomer				
b	10 Nos. 6/10 AMPS, SP, MCB, outgoing				
	Full Set as above	**SET**	**1**		
1.4	S & I of SPN, DB similar to above but for distribution to all computer power points on work stations for UPS INPUT & OUTPUT				
a	1 no, 63/40A, DP, MCB,				
	Full Set as above	**SET**	**2**		
1.5	S & I of 20A, metal clad 3 pin socket with plug top along with 1 no. 20A, SP, MCB, all housed in sheet metal powder coated box giving supply to A/C machines & Vault.	**Nos.**	**6**		
2.O	**CABELS / MAINS WIRING**				
2.1	S & I of 1100V grade armoured cable having sector / circular shaped aluminium / copper conductor PVC insulated cores, laid up, PVC tape wrapped inner sheathed, GI strip / wire armoured and overall extruded PVC sheathered confirming to IS: 1554, laid on wall / ceiling using GI clamps & spacers as per route shown at site and further as directed by Bank / Architect in following sizes.				
2.1.1	3 1/2 C x70 Sq.mm Aluminium	**mtr.**	**55**		
2.1.2	S & I of end termination of above mentioned cables including compressed type brass glands, crimping type copper lugs, insulation tape etc. as required complete with earthing of glands in following sizes.				
A	3 1/2 C x70 Sq.mm	**Nos.**	**4**		
2.1.3	Supply & laying of concealed wiring using 600v grade 4RX6 sqmm copper conductor PVC insulated wires (with proper R,Y,B color code) pulled through heavy gauge PVC conduits laid concealed over false ceiling or in wall chases including circuit wires from the relevant DB and also including 2.5 sqmm green color copper earth wire as directed.(FOR LDB/PDB INCOMING)	**mtr.**	**40**		

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2.1.4	Supply & laying of concealed wiring using 600v grade 2RX6 sqmm copper conductor PVC insulated wires (with proper R,Y,B color code) pulled through heavy gauge PVC conduits laid concealed over false ceiling or in wall chases including circuit wires from the relevant DB and also including 2.5 sqmm green color copper earth wire as directed.(FOR UPS INCOMING AND OUTGOING)	**mtr.**	**25**		
2.1.5	Supply & laying of concealed wiring using 600v grade 2RX4sqmm copper conductor PVC insulated wires (with proper R,Y,B color code) pulled through heavy gauge PVC conduits laid concealed over false ceiling or in wall chases including circuit wires from the relevant DB and also including 2.5 sqmm green color copper earth wire as directed.(FOR AC)	**nos**	**6**		
3.O	**POINT WIRING**				
3.1	Supply & Installation of concealed point wiring using 600v grade 3R of 1.5 sqmm copper conductor PVC insulated wires pulled through heavy gauge 2mm PVC conduits laid concealed over false ceiling or in wall chases including circuit wires with 3R of 2.5 sqmm to the relevant DB and including switches & sockets as approved by the consultant .Each circuit feeding not more than 8 points 800 watts as per following configuration.				
3.1.1	Primary light points including the cost of 5A switch	**Pts**	**45**		
3.1.2	Secondary light points looped from the above point	**Pts**	**25**		
3.1.3	Secondary 5A Plug point on switch board	**Pts**	**6**		
3.1.4	do as above but bell point with bell buzzer	**Pts**	**1**		
3.1.5	Ceiling fans ,Wall mounted and Exhaust fan point consisting of 5A socket near fan and switch on light switch board 10 Wall fans,5 Ceiling, 3 Exhust fans	**Pts**	**18**		
3.2	S & I of point wiring for UPS or stabilized power plug points on workstations / table for computers using 3R X1.5 Sqmm Cu., PVC sheathed white color flexible cable pulled through heavy guage 2mm PVC rigid conduits run within wooden / metal partitions Each point consisting of 3 nos of 3/5 pin sockets & 1 no of 15A Switch , wired together forming one point .The earth wire to be of yellow / green color only (Only two tables served by one	**Pts**	**6**		

	circiut from UPS-DB) Primary point.				
3.3	S & I of point wiring for UPS or stabilized power plug points on workstations / table for computers using 3R X1.5 Sqmm Cu., PVC sheathed white color flexible cable pulled through heavy guage 2mm PVC rigid conduits run within wooden / metal partitions Each point consisting of 3 nos of 3/5 pin sockets & 1 no of 15A Switch , wired together forming one point .The earth wire to be of yellow / green color only (Only two tables served by one circiut from UPS-DB) secondary loop.	**Pts**	**5**		
3.4	S & I of points similar to above but to be used as raw power point on the tables consisting of one 5/15A socket with switch of other color and flexible cable socket with switch of other color and flexible cable (2 tables served by one circuit from LDB/PDB) Primary point.	**Pts**	**6**		
3.5	S & I of points similar to above but to be used as raw power point on the tables consisting of one 5/15A socket with switch of other color and flexible cable socket with switch of other color and flexible cable (2 tables served by one circuit from LDB/PDB) secondary loop.	**Pts**	**4**		
3.7	S & I of 15 AMPS plug points point wiring for xerox etc using 2 R X4.0 Sqmm Cu and 1R of 1.5 sqmm PVC sheathed white color flexible cable pulled through heavy guage 2mm PVC rigid conduits run within wooden / metal partitions Each point consisting of 1 nos of 15 AMPS pin sockets & 1 no of 15A Switch , wired together forming one point .The earth wire to be of yellow / green color only the circuit laid directly through DB to point.	**Pts**	**3**		
4	**LIGHTING FIXTURES**				
4	S & I of lighting fixtures as per the details given below including necessary hardware such as , clamps,nuts, bolts, nails, screws and suspension chains as required for fixing the fixtures in position as directed by Bank / Architect.				
4.2.2	a) Recess mounted LED Luminaire 36 x 1W Class LED, Wipro make code: LM - 036 - XXX - WH - XX.	**Nos.**	**15**		
4.2.3	LED Down lighter Tubelight (18 x 1W), Wipro,Philips	**Nos.**	**18**		
4.2.3	b) Recess mounted LED Down lighter with Pressure die cast aluminium housing (10 x 1W), Wipro make code: LD 49 - 900 - XXX - 60 - XX.	**Nos.**	**28**		

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4.2.4	250mm dia wall mounted exhaust fan of decorative plastic body and blade with louvers on the outside (Newtek/ Crompton / Approved equivalent)	**Nos.**	**3**		
4.2.5	1200 mm diameter Ceiling fan with regulator in strong room, lunch room and stationary etc	**Nos.**	**5**		
4.2.6	supply, fixing and erection of wall mounted fans (high flow) in the position required for the bank and ascertained by the archtiect and of the colour directed by the bank to suit the interiors of the bank	**Nos.**	**10**		
4.2.7	cove lighting patti tubes warm lights of 4'-0" length	**Nos.**	**20**		
5	**EARTHING**				
5.1	S & I of earth pit comprising of 600mm x 600mmx 3mm. thick copper plate buried at a minimum depth of 2.5 meter including necessary materials like charcoal, salt etc as required conforming to BIS standards having brick masonary chamber with hinged cover and watering arrangement.	**Nos.**	**1**		
5.2	supplying and laying of 8 SWG copper bare wire laying through suitable PVC pipes.	**Mtrs**	**50**		
5.3	S & I of earth pit comprising of 600mm x 600mmx 3mm. thick GI plate buried at a minimum depth of 2.5 meter including necessary materials like charcoal, salt etc as required conforming to BIS standards having brick masonary chamber with hinged cover and watering arrangement.	**Nos.**	**1**		
5.4	supplying and laying of 8 GUAGE GI wire laying through suitable PVC pipes.	**Mtrs**	**50**		
6	**TELEPHONE**				
6.1	Supply and installation of KRONE connector box 20-pair box	**Nos.**	**1**		
6.2	Supply and laying 2 pairs of 0.51mm dia copper conducted PVC insualted telephone wire in 25mm dia heavy duty PVC conduits with acc.including supply and fixing of RJ-11 TELEPHONE OUTLETS of modular type with GI box plate etc.	**Nos.**	**8**		

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7	**LAN WORKS**				
1.1	Supply and fixing the following sizes of PVC medium grade ISI marked conduits (**IS : 9537 Part-III**) complete with accessories such as bends, junction boxes, pull boxes etc., in recess or on surface including cutting chases in the walls/floors and making good the same complete as required.				
	25 mm dia 2mm wall thickness	**mts**	**75**		
1.2	Providing and laying Cat 6 cable for data in existing conduits data (Make: MDS) and providing & terminating with RJ-45 (Krone / DELL make) with face plates in suitable modular / MS box from server / enclosure room to individual work stations.				
a	RJ-45 for data points	**points**	**10**		
b	Mounting Cord 7 ft Make D- LINK	**NO**	**10**		
c	Mounting Cord 3 ft Make D- LINK	**NO**	**10**		
d	Switch 10/100 mpbs 24 port	**NO**	**1**		
e	jack panel 24 port	**NO**	**1**		
f	rack 9u	**NO**	**1**		
8	**INVERTOR WIRING**	**Mtrs**	**50**		
	Supply & Installation of concealed INVERTOR wiring using 600v grade 2R of 1.5 sqmm copper conductor PVC insulated wires pulled through heavy gauge 2mm PVC conduits laid concealed over false ceiling or in wall chases .				
	TOTAL BRANCH ELECTRICAL WORKS				
B	**ATM ELECTRICAL WORKS**				
1	Providing ,supplying, and fixing of wiring for light points	**Nos.**	**2**		
	Wiring for light points with 2x2.5 sq.mm and 1x1sq.mm				
	earthling in P.V.C rigid pipe concealed in wall with all				
	accessories with modular plate and switch.				
2	Supply and providing 6/16 combined plug point with	**Nos.**	**1**		
	modular switch in metal box .				

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3	LIGHT FITTING				
a	Recess mounted LED Luminaire 36 x 1W Class LED, Wipro make code: LM - 036 - XXX - WH - XX.	**Nos.**	**2**		
4	LAN CABLE				
a	Supply and laying of 4pair CAT-5E LAN Cable	**Pts**	**3**		
b	Supply , fixing and laying of Access Control Cable	**Rmts**	**25**		
5	**UPS FROM BRANCH**				
	S & I of point wiring for UPS or stabilized power plug points on workstations / table for computers using 3R X1.5 Sqmm Cu., PVC sheathed white color flexible cable pulled through heavy guage 2mm PVC rigid conduits run within wooden / metal partitions Each point consisting of nos of 3/5 pin sockets & 1 no of 15A Switch , wired together forming one point .The earth wire to be of yellow / green color only (Only two tables served by one circiut from UPS-DB)	**Pts**	**3**		
	TOTAL ATM ELECTRICAL WORKS				
	TOTAL BRANCH & ATM WORKS				
	DISCOUNT IF ANY				
	GRAND TOTAL				

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