



Tender ID: AOPAT/RBOWEST/2024-25/10/002 Dated: 09.10.2024

**TENDER DOCUMENT**

**STATE BANK OF INDIA  
REGIONAL BUSINESS OFFICE, PATNA WEST  
5<sup>TH</sup> FLOOR , ADMINISTRATIVE OFFICE BUILDING  
J.C.ROAD, PATNA-800001  
BIHAR**

INVITES TENDERS

Sl. No.	Description	
(a)	Tender ID	AOPAT/RBOWEST/2024-25/10/002 dated: 09.10.2024
(b)	Tender Name	<b>AIR CONDITIONING WORKS AT AIIMS PHULWARI SHARIF BRANCH AND ATM</b>
(c)	Ending Date of Tender	25.10.2024 upto 03:00 PM

Part -1

(Technical Bid)

Name of the Tenderer.....

Address.....

.....

GSTIN.....

The Contractors who are in the list of approved empanelled contractors finalised by SBI, Local Head Office, Patna for the eligible categories of work i.e. **Category- 'AAA', 'AA', 'A', 'B', and 'C' ( Work Value above ₹5.0 Lakh and up to ₹100.0 Lakh)** under **ELECTRICAL INSTALLATION WORK** are only eligible to participate in this **Tender**.

**The Eligible vendor must submit the authorisation letter from the authorised dealers/OEMs (Original Equipment Manufacturers) of ACs for supply & installation of the Air Conditioners of respective make as mentioned in the tender which will be a part of technical bid document.**

**The Regional Manager  
State Bank Of India  
Regional Business Office, Patna West  
5<sup>th</sup> Floor Administrative Office Building,  
J.C.Road , Patna-800001  
Bihar**

## NOTICE INVITING TENDERS

**STATE BANK OF INDIA , RBO WEST** (hereinafter referred to as **SBI**) invites **item rate** E-Tenders from the Contractors/Vendors who are in the list of approved empanelled contractors/vendors as mentioned in attached Tender document.

1.	Name & location of Work	:	<b>AIR CONDITIONING WORKS AT AIIMS PHULWARI SHARIF BRANCH AND ATM</b>
2.	Eligibility Criteria		<b>The Contractors who are in the list of approved empanelled contractors finalised by SBI, Local Head Office, Patna for the eligible categories of work i.e. Category- 'AAA','AA','A','B' and 'C' ( Work Value above ₹5.0 Lakh and up to ₹100.0 Lakh) under <u>ELECTRICAL INSTALLATION WORK</u> are only eligible to participate in this Tender.</b>
3.	Availability of tender documents	:	Tender documents can be downloaded from Bank's website <a href="http://www.sbi.co.in">www.sbi.co.in</a> under 'Procurement News' section OR SBI e-tender portal <a href="https://www.tenderwizard.com/SBIETENDER">https://www.tenderwizard.com/SBIETENDER</a>
4.	Estimated Cost		Rs 9.17 Lakhs ( Approximately) Excluding of GST
5.	Tender shall remain valid for	:	For a period of 90 days from the date of opening of price bid of tender
6.	Earnest Money Deposit (EMD)		Rs. 9200.00 in the form of DD from any Nationalised Bank drawn in favour of 'State Bank of India, RBO West', payable at Patna.
7.	Initial Security Deposit		Rs. 9200.00 ISD to be submitted within 7 days of acceptance of tender in the form of DD.
8.	Security Deposit		5%(Less EMD+ISD) will be deducted from contractors bills. 50% of SD will be refunded after satisfactory completion of work and the balance 50% will be refunded after defect liability period provided no defects has been noticed in the executed work.
9.	Time allowed for completion		<b>30 days</b> from the date of issue of work order
10.	Tender document downloading Start Date		<b>From 02:00 PM (14:00 Hrs) on 10.10.2024</b>

11	Tender document downloading end Date	Upto 02:00 PM (14:00 Hrs) on 25.10.2024
12	Last date and time of submission of Tender	Upto 3.00 P.M (15:00 hrs) on 25.10.2024
13	Date and time of opening of tender	on 25.10.2024 at 03:30 PM
14	For E-Tender related queries	<p><b><u>Service provider:</u></b></p> <p><b><u>M/S Antares Systems Limited.</u></b></p> <p>1<sup>st</sup> floor, Old Bank of India compound, M/22 Building, Road No. 25, S.K. Nagar, Patna-800001 Mobile : Rakesh kumar 9771414548, Mr. Pawan kumar Singh 9771414547, Mr. Amit Prafulla 9988401985</p> <p><b>Email: r.rakeshkumar@antaressystems.com</b></p>
15	<p>Electronically Sealed e-tenders are invited from the <b>Bank's Empanelled Contractors as mentioned in NIT</b> in two parts, i.e. <b>Cover – I and Cover –II separately</b> Sealed tenders in two parts i.e. cover-I and cover-II are to be submitted online on the website : <a href="https://www.tenderwizard.com/SBIETENDER">https://www.tenderwizard.com/SBIETENDER</a></p> <p><b>** No bid shall be accepted offline.</b></p>	
	<b>a) Cover-I (Technical Bid)</b>	<p>: Technical bid envelope called "Electronic Format of Technical Bid" shall contain the following documents:</p> <p><b>(i) Details of EMD: Scanned copy of Demand Draft must be uploaded in e-tender website along with technical bid</b></p> <p><b>(ii) The Eligible vendor must submit the scanned copy of authorisation letter from authorised dealers/OEMs (Original Equipment Manufacturers) for supply &amp; installation of the Air Conditioners of respective make as mentioned in the tender which will be a part of technical bid document.</b></p> <p><b>(iii) Electronic form of Technical Bid</b></p> <p><b>The eligible vendor not submitting/uploading any of the technical bid documents in the website will be dis-qualified and their price bid will not be opened.</b></p> <p>Cover-I will be opened as per above mentioned date &amp; time in the presence of Tenderers who desire to attend. The tenderers can view the Tender opening details through their respective log in Ids on the above-mentioned e-tender portal (Website).</p>
	<b>b) Cover-II (Price Bid)</b>	

	<p>Shall contain the Electronic format of Price Bid Item rate.</p> <ul style="list-style-type: none"> <li>In case, the lowest Tendered Amount of two or more contractors is same, such lowest contractors will again be asked to submit sealed/online "Revised offers" on the original Estimated cost of the Tender including all sub sections/sub heads as the case may be. The lowest tender shall be decided on the basis of revised offers.</li> <li>The process of online re-bidding amongst two or more contractors offering same rates shall continue till L-1 bidder is discovered.</li> <li>In case, any of such contractor(s) (quoted same tender amount during initial bidding or subsequent re-bidding) refuses to submit revised offer, it shall be treated as "withdrawal of tender" by the contractor before acceptance. The earnest money of such contractors shall be forfeited.</li> <li>In case all the lowest contractors those have quoted same amount, refuse to participate in online revised bidding process for the project, the EMD of such contractors shall be forfeited and the tender shall be re-invited afresh for the project. The contractor(s), whose earnest money is forfeited because of non-submission of revised offer, shall not be allowed to participate in the re-tendering process of the work.</li> <li>No condition/ stipulation in Cover-II other than unconditional general rebate shall be accepted .</li> </ul>	
16	Opening of Price Bid	: <b>Cover-II (Price Bid) will be opened only of those bidders who are successful in Technical Bid (Cover- I) after thorough scrutiny. The contractor/ vendor can view the Tender opening details through their respective log in Ids on the above-mentioned e-tender portal (Website).</b>
17	Commencement of the work	The date of commencement of the work will be reckoned as the date of handing over site or <b>07 days</b> from the date of issue of Work Order of the tender whichever is later
18.	Deduction of Income Tax and GST	: A) TDS on Income Tax/GST will be deducted at source as per Govt. Guidelines.  B) The contractor should comply with the following;  i. Contractor should have GST Registration Number  ii. Invoice should specifically/separately disclose the amount of GST levied at applicable rate as per GST provision  iii. Contractor should timely file his GST return in accordance with GST provisions to enable the Bank to claim the credit of GST paid to the contractor.
19.	Terms & mode of payment	: <b><u>i) No advance is payable.</u></b>  ii) After successful completion of entire work, 100% payment will be released against submission of GST invoice and work completion Certificate from the user deptt.  iii) Security deposit and statutory deductions will be made as applicable.

			iv) The contractor should furnish details of the Bank, A/C no, IFSC code etc.
20.	<b>Additional security deposit(ASD)/Additional Performance guarantee (APG)</b>		<p><b>i. ASD/APG shall be applicable if the bid price is below 7.5% of the estimated cost.</b></p> <p><b>ii.The amount of such ASD/APG shall be the difference between 92.5% of the estimated cost put to tender and the quoted price.</b></p> <p><b>iii. Vendor will submit Bank guarantee or FDR receipt favouring SBI but drawn on any other Nationalised Bank may also be accepted as ASD/APG.</b></p>
21.	Liquidated Damages	:	If the bidder is not able to complete the work within the stipulated completion period as per terms of the tender, liquidated Damages will be imposed at the rate of 0.5% of the contract value per week subject to a maximum of 5% of the contract value.
22.	Defects Liability Period	:	12 Months (Twelve months) from the date of completion of the work and handing over to the Bank.
23	Any additional Information	:	The estimated rates as per the Break-up Of Quantities (BOQ) uploaded in this tender are inclusive of materials, labour, wages, fixtures, transportation, installation, all taxes & charges , cost of the insurances as specified in the tender, cost towards testing of materials supplied, wastages, Octroi, machinery, temporary works such as scaffolding, cleaning, overheads, profit, statutory expenses, incidental charges and all related expenses to complete the work. However, <b>GST on work contract will be extra as applicable.</b>
	<b>Notes:</b>		

a)	All Bidders are informed that, price bidding for the work will be through <b>Online tendering method</b> . The bill of quantity of tender i.e <b>"Price Bid"</b> is to be submitted online. Work Order will be placed on the basis of L1 price by bidder in the "Price Bid.
b)	The Bidders are expected to examine all instructions, forms, terms and specifications in the tender documents. Failure to furnish all information required as per the Tender Documents or submission of bids not substantially responsive to the Tender Documents in every respect will be at the Bidders risk and shall result in rejection of the Tender.
c)	In case the date of submission of Technical Bid, Price Bid is declared as a holiday, the respective date will be considered on the next working day at the same time and the tenders will be opened on the next working day at the same time.
d)	SBI reserves the right to cancel or postpone or modify the tenders at any stage without assigning any reason.
e)	The Bidders are strongly advised to visit the site before submitting their Price Bid to make the work complete in all respects within the stipulated completion time.
f)	Corrigendum: (If any) is to be followed as published in <a href="https://www.sbi.co.in">https://www.sbi.co.in</a> portal. OR SBI e-tender portal <a href="https://www.tenderwizard.com/SBIETENDER">https://www.tenderwizard.com/SBIETENDER</a>
	<p>(For and on behalf of State Bank of India)</p> <p><b>The Regional Manager</b> <b>State Bank Of India</b> <b>Regional Business Office, Patna West</b> <b>5<sup>th</sup> Floor Administrative Office Building,</b> <b>J.C.Road , Patna-800001</b> <b>Bihar</b></p>



## **E-TENDERING INSTRUCTIONS TO BIDDERS**

### **General**

SBI hereby publish the TENDER on e-tendering Portal (Website) : <https://www.tenderwizard.com/SBIETENDER> in Electronic mode hereinafter referred as "e Tendering" and TENDER will be hereunder called as "e-Tender". The e-tender published online through above portal (website) consisting of standard tender conditions, specifications, schedule of quantities, drawings (if any) for above referred work. Please note that copy of the above e-tender can be downloaded from above portal (website) and should be mandatorily submitted in Online Electronic Mode hereinafter referred as "Online Offer". The submission of Online offer duly Encrypted & Digitally signed on above portal should be in prescribed Electronic Forms (Online) available on above portal for respective tender in Online Envelope(s) on or before As per the key Dates mentioned in the Tender Notice in this document and online portal for above tender .

### **Instructions**

#### **1. Tender Bidding Methodology:**

Electronically Sealed Bid System – Two Stage - Two Envelopes'

#### **2. Broad outline of activities from Bidders prospective**

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

For participating in this tender online, the following instructions are to be read carefully. These instructions are supplemented with more detailed guidelines on the relevant screens of the above portal.

#### **3. Digital Certificates**

For integrity of data and authenticity/ non-repudiation of electronic records, and to be complaint with IT Act 2000, it is necessary for each user to have a Digital Certificate (DC). also referred to as Digital Signature Certificate (DSC),



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of Class II or above, issued by a Certifying Authority (CA) licensed by Controller of Certifying Authorities (CCA) [refer <http://www.cca.gov.in>].

#### **4. Registration**

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

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

#### **Help Desk:**

##### **Contact Person:**

**Mr. Rakesh Kumar Tel. No.9771414548,**

**Mr. Pawan kumar Singh Tel No. 9771414547,**

**Mr. Amit Prafulla Tel No. 9988401985**

**Email ID – [r.rakeshkumar@antaressystems.com](mailto:r.rakeshkumar@antaressystems.com)**

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

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

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

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

#### **6. Tender Opening Event (TOE)**

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





#### **7. Minimum Requirements at Bidders end**

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

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

**The Regional Manager  
State Bank Of India  
Regional Business Office, Patna West  
5<sup>th</sup> Floor Administrative Office Building,  
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Bihar**



**TERMS & CONDITIONS OF THE CONTRACT**

**GENERAL INSTRUCTIONS TO THE BIDDERS**

**Eligibility Criteria: Must be empanelled in SBI Patna Circle for category equivalent or above estimate value. Supporting document shall be attached**

**1.0 Scope of Work**

Tenders are invited by State Bank of India for the captioned work.

**1.1 Site and Its Location:** The proposed work is to be carried out at captioned site.

**2.0 Tender Documents**

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

- a) General Conditions of Contract
- b) Special Conditions of Contract
- c) Technical Specifications
- d) Drawings
- e) Price Bid

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

- a) Price Bid
- b) Drawings
- c) Technical Specifications
- d) Special Conditions of Contract
- e) General Conditions of Contract

2.3 The tender documents are not transferable.

**3.0 Site Visit**

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

**4.0 Earnest Money Deposit(EMD) :-**

4.1 The Bidder are requested to submit the Earnest Money **AS SPECIFIED** to be deposited in the form as mentioned in NIT.

4.2 No interest will be paid on the EMD.

4.3 EMD of unsuccessful Bidders will be refunded within 30 days of award of Contract on submission of details of Bank Account by the bidders.

4.4 EMD of successful Bidder will be retained as a part of security deposit.



4.5 The EMD shall stand absolutely forfeited if the Bidder revokes his tender at any time during the period when he is required to keep his tender open acceptance by the SBI or after it is accepted by the SBI, the contractor fails to enter into a formal agreement or fails to pay the initial security deposit as stipulated or fails to commence the work within the stipulated time.

#### **5.0 Initial Security Deposit(ISD) :-**

The successful Bidder will have to submit a sum equivalent to 2% of contract value less EMD to be deposited through SBI Bank draft or Bankers Cheque in favour of The Regional Manager, Patna East(I) within a period of 07 days of acceptance of tender.

#### **6.0 Security Deposit :-**

6.1 Total security deposit shall be 5% of contract value. Out of this 2% of contract value is in the form of initial security deposit, which includes the EMD. Balance 3% shall be deducted from the respective running account bill of the work at the rate of 10% of the respective running account bill i.e. deduction from each running bill account will be 10% till total 3% of contract value is reached. 50% of the total security shall be paid to the contractors without interest on the basis of certifying the virtual completion. The balance 50% would be paid to the contractors without interest within 15 days after the end of the defect liability period provided the contractor has satisfactorily attended to all defects in accordance with the conditions of contract including site clearance

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

#### **7.0 Signing of Contract Documents**

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

#### **8.0 Completion Period**

Time is essence of the contract. The work should be completed in all respects in accordance with the terms of contract within a period of **30 days** from the date of handing over site or **07 days** from the date of issue of work order whichever is later.

#### **9.0 Validity of Tender**

Tenders shall remain valid and open for acceptance for a period of three months from the date of Tendering Process. If the Bidder withdraws his/her offer during the validity period or makes modifications in his/her original offer which are not acceptable to the Bank without prejudice to any other right or remedy the Bank shall be at liberty to forfeit the EMD.

#### **10.0 Liquidated Damages**

The liquidated damages shall be 0.5% of the accepted tendered cost per week for the delayed period subject to a maximum of 5% of contract value.

#### **11.0 Tendered Rates and Prices**

11.1 The Bidders shall quote their rates for individual items in the Price Bid as per the attached BOQ of this tender. The rate quoted shall be firm and shall include all costs of labour, material, allowances, taxes if any (other than GST) as may be applicable. No extra claims/PVA by any means due to increase rates etc. will be entertained. Bank will only pay GST in addition to quoted rates.

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



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

11.4 The tenderers should not change the units as specified in the tender. If any unit is changed the tenders would be evaluated as per the original unit and the contractor would be paid accordingly. The tenderer should not change or modify or delete the description of the item. If any discrepancy is observed he should immediately bring it to the knowledge of the Architect / SBI.

11.5 The rate quoted shall be firm and shall include all costs, allowances, taxes, vat levies etc. but excluding GST which will be paid separately to the contractors

11.6 Rates as bid in the "Price Bid" will be the basis of final order placement.



**SAMPLE OF ARTICLES OF AGREEMENT**

ARTICLES OF AGREEMENT made this.....day of ..... between the State Bank of India, a Corporation constitute under the State Bank of India Act, 1955 and having its Corporate Centre at Madam Cama Road, Mumbai 400 021. ( hereinafter referred to as "the OWNER" ) which expression shall include its successor or successors and assigns ) of the ONE PART through the authorized officer Regional Manager ( Designation )/other authorized officer.

AND M/s.....having its registered office at .....(hereinafter referred to as the 'Contractor' of the OTHER PART.

WHEREAS the Owner is desirous of executing .....work at..... (hereinafter called the 'works')

AND WHEREAS the owner has caused the plans, drawings and specifications, price schedule of quantities of the work to be executed at the SBI ..... as per conditions of the contract and special conditions prepared subject to which the offer of the Contractor shall be accepted.

AND WHEREAS the Contractor has deposited with the owner Rupees..... as security deposit for the due performance of the agreement AND WHEREAS the Owner issued work order therefore to the contractor.

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

Agreed to execute upon and subject to the conditions set forth herein and Schedule of Items and quantities general conditions of contract, Specification and all correspondences exchanged by or between the parties from the submission of tender till the award of work, both letter inclusive, (all of which are collectively hereinafter referred to as "the said condition") the work shown upon the said drawings and/ or described in the said specification and included in the schedule of items and quantities at the respective rates therein at of such other sum as shall become payable there under (Hereinafter referred to as "the said contract amount").

NOW IT IS HEREBY AGREED AS FOLLOWS:

1. In consideration of the payment to be made to the contractor as hereinafter provided the contractor shall upon and subject to the said conditions executed the completed the works shown upon the said drawings etc. and such further detailed drawings as may be furnished to the contractor by the said owner through the Architect(if engaged) as described in the said specifications and the said priced schedule of quantities.
2. The owner will pay to the contractor the sum of Rs.....(Rupees..... ), hereinafter call the contract sum or such other sum as shall become payable hereunder at the times and in the manner specified in the said condition. However, the actual sum will be paid on the actual value of work done, irrespective of the contract sum.



3. The plans, agreement and documents above mentioned shall form the basis of this contract and all disputes to be decided in the manner prescribed in the conditions attached hereto.
4. The said contract comprises the ..... works as above mentioned, and shall subsidiary works connected therewith within the same site as may be ordered to be done from time to time by the said Owner even through said works may not be shown on the drawings or described in the said specifications or the priced schedule of quantities.
5. Notwithstanding what are stated in the special condition, conditions, of contract and hereinafter stated the owner reserves to himself the right to alter the drawings and nature of the work and of adding to or omitting any items of works from or of having portions of the same carried out departmentally or otherwise and such alternations or variations shall be carried out without prejudice to this contact.
6. The said condition shall be read and be treated as forming part of this Agreement, and the parties hereto will respectively be bound thereby and to abide by and submit themselves to the conditions and perform the same on their part to be respectively observed and preferred.
7. Employer reserves to itself the right of altering the drawings and nature of the work by adding to or omitting any items of work or having portions of the same carried out without prejudice to this contract.
8. Time shall be considered as the essence of this contract and the Contractor hereby agrees to commence the work soon after the site is handed over to him or from 7th day after issue of formal work order as provided for in the said conditions whichever is earlier and to complete the entire work within 90 days subject to nevertheless the provisions for extension of time.
9. All payments by the employer under this Contract will be made only at Patna Circle.
10. Any dispute arising under this Agreement shall be referred to the arbitration of a sole arbitrator appointed with consent of the Owner and the contractor as indicated in the Article of the general conditions. The award of the arbitrator shall be final and binding on both parties. The court in Patna shall have jurisdiction to determine the same.
11. That the several parts of this contract have been read by the Contractor and fully understood by the contractor.

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

WITNESS

EXECUTANTS

1.

1. OWNER

2.

2. CONTRACTOR

Common Seal

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

## **GENERAL CONDITIONS OF CONTRACT**

### **1.0 Definitions**

"Contract" means the documents forming the tender and the acceptance thereof and the formal agreement executed between State Bank of India (Client) and the contractor, together with the documents referred therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Bank and all these documents taken together shall be deemed to form one contract and shall be complementary to one another.

- 1.1 In the contract the following expressions shall, unless the context otherwise requires, have the meaning hereby respectively assigned to them.
- 1.2 "Employer" shall mean State Bank of India (client) having its Corporate Centre at State Bank Bhavan, Madame Cama Road, Mumbai 400 021 and includes the client's representatives, successors and assigns.
- 1.3 'The Contractor' shall mean the name of the contractor undertaking the works and shall include legal personal representative of such individual or the composing the firm or company and the permitted assignees of such individual or firms of company.
- 1.4 The expression 'works' or 'work' shall mean the permanent or temporary work described in the 'Scope of Work' and/or to be executed in accordance with the contract and includes materials, apparatus, equipment, temporary supports, fittings and things of all kinds to be provided, the obligations of the contractor hereunder and work to be done by the contractor under the contract.
- 1.5 'Engineer' shall mean the representative of the SBI.
- 1.6 'Drawings' shall mean the drawings prepared by the employer and issued by the Engineer and referred to in the specifications and any modifications of such drawings as may be issued by the Engineer from time to time '
- 1.7 'Contract value' shall mean the value of the entire work as stipulated in the letter of acceptance of tender subject to such additions thereto or deductions there from as may be made under the provision herein after contained.
- 1.8 'Specifications' shall mean the specifications referred to in the tender and any modifications thereof as may time to time be furnished or approved by the employer.
- 1.9 "Month" means calendar month.
- 1.10 "Week" means seven consecutive days.
- 1.11 "Day" means a calendar day beginning and ending at 00 Hrs and 24 hrs respectively.

### **2.0 Language**

The language in which the contract documents shall be drawn shall be in English. All communications by employer & Contractor will be in English

### **3.0 Errors, Omissions and Discrepancies**

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

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

### **4.0 Scope of Work**



The contractor shall carry out, complete and maintain the said work in every respect strictly in accordance with this contract and with the directions of and to the satisfaction of the Employer

#### **5.0 Letter of Acceptance**

Within the validity period of the tender the Employer will issue a letter of acceptance by registered post or otherwise depositing at the address of the contractor as given in the tender to enter into a Contract for the execution of the work as per the terms of the tender. The letter of acceptance shall constitute a binding contract between the Employer and the contractor.

**5.1 Contract Agreement:** On receipt of intimation of the acceptance of tender from the Employer the successful Bidder shall be bound to implement the contract and within seven days thereof he shall sign an agreement in a non judicial stamp paper of appropriate value.

#### **6.0 Ownership of drawings:**

All drawings, specifications and copies thereof furnished by Architects/ Consultants(if engaged) are the properties of the SBI. They are not to be used on other work.

**6.1 Detailed drawings and instructions:** The Architects/ Consultants(if engaged) shall furnish with responsible promptness additional instructions by means of drawings or otherwise necessary for the proper execution of the work. All such drawings and instructions shall be consistent with the contract documents, true developments thereof and reasonably inferable there from.

The work shall be executed in conformity therewith and the contractor is to prepare a detailed program schedule including therein the date of start and completion of various activities on receipt of the work order and submit the same to SBI through the Architect/ Consultant(if engaged).

#### **7.0 Copies of Agreement**

Two copies of agreement/tender document duly signed by both the parties with the drawings shall be handed over to the contractors.

#### **8.0 Liquidated Damages**

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

#### **9.0 Materials, Appliances and Employees**

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

#### **10.0 Permits, Laws and Regulations**

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

#### **11.0 Setting out Work**

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

#### **12.0 Protection of works and property**





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

He shall take adequate care and steps for protection of the adjacent properties. The contractor shall take all precautions for safety and protections of his employees on the work and shall comply with all applicable provisions of Govt. and local bodies safety laws and building codes to prevent accidents, or injuries to persons or property on, about or adjacent to his place of work.

**The contractor shall take insurance covers as per clause 25.0 at his own cost.** The policy may be taken in joint names of the contractor and the SBI and the original policy may be lodged with the SBI.

### 13.0 Inspection of work:

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

### 14.0 Assignment and subletting

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

### 15.0 Quality of Materials, Workmanship & Test

All materials and workmanship shall be best of the respective kinds described in the contract and in accordance with architect/consultant(if engaged) instructions and shall be subject from time to time to such tests as the SBI/Architect/ Consultant/ may direct at the place of manufacture or fabrication or on the site or an approved testing labouratory. The contractor shall provide such assistance, instruments, machinery, labour and materials as are normally required for examining measuring sampling and testing any material or part of work before incorporation in the work for testing as may be selected and required by the architect/consultant.

**i) Samples:** All samples of adequate number, size, shades & pattern as per specifications shall be supplied by the contractor without any extra charges. If certain items proposed to be used are of such nature the samples cannot be presented or prepared at the site detailed literature/ test certificate of the same shall be provided to the satisfaction of the Architect/consultant. Before submitting the sample/literature the contractor shall satisfy himself that the material/ equipment for which he is submitting the sample/ literature meet with the requirement of tender satisfaction. Only when the samples are approved in writing by the Architect/consultant the contractor shall proceed with the procurement and installation of the particular material/equipment. The approved samples shall be sign by the Architect/ consultant for identification and shall be kept on record at site office until the completion of the work for inspection/ comparison at any time. The Architect/consultant shall take reasonable time to approve the sample. Any delay that might occur in approving the samples for reasons of its not meeting the specifications or other discrepancies inadequacy in furnishing samples of best qualities from various manufacturers and such other aspects causing delay on the approval of the materials/ equipment etc. shall be to the account of the contractor.

**ii) Cost of tests:** Test provided for in the specifications or BOQ :

- a) The cost of making any test shall be borne by the contractor
- b) Test not provided for in the Specifications of BOQ :If any test is ordered by the Architect/ consultant /SBI which is either to be carried out by an independent person at any place other than the site or the place of manufacture or fabrication of the materials tested or any Government/ approved labouratory, then the cost of such test shall be borne by the contractor.

### 16.0 Obtaining Information related to execution of work

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

**17.0 Contractor's superintendence**

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

**18.0 Quantities**

i) The bill of quantities (BOQ) unless or otherwise stated shall be deemed to have been prepared in accordance with the Indian Standard Method of Measurements and quantities. The rate quoted shall remain valid for variation of quantity against individual item to any extent subject to maximum variation of the contract value by 25%. The entire amount paid under Clause 20 hereof as well as amounts of prime cost and provisional sums, if any, shall be excluded.

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

**19.0 Works to be measured**

The Employer may from time to time intimate to the contractor that he required the work to be measured and the contractor shall forthwith attend or send a qualified representative to assist the Employer in taking such measurements and calculation and to furnish all particulars or to give all assistance required by any of them. The representative of the Employer shall take joint measurements with the contractor's representative and the measurements shall be entered in the measurement book. The contractor or his authorized representative shall sign all the pages of the measurement book in which the measurements have been recorded in token of his acceptance. All authorized extra work, omissions and all variations made shall be included in such measurements.

**20.0 Variations**

No alteration, omission or variation ordered in writing by the Employer shall vitiate the contract. In case the Employer thinks proper at any time during the progress of works to make any alteration in, or additions to or omission from the works or any alteration in the kind or quality of the materials to be used therein, the Employer shall give notice thereof in writing to the contractor or shall confirm in writing within seven days of giving such oral instructions the contractor shall alter to, add to, or omit from as the case may be in accordance with such notice but the contractor shall not do any work extra to or make any alteration or additions to or omissions from the works or any deviation from any of the provisions of the contract, stipulations, specifications or contract drawings without previous consent in writing of the Employer and the value of such extras, alterations, additions or omissions shall in all cases be determined by the Employer and the same shall be added to or deducted from the contract value, as the case may be.

**21.0 Valuation of Variations**

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

- a)
  - i) The net rates or prices in the contract shall determine the valuation of the extra work where such extra work is of similar character and executed under similar conditions as the work priced herein.
  - ii) Rates for all items, wherever possible should be derived out of the rates given in the priced BOQ.
- b) The net prices of the original tender shall determine the value of the items omitted, provided if omissions do not vary the conditions under which any remaining items of works are carried out, otherwise the prices for the same shall be valued under sub clause (c) hereunder.
- c) Where the extra works are not of similar character and/or executed under similar conditions as aforesaid or where the omissions vary the conditions under which any remaining items or works are carried out, then the contractor shall within 7 days of the receipt of the letter of acceptance inform the Employer of the rate which he intends to charge for such items of work, duly supported by analysis of the rate or rates claimed and the Employer shall fix such rate or prices as in the circumstances in his opinion are reasonable and proper, based on the market rate.

- d) Where extra work cannot be properly measured or valued the contractor shall be allowed day work prices at the net rates stated in the tender of the BOQ or, if not, so stated then in accordance with the local day work rates and wages for the district; provided that in either case, vouchers specifying the daily time (and if required by the Employer) the workman's name and materials employed be delivered for verifications to the Employer at or before the end of the week following that in which the work has been executed.
- e) It is further clarified that for all such authorized extra items where rates cannot be derived from the tender, the contractor shall submit rates duly supported by rate analysis worked on the "market rate basis" for material, labour, hire/running charges of equipment and wastages etc plus 15% towards establishment charges, contractor's overheads and profit. Such items shall not be eligible for escalation.

**22.0 Final Measurement**

The measurement and valuation in respect of the contract shall be completed within six months of the virtual completion of the work.

**23.0 Virtual Completion Certificate (VCC)**

On successful completion of entire works covered by the contract to the full satisfaction of the Employer, the contractor shall ensure that the following works have been completed to the satisfaction of the Employer.

- a) Clear the site of all scaffolding, wiring, pipes, surplus materials, contractor's labour, equipment and machinery.
- b) Demolish, dismantle and remove the contractor's site office, temporary works, structures including labour sheds/camps and constructions and other items and things whatsoever brought upon or erected at the site or any land allotted to the contractor by the SBI and not incorporated in the permanent works.
- c) Remove all rubbish, debris etc from the site and the land allotted to the contractor by the Employer and shall clear, level and dress, compact the site as required by the Employer.
- d) Shall put the Employer in undisputed custody and possession of the site and all land allotted by the Employer.
- e) Shall hand over the work in a peaceful manner to the Employer.
- f) All defects/imperfections have been attended and rectified as pointed out by the Employer to the full satisfaction of Employer.

**23.1** Upon the satisfactory fulfilment by the contractor as stated above, the contractor shall be entitled to apply to the Employer for the certificate. If the Employer is satisfied of the completion of the work, relative to which the completion certificate has been sought, the Employer shall within fourteen (14) days of the receipt of the application for virtual completion certificate, issue a VCC in respect of the work for which the VCC has been applied.

**23.2** This issuance of a VCC shall be without prejudice to the SBI's rights and contractor's liabilities under the contract including the contractor's liability for defects liability period nor shall the issuance of VCC in respect of the works or work at any site be construed as a waiver of any right or claim of the SBI against the contractor in respect of works or work at the site and in respect of which the VCC has been issued.

**24.0 Work by other agencies**

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

**25.0 Insurance of Works**

Contractor will have to obtain the following insurance covers for the full tenure of the work to cover risks detailed in the following pares/clauses:

- i) Contractor's All Risk Policy including third party compensation as detailed below.
- ii) Workmen Compensation Policy.

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

- a) The works for the time being executed to the estimated current Contract value thereof, or such additional sum as may be specified together with the materials for incorporation in the works at their replacement value.
- b) The constructional plant and other things brought on to the site by the contractor to the replacement value of such constructional plant and other things.
- c) Such insurance shall be effected with an insurer and in terms approved by the Employer which approval shall not be unreasonably withheld and the contractor shall whenever required produce to the Employer the policy of insurance and the receipts for payment of the current premiums
- d) Submitted original " Contractor's All Risk Insurance Policy " and " Workmen's Compensation ( General ) Policy " made by contractor's own cost .

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

- a) The permanent use or occupation of land by or any part thereof.
- b) The right of Employer to execute the works or any part thereof, on, over, under, in or through any lands.
- c) Injuries or damages to persons or properties which are unavoidable result of the execution or maintenance of the works in accordance with the contract.
- d) Injuries or damage to persons or property resulting from any act or neglect of the Employer, their agents, employees or other contractors not being employed by the contractor or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or where the injury or damage was contributed to by the contractor, his servants or agents such part of the compensation as may be just and equitable having regard to the extent of the responsibility of the Employer , their employees, or agents or other employees, or agents or other contractors for the damage or injury.

**25.3 Contractor to indemnify Employer:** The contractor shall indemnify the Employer against all claims, proceedings, damages, costs, charges and expenses in respect of the matters referred to in the provision sub-clause of this clause.

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

### **25.5 Third Party Insurance**

**25.5.1** Before commencing the execution of the work the contractor but without limiting his obligations and responsibilities under clause 26.0 of GCC shall insure against his liability for any material or physical damage, loss, or injury which may occur to any property including that of SBI, or to any person, including any employee of the SBI, by or arising out of the execution of the works or in the carrying out of the contract, otherwise than due to the matters referred to in the provision to clause 26.0 thereof.

### 25.5.2 Minimum Amount of Third Party Insurance

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

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

### 25.6 Accident or Injury to Workmen

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

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

**25.6.3 Remedy on Contractor's failure to insure:** If the contractor fails to effect and keep in force the insurance referred to above or any other insurance which he may be required to effect under the terms of contract, then and in any such case the Employer may effect and keep in force any such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by the Employer as aforesaid from any amount due or which may become due to the contractor, or recover the same as debt from the contractor.

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

### 26.0 Commencement of Works

The date of commencement of the work will be reckoned as the recorded date of handing over site or 07 days from the date of issue of letter of acceptance of the tender by the Employer whichever is later.

### 27.0 Time for completion

Time is the essence of the contract and shall be strictly observed by the contractor. The entire work shall be completed within a period of **60 days** from the date of handing over the site or 60 days from the date of issue of the work order, whichever is later. If required in the contract or as directed by the Employer, the contractor shall complete certain portions of work before completion of the entire work. However the completion date shall be reckoned as the date by which the whole work is completed as per the terms of the contract.

### 28.0 Extension of Time

If, in the opinion of the Employer, the work be delayed for reasons beyond the control of the contractor, Bank to grant a fair and reasonable extension of time for completion of work as per the terms of contract. If the contractor needs an extension of time for the completion of work or if the completion of work is likely to be delayed for any reasons beyond the due date of completion as stipulated in the contract, the contractor shall apply to the Employer in writing immediately and while applying for extension of time he shall furnish the reasons in detail and his justification if any, for the delays. While granting extension of time the contractor shall be informed the period extended time which will qualify for levy of liquidated damages. For the balance period in excess of

original stipulated period and duly sanctioned extension of time by the Employer the provision of liquidated damages as stated under clause 8 of GCC shall become applicable.

**29.0 Rate of progress**

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

**30.0 Work during night and holidays**

Subject to any provision to the contrary contained in the contract no permanent work shall save as herein provided be carried on during the night or holidays without the permission in writing of Architect/ consultant /SBI, save when the work is unavoidable or absolutely necessary for the saving of life of property or for the safety of the work in which case the contractor shall immediately advise the Architect/ consultant. However the provisions of the clause shall not be applicable in the case of any work which becomes essential to carry by rotary or double shifts in order to achieve the progress and quality of the part of the works being technically required/ continued with the prior approval of the Architect/ consultant/SBI at no extra cost to the SBI.

All work at night after obtaining approval from competent authorities shall be carried out without unreasonable noise and disturbance.

**31.0 No compensation for restrictions of work**

If at any time after acceptance of the tender SBI shall decide to abandon or reduce the scope of work for any reason whatsoever and hence not required the whole or any work to be carried out. The Architect/consultant shall give notice in writing to that effect to the contractor and the contractor shall act accordingly. In the matter, the Contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the work fully but which he did not derive in consequence of the foreclosure of the whole or part of the work.

Provided that the contractor shall be paid the charges on the cartage only of materials actually and bonafide brought to the site of the work by the contractor and rendered surplus as a result of the abandonment, curtailment of the work or any portion thereof and then taken back by the contractor, provided however that the Architect/ Consultant shall have in such cases the option of taking over all or any such materials at their purchase price or a local current rate whichever is less.

In case of such stores having been issued from SBI stores and returned by the contractor to stores, credit shall be given to him at the rates not exceeding those at which were originally issued to the contractor after taking into considerations and deduction for claims on account of any deterioration or damage while in the custody of the contractor and in his respect the decision of Architect /consultant/SBI shall be final.

**32.0 Suspension of work**

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

- a) On account any default on the part of the contractor, or
- b) For proper execution of the works or part thereof for reasons other than the default of the contractor, or
- c) For safety of the works or part thereof.

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

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

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

**33.0 Action when the whole security deposit is forfeited**

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

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

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

#### **34.0 Bank's Right to Terminate the Contract**

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

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

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

- a) Has abandoned the contract; or
- b) Has failed to commence the works, or has without any lawful excuse under these conditions suspended the progress of the works for 14 days after receiving from the Employer written notice to proceed, or
- c) Has failed to proceed with the works with such diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon, or has failed to remove the materials from the site or to pull down and replace work within seven days after written notice from the Employer that the said materials were condemned and rejected by the Employer under these conditions; or has neglected or failed persistently to observe and perform all or any of the acts, matters or things by this contract to be observed and performed by the contractor for seven days after written notice shall have been given to the contractor to observe or perform the same or has to the detriment of good workmanship or in defiance of the Employer instructions to the contrary subject any part of the contract. Then and in any of said cases the Employer may not withstanding any previous waiver, after giving seven days notice in writing to the contractor, determine the contract, but without thereby affecting the powers of the Employer or the obligation and liabilities of the contractor the whole of which shall continue in force as fully as if the contract had not been so determined and as if the works subsequently had been executed by or on behalf of the contractor. And, further the Employer, their agents or employees may enter upon and take possession of the work and all plants, tools,

scaffoldings, materials, sheds, machineries lying upon the premises or on the adjoining lands or roads, use the same by means of their own employees or workmen in carrying on and completing the work or by engaging any other contractors or persons to complete the work and the contractor shall not in any way interrupt or do any act, matter or thing to prevent or hinder such other contractor or other persons employed for completing and finishing or using the materials and plant for the works.

When the works shall be completed or as soon thereafter as convenient the Employer shall give a notice in writing to the contractor to remove his surplus materials and plants and should the contractor fail to do so within 14 days after receipt thereof by him the Employer sell the same by public auction after due publication and shall adjust the amount realized by such auction. The contractor shall have no right to question any of the act of the Employer incidental to the sale of the materials etc.

### **35.0 Settlement of Disputes and Arbitration**

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

i) If the contractor considers that he is entitled to any extra payment or compensation in respect of the works over and above the amounts admitted as payable by the Architect(if engaged) or in case the contractor wants to dispute the validity of any deductions or recoveries made or proposed to be made from the contract or raise any dispute, the Contractor shall forthwith give notice in writing of his claim, or dispute to the Assistant General Manager and endorse a copy of the same to the Architect(if engaged), within 30 days from the date of disallowance thereof or the date of deduction or recovery. The said notice shall give full particulars of the claim, grounds on which it is based and detailed calculations of the amount claimed and the contractor shall not be entitled to raise any claim nor shall the Bank be in any way liable in respect of any claim by the contractor unless notice of such claim shall have been given by the contractor to SBI in the manner and within the time as aforesaid. The contractor shall be deemed to have waived and extinguished all his rights in respect of any claim not notified to SBI in writing in the manner and within the time aforesaid.

ii) The Assistant General Manager shall give his decision in writing on the claims notified by the contractor. The contractor may within 30 days of the receipt of the decision of the Assistant General Manager submit his claims to the conciliating authority namely the DGM & Circle Development Officer for conciliation along with all details and copies of correspondence exchanged between him and the Assistant General Manager .

iii) If the conciliation proceedings are terminated without settlement of the disputes, the contractor shall, within a period of 30 days of termination thereof shall give a notice to the concerned Chief General Manager of the Bank for appointment of an arbitrator to adjudicate the notified claims failing which the claims of the contractor shall be deemed to have been considered absolutely barred and waived.

iv) Except where the decision has become final, binding and conclusive in terms of the contract, all disputes or differences arising out of the notified claims of the contractor as aforesaid and all claims of the Bank shall be referred for adjudication through arbitration by the Sole Arbitrator appointed by the Chief General Manager. It will also be no objection to any such appointment that the Arbitrator so appointed is a Bank Officer and that he had to deal with the matters to which the Contract relates in the course of his duties as Bank Officer. If the arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever another sole arbitrator shall be appointed in the manner aforesaid by the said Chief General Manager. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor.

It is a term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each dispute along with the notice for appointment of arbitrator. It is also a term of this contract that no person other than a person appointed by such Chief General Manager aforesaid should act as arbitrator. The conciliation and arbitration shall be conducted in accordance with the provisions of the Arbitration & Conciliation Act 1996 or any statutory modification or re-enactment thereof and the rules made there under. It is also a term of the contract that if any fees are payable to the arbitrator these shall be paid equally by both the parties. However, no fees will be payable to the arbitrator if he is a Bank Officer. It is also a term of the contract that the arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties calling them to submit their statement of claims and counter statement of claims. The venue of the arbitration shall be such place as may be fixed by the arbitrator in his sole discretion. The fees if any, of the arbitrator shall, if required to be paid before the 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) shall be in the discretion of the arbitrator who may direct to any by whom and in what manner, such costs or any part thereof shall be paid and fix or settle the amount of costs to be so paid

**36.0 Certificate of Payment**

The contractor shall be entitled under the certificates to be issued by the Architect/ Consultant/SBI to the contractor within 10 working days from the date of certificate to the payment from SBI from time to time. The SBI shall recover the statutory recoveries and other dues including the retention amount from the certificate of payment. Provided always that the issue of any certificate by the Architect/Consultant during the progress of works or completion shall not have effect as certificate of satisfaction or relieve the contractor from his liability under clause. The Architect/Consultant shall have power to withhold the certificate if the work or any part thereof is not carried out to their satisfaction. The Architect/Consultant may by any certificate make any corrections required in previous certificate. The SBI shall modify the certificate of payment as issued by the Architect/Consultant from time to time while making the payment. The contractor shall submit final bills only after taking actual measurements and properly recorded in the Measurement book (M.B).. The SBI shall pay the amount within a period of three months from the date of issue of certificate provided there is no dispute in respect of rates and quantities.

**37.0 Water Supply**

The contractor shall make his arrangements for water required for the work and nothing extra will be paid for the same. This will be subject to the following conditions:

- i) That the water used by the contractor shall be fit for construction purpose to satisfaction of the Architect/ consultant.
- ii) The contractor shall make alternative arrangements for the supply of water if the arrangement made by the contractor for procurement of water in the opinion of the Architect/ consultant is unsatisfactory.
- iii) The contractor shall construct temporary well /tube in SBI land for taking water for construction purpose only after obtaining permission in writing from the SBI. The contractor has to make his own arrangements for drawing and distributing the water at his own cost. He has to make necessary arrangements. To avoid any accidents or damages caused due to construction and subsequent maintenance of the wells. He has to obtain necessary approvals from local authorities, if required, at his own cost. He shall restore the ground to his original condition after well are dismantled on the completion of work or hand over the well to the SBI without any compensation as directed by the Architect /consultant.

**38.0 Power Supply**

The contractor shall make his own arrangements for power and supply/ distribution system for driving plant or machinery for the work and for lighting purpose at his own cost. The cost of running and maintenance of the plants are too included in his tender prices. He shall pay all fees and charges required for the power supply and include the same in his tendered rates and hold the owner free from all such costs. He has to obtain necessary approval from the appropriate authorities, if required.

**39.0 Treasure trove etc.**

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

**40.0 Method of Measurement**

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

**41.0 Maintenance of registers**

The contractor shall maintain the following registers as per the enclosed proforma at site of work and should produce the same for inspection of SBI/ architect/ consultant whenever desired by them. The contractor shall also maintain the records/ registers as required by the local authorities /Govt. from time to time.

- i) Register for secured advance.
- ii) Register for hindrance to work.
- iii) Register for running account bill
- iv) Register for labour

**42.0 Price Variation**

No price variation shall be applicable in this contract.

**43.0 Force Majeure**

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

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

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

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

#### **44.0 Local Laws, Acts, Regulations**

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

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

#### **45.0 Accidents**

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

## **SPECIAL CONDITIONS OF CONTRACT**

### **1.0 Notice of operation**

The contractor shall not carry out any important operation without the Consent in writing from the Architect/ consultant.

### **2.0 Temporary works**

Before any temporary works are commenced the contractor shall submit at least 2 days in advance to the architect/ consultant for approval complete drawings of all temporary works he may require for the executions of the works. The contractor shall carry out the modifications relating to strength, if required by the architect / consultant in accordance with the conditions of the contract at his own cost. The contractor shall be solely responsible for the stability and safety of all temporary works and unfinished works and for quality of the permanent works resulting from the arrangement eventually adopted for their execution!

### **3.0 Office Accommodation**

- a) The contractor shall provide and maintain all necessary offices, workshops, stores, shelters, sanitary facilities, canteens and other temporary structures for themselves in connection with the work at the site at their own cost after getting the approval from the Architect/ consultant.
- b) A site office for the use of SBI/ architect/ consultant shall be provided by the contractor at his own expenses.
- c) All temporary buildings and facilities as mentioned above shall be removed on completion of the work or at any other earlier date as directed by the architect/ consultant.
- d) All the expenses for obtaining statutory approvals and maintenance of the above facilities as well as running expenses shall be borne by the contractor at no extra cost. It is also the responsibility of the contractor to obtain statutory approvals for providing the above facilities.

### **4.0 Facilities for contractor's employees**

The contractor shall make his own arrangement for the housing and welfare of his staff and workmen including adequate drinking water facilities. The contractor shall also make the arrangements at his own cost for transport where necessary for his staff and workmen to and from site of work at his own cost.

### **5.0 Lighting of works**

The contractor shall at all times provide adequate and approved lighting as required for the proper execution and supervision and inspection of work.

### **6.0 Fire fighting arrangements**

- a) The contractor shall provide suitable arrangement for fire fighting at his own cost. For this purpose he shall provide requisite number of fire extinguisher and adequate number of buckets. Some of which are to be always kept filled with sand and some water. These equipments shall be provided at suitable prominent and easily accessible places and shall be properly maintained.
- b) Any deficiency in the fire safety or conditions shall be corrected by the contractor at his own cost and to the approval of the relevant authorities. The contractor shall make the following arrangements at his own cost but not limited to the following:
  - i) Proper handling, storage and disposal of combustible materials and waste.
  - ii) Work operations which can create fire hazards.
  - iii) Access for fire-fighting equipments.
  - iv) Type, number and location of containers for the removal of surplus materials and rubbish
  - v) Type, size, number and location of fire extinguishers or fire fighting equipment
  - vi) General housekeeping.

### **7.0 Site order book**

A site order book shall be maintained at site for the purpose of quick communication between the Architect/ consultant/ SBI. Any communication from one party to the other shall be deemed to Records in the site order book. Such a communication from one party to the other shall be deemed to have been adequately served in terms of contract. Each site order book shall have machine numbered pages in triplicate and shall carefully maintained and preserved by the contractor and shall be made available to the architect/ consultant/ SBI as and when demanded. Any instruction which the architect/ consultant/ SBI may like to issue to the contractor or the contractor may like to bring to the architect/ consultant two copies of such instructions shall be taken from the site order book and one copy will be handed over to the party against proper acknowledgement and the second copy will be retained for their record.

**8.0 Site Meetings**

Site meetings will be held to review the progress and quality evaluation. The contractor shall depute a senior representative along with the site representative and other staff of approved sub-contractors and suppliers as required to the site meetings and ensure all follow up actions. Any additional review meetings shall be held if required by the architect/ consultant /SBI.

**9.0 Disposal of refuse**

The contractor shall cart away all debris, refuse etc. arising from the work from the site and deposit the same as directed by the construction site or any other off-site activities borrow pits has been properly disposed off.

**10.0 Contractor to verify site measurement**

The contractor shall check and verify all site measurements whenever requested by other specialists contractors or other sub contractors to enable them to prepare their own shop drawings and pass on the information with sufficient promptness as will not in any way delay the works.

**11.0 Displaying the name of the work**

The Contractor shall put up a name board of suitable size as directed by the architect/ consultant indicating there in the name of project and other details as given by the architect /consultant at his own cost and remove the same on completion of work.

**12.0 As built drawings:**

- a. For the drawings issued to the contractor by the Architect/ consultant/SBI. The architect consultant will issue two sets of drawings to the Contractor for the items for which some changes have been made. From the approved drawings as instructed by the SBI/ Architect/ consultant. The contractor will make the changes made on these copies and return these copies to the architect/ consultant for their approval. In case any revision is required or the corrections are not properly marked the architect/ consultant will point out the discrepancies to the contractor. The contractor will have to incorporate these corrections and /or attend to discrepancies either on the copies as directed by the architect/ consultant and resubmit to him for approval. The architect/ consultant/SBI will return one copy duly approved by him.
- b. For the drawings prepared by the contractor. The contractor will modify the drawing prepared by him wherever the changes are made by the SBI/ Architect/ consultant. And submit two copies of such modified drawings to the architect/ consultant/SBI for approval. The architect/ consultant will return one of the approved drawings to the contractor.

**13.0 Approved make**

The contractor shall provide all materials from the list of approved makes. The architect/ consultant may approve any make /agency within the approved list as given in the tender.

**14.0 Procurement of materials**

The contractor shall make his own arrangements to procure all the required materials for the work. All wastage and losses in weight shall be to the contractor's account.

**15.0 Tendered Rates / Amount**

- a) **Price Bid : The Bidder has to submit Online item wise rates and Total Amount as per BOQ at annexure-III of this tender inclusive of all overhead, contractor's profit, the cost of materials/labours including all other costs, taxes, charges etc. and exclusive of GST only on work contract. GST on work contract will be paid extra as applicable. Item wise rates bid in "Price Bid" will be the basis of final order placement.**

**16.0 Acceptance of tender:**

The SBI shall have the right to reject any or all tenders without assigning any reason. They are not bound to accept the lowest or any tender and the Bidder or Bidders shall have no right to question the acts of the SBI. However adequate transparency would be maintained by the SBI.

**17.0 Government and Local Rules:**

The Contractor shall conform to the provisions of all local byelaws 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 the said Act, Rules, Regulations and byelaws etc. and pay 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 encroachment and restorations etc. and shall indemnify the Employer against such liabilities and shall defend all action arising from such claims of liabilities.

**18.0 Possession Prior to Completion**

The Owner shall have the right to take possession of or use any complete or partially completed part of the work. Such possession or use shall not be an acceptance of any work not completed in accordance with the contract Agreement.

**19.0 Tools, Storage of Materials, protective Works and Site Office Requirements**

- a) The contractor shall provide, fix up and maintain in an approved position proper office accommodation for the Contractor's representative and staff which office shall be open at all reasonable hours to receive instruction notices or communications and clear away on completion of the work and make good all work disturbed.
- b) 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 and made available to the Owner /architects for inspection or such other purposes they may require.
- c) The contractor shall provide at his own cost all artificial light required to complete the work within the specified time.
- d) 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.
- e) 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 work disturbed by the conveniences.
- f) Every precaution shall be taken by the Contractor to prevent the breeding of mosquitoes on the work during the construction and all receptacles, cisterns, water tank etc. used for storage of water must be suitably protected against breeding of mosquitoes. The contractor shall indemnify the owner against any breach of rules in respect of anti-malarial measures.
- g) 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 SBI.

**20.0 Protective Measures**

The contractor from the time of being placed at 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.

The contractor shall indemnify the SBI against any possible damage to the building, roads, or member of the public in course of execution of the work. The contractor shall provide necessary temporary enclosures etc. for the protection of the work and materials and for altering and adopting the same as may be required and removing on completion of the work and making good all work disturbed.

**21.0 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 nominated sub-contractors and remove same on completion.

**22.0 Tools**

All measuring tapes shall be of steel and suitable scaffolding and ladders that may be required for taking measurement shall be supplied by the Contractor. The labours and the supervisor on the work shall carry with them always a one meter or two meter steel tapes and a measuring tape of 30 meters, a spirit level, a plumb bob and a square 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 work 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 nominated sub-contractors for their work.

**23.0 Removal of Improper Work**

The SBI/ Consultant shall during the progress of the work have power to order in writing from time to time the removal from the work within such reasonable time or times as may be specified in the order of any materials which in the opinion of the SBI/ Consultant are not in accordance with specifications or instructions, the substitution or proper re-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 SBI/ consultant 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 SBI/ consultant shall be borne by the Contractor or may be deducted from any money to or that may become due to the contractor. No certificate which may be given by the consultant shall relieve the contractor from his liability in respect of unsound work or bad materials.

**24.0 Dismissal of Workmen**

The Contractor shall on the request of the SBI/ Consultant immediately dismiss from work any person employed thereon by him, who may in the opinion of the SBI/ Consultant be unsuitable or incompetent or who may misconduct himself. Such discharge shall not be the basis of any claim for compensation or damages against the SBI/ Consultant or any of their officer or employee.

**25.0 Concealed Work**

The Contractor shall give not less than 5 days notice of the SBI/ 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 opinion of the SBI/ Architect be either opened up for measurement at the Contractor's expense or no payment may be made for such materials. Should any dispute or difference arise after the execution of any work as to measurements etc or other matters which cannot be conveniently tested or checked, the notes of the SBI/ Architects shall be accepted as correct and binding on the contractor.

**26.0 Substitution**

Should the contractor desire to substitute any materials and workmanship, he/they must obtain the approval of the SBI/Architects in writing for any such substitution well in advance. For materials designed in this specifications by such term as "Equal" or "other approved" etc. specific approval of the SBI/ Architects has to be obtained in writing.

**27.0 Preparation of Building Works for Occupation and Use of Completion**

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

On completion, the contractor shall clean all windows and doors including cleaning and oiling, if necessary, of all hardware, inside and outside, all floors, staircases 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 SBI.

**28.0 Defects after Completion**

The Contractor shall make good at his own cost and to the satisfaction of the SBI all defects and other faults which may appear within 12 months after completion of the work. In default the SBI may employ other persons to amend and make good such damages, defects etc. Expenses consequent thereon or incidental thereto shall be recoverable from the contractor by the SBI from any money due to the contractor. In the event of the amount being insufficient the SBI may recover the balance from the contractor, from the amount retained under Clause No. 1 (total security deposit) of General Conditions of Contract together with any expenses the SBI may have incurred in connection therewith.

**29.0 Idle Labour**

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

**30.0 Guarantee for the Specialized Works**

Wherever provision for submission of a guarantee has been advised, the same shall be submitted from the specialized agency along with a counter guarantee by the main contractor engaged for the work. The guarantee shall be furnished on a non-judicial stamp paper of appropriate value. If the contractor is required to submit guarantee/ guarantees for any items for a period of more than 12 months, the guarantee/ guarantees in case of those items shall remain valid even expiry of the defects liability period of 12 months as stipulated in the contract.

**31.0 Safety Measures at Site**

All personnel at site should be provided with Helmets and Safety Boots with some Identification Mark. Visitors also should be provided with Helmets. It should be ensured that these are used properly.

1. First Aid Box should be kept at site with all requisite materials.
2. No one should be allowed to inspect / work at a height without Safety Belt.
3. Suitable scaffolds should be provided for workmen for all Works that cannot safely be done from the ground, or from solid construction except such short period Work as can be done safely from ladders. When a ladder is used an extra labour shall be engaged for holding the ladder and if the ladder is used for carrying materials as well as suitable footholds and handholds shall be provided on the ladder and the ladder shall be given an inclination not steeper than  $\frac{1}{4}$  to 1 ( $\frac{1}{4}$  horizontal and 1 vertical).
4. Scaffolding or staging more than 3.5 meters above the ground or floors, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached, bolted, braced and otherwise secured at least 1 Meter high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
5. Working platforms, Gangways, and Stairways should be so constructed that they do not sag unduly or unequally, and if the height of the platform or the Gangway or the Stairway is more than 3-5 Meters above ground level or floor level they should be closely boarded, should have adequate width and should be suitably fenced, as described.
6. Every opening in the floor of a building or in a working platform be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1 Meter.
7. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 Meters in length while the width between side rails in rung ladder shall in

- no case be less than 30cms for ladder upto and including Meters in length. For longer ladders this width should be increased at least 6mm for each additional 30 cms. Uniform step spacing shall not exceed 30cms.
8. Adequate precautions shall be taken to prevent danger from electrical equipments. For electrical on line works gloves, rubber mats, and rubber shoes shall be used.
  9. All trenches 1.2 Meters or more in depth shall at all times be supplied with at least one ladder for each 30 Meters length or fraction thereof. Ladder shall be extended from bottom of the trench to at least 1 Meter above the surface of the ground. The sides of the trenches, which are 1.5 Meters or more in depth shall be stepped back to give suitable slope, or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 Meters of the edge of the trench or half of the depth of the trench whichever is more cuttings shall be done from top to bottom. Under no circumstances undermining or under cutting shall be done.
  10. Before any demolition work is commenced and also during the process of the work :
    - a) All roads and open areas adjacent to the Work Site shall either be closed or suitably protected;
    - b) No electrical cable or apparatus which is liable to be a source of danger over a cable or apparatus used by the operator shall remain electrically charged.
    - c) All practical steps shall be taken to prevent danger to persons employed from risk or fire or explosion or flooding. No floor, roof or other part of the building shall be so over-loaded with debris or materials as to render it unsafe.
    - d) All necessary personal safety equipment as considered adequate by the Site Engineer should be kept available for the use of the persons employed on the Site and maintained in a condition suitable for immediate use; and the Contractor should take adequate steps to ensure proper use of equipment by those concerned.
    - e) Workers employed on mixing Asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
    - f) Those engaged in white washing and mixing or stacking of cement bags or any materials which are injurious to the eyes shall be provided with protective goggles.
    - g) Those engaged in welding works shall be provided with Welder's protective eye-shields.
    - h) Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
    - i) When workers are employed in sewers and manholes, which are in use, the Contractor shall ensure that the manhole covers are opened and are ventilated at least for an hour before the workers are allowed to get into the manholes and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals and boards to prevent accident to the Public.
  11. Use of hoisting machines and tackle including their attachments, anchorage and support shall conform to the following standard or conditions:-
    - a) These shall be of good mechanical construction, sound material and adequate strength and free from patent defect and shall be kept in good repairs and in good working order.
    - b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.
    - c) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in-charge of any hoisting machine including any scaffold, winch or give signals to the operator.
    - d) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or lowering or as means of suspension the safe working load shall be ascertained by adequate means.
    - e) Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of hoisting machine having a variable safe working load, each safe working load of the conditions under which it is applicable shall be clearly indicated. No part of any machine or of any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
    - f) Motor, Gearing, Transmission, Electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards, hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load, adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced.
    - g) When workers are employed on electrical installation, which are already energized, insulating mats, wearing apparel such as gloves, 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.
  12. 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 shall be provided at or near places of work.

### 32.0 Fire Safety Measure

Cutting / drilling machine and other electrically operated equipment used at site shall be plugged into correctly rated electrical outlets.

1. Only ISI marked 3 pin plug and other appliances and equipment shall be used.
2. Electrical power cables/wires used shall not have any joints and shall be properly rated.
3. All electrical appliances i.e. welding, drilling, cutting machine etc. shall be safely and securely earthed to prevent leakage current while in operation.
4. Before commencing the welding work, fire section shall be informed and required precautions should be taken.
5. Two buckets of water, sand and a fire cloth of suitable size shall be kept in an easily accessible area on the site.
6. Fire extinguishers recommended by fire officers shall be kept on the site.
7. Used paint drums shall be stored in specified store only after closing them properly.
8. Personal protective equipment such as safety shoes, hand gloves, welder's mask, ear plug etc. depending upon the requirement of the work shall be provided by the contractor to the workmen to prevent occupational health hazards.
9. The safety belt shall be provided by the contractor and used by the workmen while working from height for more than 10 Mtr. from Ground level.
10. None of the passages near lift lobby and staircases shall be used for stacking / dumping any kind of materials/waste.
11. Any debris/ waste generated from the work shall be collected on daily basis, removed from site and stored at the designated place in proper manner.
12. Battery operated emergency light/torches shall be provided by the contractor to the workmen while working beyond office hours.

### **33.0 Electrical work terms & conditions :-**

1. All PVC insulated and armoured cables used shall conform to ISI 554/64 and of 650/1100V grade. Test certificates of cables issued by manufacturers are to be furnished after installation on demand.
2. Minimum bending radius of PVC armoured cables shall be 12 times the diameter of cable.
3. Contractor would be required to furnish after completion, two sets of detailed drawings.
4. The work must be guaranteed for a period of 12 months for its satisfactory performance from the date of completion and all defects cropping up within this period must be rectified at contractor's cost immediately.
5. Caution boards as per statutory requirements must be displayed wherever required.
6. All material, fittings and appliances used in electrical installation shall conform to the latest relevant Indian Standard specifications, wherever they exist. A list of approved material is annexed and other materials not covered will have to be got approved by SBI Engineer-in-charge, prior to actual use.
7. Contractor is required to ensure that no damage is caused to Bank's property during execution of the job and should make good damages, if any, at their own cost.
8. Work has to be carried on without disturbing normal banking operations.
9. Contractors shall provide all labour and materials including necessary scaffolding for proper execution of the work.
10. Bank shall have the right to change the quantities as per on spot requirements.
11. Contractors should submit the Test Certificate form at the time of submission of final bill
12. Necessary blanking plates are to be provided wherever required.
13. For the Earthing IS 3043 for conduit to be used in wiring shall confirm IS 9537 (Part-II)1981 or latest in all respect.
14. All the materials which shall be used in the work shall be as per specification and must be from the list of approved materials as mentioned in the specification. Samples of the materials proposed to be used shall be submitted for approval and nothing shall be used which are not approved.
15. It is obligatory under Indian Electricity Rules that electrical installations work shall be executed under qualified Electrical Supervisor holding a valid Electrical Supervisor's Certificate of competency guaranteed by the State License Board
16. The contractor has to obtain labour license and abide by Rules and Regulations of contract labour (Regulation and abolition Act., 1970 and central rule 1971 as also relevant latest amendments hereto.)
17. Evidence vouchers from manufacturers/authorized agent showing use of proper materials should be furnished as and when required.
18. Quantities are approximate and the work will be paid on the measurement basis as per ISI code of measurement.
19. Test report of supply authority has to filled in, if required



TECHNICAL SPECIFICATION / LIST OF APPROVED MAKE

LIST OF MATERIALS OF APPROVED BRAND AND/OR MANUFACTURE –ELECTRICAL

ALL MATERIAL USED MUST HAVE ISI & FIA APPROVED		
1	Rigid PVC Conduit (FRLS)	Medium Gauge 2mm wall thickness ISI & FIA approved & manufactured from virgin material Precision, BEC, AKG, SETIA
2	Accessories for conduit	Same make as sr. no. 1 above.
3	M. S. Conduit ISI	BEC/AKG/SETIA of 16 SWG or equivalent only
4	M.S. Boxes	Fabricated out of 16 gauge continuously welded (sample to be approved) or equivalent
5	Copper Conductor PVC insulated 1100V grade multi stranded FRLS/ FRZH Flexible wire only.	As per IS:694-1977 :- Finolex/ RR Kebel/Polycab/Havel's /RICHA/KEI or equivalent.
6	Raceways and Junction Boxes	Legrand/MK /C&S or equivalent
7	Switches, Switch Plates, Boxes (Metal-PVC)	MK/LEGRAND/ CRABTREE/ PHILIPS/ North West/ABB or equivalent
8	Main Switch fuse up to 63 Amps A.C. 230V duty	Legrand / L&T/ Hager or equivalent
9	Main switch above 63 Amps-A.C. 23 duty	L&T / Hager/ABB or equivalent
10	HRC Fuses	L&T / Hager /ABB or equivalent
11	MCBs, MCCBs, ELCBs and DBs (Double Door type only)	Legrand / Schneider/ L&T (d sine model)/ GEC/Havell's/SIEMENS/ABB(XT Model) or equivalent with original factory manufactured only
12	Re-wirable Porcelain Fuse	CPL, KEW.
13	Telephone wires	Delfon, Finolex as per ITD S/WS-113 B
14	PVC tape	BHOR's Steel grip.
15	Compound	Shalimar No. 6
16	Main Cables PVC Insulated 1.1 kV grade FRLS XLPE only	PVC armoured cable For 1.1 KV as per ISI 1554. Havel's/Gloster/ RR Kebel/ RICHA/National/ ICC/Polycab/ KEI or equivalent
18	Cable Glands	Double compression type: Dowel /Siemens/ Comet/ Gripwel with rubber ring and double washers (Sample to be approved) or equivalent
19	Cable Lugs	Dowells, 3-D. or equivalent
20	Metal Clad Sockets/ Plugs	ABB/ L&T/ LEGRAND/ NORTH WEST/ MK/ HPL or equivalent
22	Connectors/ Indicating Lamps	Technica, Mimic (Static LED type), Technoplast, Porcelain or equivalent
23	Batten holder, Angle holder, Ceiling Rose	Anchor/ Precision or equivalent
24	Bakelite Sheet	HYLAM / FORMICA
25	A.C.B. Draw out type (LT)	L&T /SIEMENS/Crompton /Scheider or equivalent
26	Telephone tag block	KRONE/ Legrand only
27	Capacitor	L&T / Crompton Greaves/ ASIAN. or equivalent
28	Relay	L&T /EE or equivalent
29	Metering Equipments	JAIPUR/ CONZERV/ RISHAB/ AE/ SEMS or equivalent
30	ASS/VSS	KAYACEE/ L&T
31	FLUORESCENT/ LED/ CFL LUMINAIRES (All LED light fixtures shall cover minimum 3-years replacement warranty)	PHILIPS/ CROMPTON/ BAJAJ/ WIPRO/ HAVEL'S or as specified.
32	Ceiling Fans	Crompton Greaves/ Havell's/ Bajaj/ Usha/ or EQUIVALENT.
33	Exhaust Fan	Crompton/ Havell's/ Bajaj/ Usha/ or equivalent.
34	Wall Mounted Fan	Crompton/ Havell's/ Bajaj/ Usha/Orient or equivalent.
35	Electronic call bell / timer	Anchor / Precision or equivalent
36	TV Cable	Finolex. or equivalent
37	Volt meter & Ammeter (Digital)	MECO, AE , CONZERV or equivalent
38	Current Transformer	AE, Kappa or equivalent
39	L. T. Panel	L&T or fabricated by CPRI approved Fabricator / Hager / LEGRAND or equivalent

40	Data & Voice (CAT-5E & CAT-6) cabling & its Components	AMP / D Link or equivalent
41	Change over switch	Legrand / L&T / Hager/Havels/HP or equivalent
42	Jack Panel	AMP / D Link or equivalent
43	4U/9U / 12U / 15U Rack for jack Panel	Vallrack or equivalent
44	PIR cum Occupancy Sensors	Honeywell/ AITEC

## SPECIFICATION OF AIR CONDITIONERS

### 33.1. SPECIFICATIONS FOR INDOOR UNITS :-

#### A. For Cassette type indoor units. :-

These units shall be installed between the bottom of finished slab & top of false ceiling. The maximum allowable height for the cassette type units shall not exceed 350 mm. The unit shall be pre charged with first charge of R 32 / R 134A / R 407 / R 410A /R 290 refrigerant. The unit must have in built drain pump, suitable for vertical lift of 750 mm. The unit casing shall be Galvanized Steel Plate / or as per manufacturer's specifications. Unit must be insulated with sound absorbing thermal insulation material, Polyurethane foam. The noise level of unit at the highest operating level shall not exceed 42 dB(A), at a vertical distance of 1.5 m from the grille of the unit. Unit shall have provision of connecting fresh air without any special chamber & without increasing the total height of the unit (288 mm maximum). The unit shall be supplied with suitable decorative panel. The unit shall be supplied with Resin Net filter with mild Resistance. The filter shall be easy to remove, clean & re install. The unit will be connected in series to a suitable outdoor unit & it must be possible to Operate the unit independently, through corded/ cordless remote specified in the "Bill of quantities". The unit will be further connected to Intelligent Building Management System (To be supplied by other vendors) & it shall be possible to operate the unit through this IBMS system. The unit shall be supplied with following from the factory with following Operation Manual /Installation Manual .Paper pattern for installation Drain hose/ Clamp metal/ Washer fixing plate/ Sealing pads/ Clamps/ Screws/ Washer for hanging bracket/ Insulation for fitting.

B. Wall Mounted Units :-Wall mounted units must be compact & stylish design that does not detract from the Décor of the room. The unit shall be pre-charged with first charge of R 32 / R 134A / R 407 / R 410A /R 290 refrigerant. Each indoor unit must have electronic expansion valve operated by microprocessor thermostat based temperature control to deliver cooling/ heating as per the heat load of the room. The unit must have provision of adding drain pump kit if required & specified. The drain pump must be suitable to lift drain up to 1000 mm from the bottom of the unit. Unit must be insulated with sound absorbing thermal insulation material, polystyrene/Polyethylene foam. The noise level of unit at the highest operating level shall not exceed 46 dB(A), at a vertical distance of 1.5 m from the grille of the unit. The unit shall be supplied with Resin Net filter with Mold Resistance. The filter shall be easy to remove, clean & re install. The unit grille must be washable with soap solution. It shall be possible to set minimum 5 steps of discharge angle by remote controller. It shall be possible to fit drain pipe from either side of the unit (Left or right). The unit will be connected in series to a suitable outdoor unit & it must be possible to Operate the unit independently, through corded/ cordless remote specified in the bill of quantities. The unit will be further connected to Intelligent Building Management System(To be supplied by other vendors) & it shall be possible to operate the unit through this IBMS system. The unit shall be supplied with following from the factory with following:

- I) Operation Manual
- II) Installation Manual
- III) Installation panel
- IV) Paper pattern for installation
- V) Insulation tape/ Clamps/ Screws

#### A – 1: COPPER TUBING :-

The parent material used for air – conditioning system refrigerant tubing should be Copper tubes, tubes and fittings conforming to following specifications:

1. Material composition should be conforming to C-1220 (JIS-H-3300) or C-12200 (ASTM).It should have a minimum Copper content of 99.9 % and Phosphorus content between 0.015 % and 0.040 %. It should have low residue ( below 0.038 gm / sq mtr ). The material should also be as per the RoHS norms specified by EU; that is, Mercury, Chromium and Lead contents below 1000 ppm, and Cadmium content below 100 ppm.
2. Physical properties of the material should conform to JIS-H-3300 or ASTM-B-68 & B-75, should be tested for Tensile / elongation / hardness / grain size tests as per ASTM B – 280.
3. Dimensional tolerance should be as per JIS-H-3300 or ASTM-B-251. The tubes should be tested using non-destructive Eddy current test before the final anneal, as per JIS- H-3300 or ASTM-E-243.
4. Heat treatment should be carried out in non-oxidizing atmosphere to ensure oxygen free and Cuprous oxide-free surface.

5. Proper certificates describing composition and results of all tests carried out must be supplied with each consignment. These certificates, along with check results for dimensional and thickness accuracy are recommended to be carried out for every delivered lot, should be maintained till handing over of the project.
6. Tubes should have 360 degree concentric wall thickness along their entire length.
7. Wall thickness for soft tubes (bright annealed mirror finish ) should be 0.8 mm for ¼", 3/8" & ½" tubes, 1.0 mm for 5/8" tubes, 1.2 mm for ¾" tubes. Wall thickness for hard tubes should be 1 mm for 7/8", 1" and 1.1/8" tubes, 1.1 mm for 1.1/4", 1.2 mm for 1.3/8" and 1.3 mm for 1.5/8" tubes.
8. Wall thickness for elbows and fittings should be minimum 0.2 mm more than corresponding tube / tube size.
9. For 1/4" to sizes up to ¾", pulley type benders should be used for soft tubes and brazed joints should be avoided as far as possible. Similarly, for half hard tubes of size 3/4" or more, one side expanded tubes must be used and use of couplings should be avoided as far as possible.

**A -2 : TUBING DESIGN:**

1. Contractor should study the tender / GFC drawings carefully, and should carry out detailed survey of site, relating the drawings with site, and understand the system design and site limitations.
2. Contractor should also collect final architectural and reflected ceiling plans from client and study the drawings for any mismatches with the HVAC drawings received.
3. Contractor should discuss any such mis-matches and any doubts regarding system design with the consultant and get all doubts clarified.
4. Before commencement of tubing work, proper shop drawings must be generated by the contractor, and same should be got approved from the consultant. The drawings must clearly indicate schematic flow diagrams for various circuits, tube sizes, description and quantities for refrigerant joints, indoor and outdoor unit models and room / block / floor names, tube routes, levels for horizontal tubes, details regarding insulation type and thickness and surface treatment for insulation, typical and critical sections and any other details to explain the entire tubing layout to the installer.
5. Tube sizing and routing must be carried out taking into consideration various site constraints and system manufacturer's recommendations.
6. Care should be taken to design tubing as per the manufacturer's recommendation for maximum tubing total length, maximum tubing length after first tapping, vertical height difference between outdoor and indoor units etc. and necessary corrections should be carried out in outdoor unit capacity if required.

**A – 3 : REFRIGERANT TUBING INSTALLATION WORK:**

1. The installer must first study the shop drawings in detail with respect to the site condition and point out any fouling / alternatives to the agency prepare shop drawing and necessary revisions must be carried out in the drawings, to be approved by consultant.
2. The layout must be marked on the true ceiling and any civil openings required should be marked and got done from concerned agency.
3. Supports as described in BOQ / specifications should be installed, leaving adjustable free length for supports.
4. Before installation, the tubes and tubes must not be removed from their original packing. Proper storage of tubing is a must to maintain the temper of the tubes / tubes. Any abrasion on ends / surface, or any in grace of dirt / dust must be avoided. Proper Polyethylene sheets should be used for covering the tubes and tubes, while wooden pellets and soft expanded Polyethylene / rubber sheets should be used as floor supports
5. Necessary loops / slopes must be followed as recommended by system manufacturer.
6. Tubes must be cut to required sizes using cutting tools recommended by system manufacturer.
7. Using proper quality of brazing set, Oxygen / Acetylene and Copper brazing rods having minimum 2% Silver content.
8. During brazing, Nitrogen must be filled in the Copper tubing at a mild positive pressure and must be kept bleeding out continuously, to prevent any oxidation of parent material.
9. After tubing work, each circuit should be pressure tested as per the system manufacturer's recommendation and as per the procedure described in the following paragraphs. A certificate mentioning the test pressure, time of first and final pressure readings, make, model, serial number, range and least count of the gauge used, along with a copy of valid calibration certificate must be maintained, duly signed by the inspecting technician, and client /PMC representative.
10. After pressure testing, insulation must be completed as per the material, make and thickness mentioned in the approved shop drawing. The joints of insulation must be sealed by minimum 50 mm wide Aluminium adhesive tape. Care should be taken to avoid any air gaps between tube / tube and insulation sleeves, and between two insulation sleeve joints.
11. Proper tagging must be carried out to trace the tubing to respective indoor and outdoor circuits.

12. The tubes exposed to sunlight must be covered / cladded / treated to prevent damage from UV radiation and bird pecks / tampering, as mentioned in the BOQ. The cladding should be made out of 26 G Aluminium sheet or G.S.S. sheet. While cladding, care should be taken to avoid penetrating the insulation by screws. Short screws Of metallic straps should be used for securing cladding sheets. Instead of cladding, glass cloth, with two coats of protective resin should be used.

13. While charging refrigerant, manufacturer's recommendations must be strictly followed, and charging must be carried out using proper charging hose, gauge manifold with calibrated gauges and electronic weigh scale. Further leak check using a gas leak detector should be carried out. Charging must be carried out after proper evacuation of the tubing. The quantity of refrigerant to be charged should be calculated by totalizing the liquid tube volume as per the manufacturer's recommendation.

#### A – 4 : RECOMMENDATIONS FOR PRESSURE TESTING:

Refrigerant tubes carry refrigerant at pressures different from atmospheric pressure. When pressure inside tubes is more than atmospheric pressure, refrigerant may escape to the atmosphere, causing commercial loss due to loss of refrigerant, inefficient system performance or even system breakdown and contamination of surroundings. When pressure inside the tubes is less than atmospheric pressure, such as in case of suction tubes of some low temperature refrigeration machines, or during pump-down cycle of normal air-conditioning systems, leakages in tubes leads to ingress of air and moisture, causing severe system damage. Therefore, it is a must that the refrigerant tubing is thoroughly tested for leakages. Pressure testing for any tubing must be carried out at a pressure higher than the maximum operating pressure within the system. It is recommended that the pressure recommended by manufacturer be followed very strictly. Testing at lower pressures may lead to non-detection of some small leakages, while testing at higher pressures may lead to damage to some factory manufactured components within the system. Generally, for R-410 systems a pressure of around 650psig is used. Nitrogen is the most common gas used for carrying out pressure testing. It has numerous advantages, some of which are listed below:

1. Nitrogen is easily available as a commercial gas packed in easy to handle cylinders.
2. Nitrogen, being the most abundant component of the atmosphere, is safe for leaking out without contaminating the atmosphere.
3. Nitrogen is less costly as compared with other gases.
4. Nitrogen is safe for handling and testing.
5. Nitrogen does not readily react with system components Pressure gauge/s used for testing must be calibrated and a calibration certificate with traceability to a Government(National) Physical Laboratory must be documented. The gauge should be capable of measuring pressure at least 10% above the reading to be recorded.

#### A – 5 : PROCEDURE FOR CARRYING OUT PRESSURE TEST

- 1) Ensure that the tubing to be tested is properly secured/supported and the openings have been sealed off as per manufacturer's recommendation.
- 2) Install pressure gauge/s at strategic location/s where it shall not be tampered with, at the same time, should be easily visible.
- 3) Install a valve and connecting tubing so that the open end of the tube reaches the cylinder outlet without moving the cylinder.
- 4) Connect the tube to the cylinder and after ensuring proper connection, crack open the cylinder valve, keeping an eye on the pressure gauge. Let the pressure rise to around 10 psig.
- 5) Check for proper sealing of all flanged / flare nut joints or valves/ valve glands looking for noise of escaping Nitrogen and seal same.
- 6) Open the cylinder valve again and raise the pressure to 200 psig.
- 7) Check the tube line for major leakages at brazed joints, elbows, valve glands, equipment end connections and tube seams with the help of soap water. Make up the leaks by tightening nuts. If the leaks are in brazed joints, flush out Nitrogen and carry out necessary re-brazing.
- 8) Open the cylinder valve again and increase the pressure to 150 psig less than the final test pressure. Repeat leak check as above.
- 9) Open the cylinder valve again and slowly raise the pressure to the manufacturer recommended pressure. Carry out a thorough leak check.
- 10) Record the pressure and time. Let the pressure stand for 24 hours without tampering. Check the pressure again after 24 hours. If pressure has dropped, the tubing should be checked very thoroughly for minor leakages. It is important to follow this 24 hours period as it gives enough time to detect minute leakages, and it removes the doubt created by thermal expansion of Nitrogen ( as after exact 24 hours, ambient conditions are generally same).
- 11) In case of tubing extending to lengths more than 30 m and / or having more than 20 site fabricated joints, the pressure should be recorded after 24 hours as well as after 48 hours, so that all leakages are detected and made up.
- 12) After detecting and making up any leak, the pressure testing must be carried out once again from beginning.

A – 6 : DOCUMENTATION RECOMMENDED FOR ENSURING PROPER QUALITY ASSURANCE:

1. Manufacturer's certificate with every Delivery Challan declaring composition of parent material .
2. Signed and approved Shop drawings approved by SBIIM / Client / Consultant, prior to start of work.
3. Pressure test report signed by SBIIM / Client / Equipment manufacturer / Consultant.
4. False Ceiling closure check list duly signed by SBIIM / Client / Equipment manufacturer/ Consultant.

GENERAL:

ACR GRADE COPPER TUBES AND FITTINGS : SIZES AND SPECIFICATIONS

Tube material Specification :

( CFC- free refrigerant compatible tubes produced using Total loss lubricants )

1. De-oxidized High Phosphorized copper (DHP grade) raw material, with Chemical Composition of Copper = 99.9 % ; Phosphorus = 0.015 to 0.040 %

2. RoHS Compliant

3. 360 degree concentric Wall thickness along the entire length of the tubes

4. Half hard drawn copper tubes should confirm to ASTM B75/ASTM280 ( C12200 ) / JIS H:3300( C1220 ) / BS2871 part 3 ( C106 ). Use Half Hard Temper Type for tube sizes above 19.1 mm.

5. Soft copper tubes, bright annealed (mirror finish) should confirm to ASTM B68 / JIS H:3300

6. Super clean quality with low residual content below the permissible levels of 0.038 g/m<sup>2</sup> for compatibility with use of CFC-free refrigerant.

7. 100 % Eddy Current Tested Tubes are to be used

8. Proper packaging, Storage and Traceability of the tubes.

Use Soft tube only for Indoor Unit Connection

INSULATION TO REFRIGERANT PIPING:

FR nitrile rubber / cross linked closed cell polyethylene tube insulation of 13mm upto 1" dia pipes and 19mm thick for 1" and above shall be used for copper piping both for suction line and liquid line. All joints shall be sealed with self-adhesive tape or with heat.

A-7. COMMUNICATION CABLE AND CONTROL CABLING:

Communication cable and control cabling: Communication cable and control cabling should be of non-polar shielded 2 core cable shall be laid in 20 mm dia PVC conduits of required size. PVC conduit should be clamped neatly maintaining a distance from power cables, Cable terminations and dressing shall be done properly and neatly.

A-8 : DRAIN PIPING:

PVC drain piping shall be used for the drain piping. Proper care shall be taken to lay the drain piping with sufficient slope and should be clamped or supported at 1.5 m interval. All drain pipe joints shall be done with adhesive. Drain piping should be tested for leaks before commissioning. After testing for leaks, drain pipe shall be insulated with 9 mm thick nitrile rubber tube insulation. Insulation shall be finished with self-adhesive black cotton tape.

Indian Seasonal Energy Efficiency ratio (ISEER): 5.2

Star Rating : 5 star / as per BOQ

Compressor Type : Hermetic Rotary DC Inverter

Comprehensive Product warranty: 3 Years

Compressor Warranty : 5 years

### **33. List of Make of Air-Conditioners -**

- 1. VOLTAS**
- 2. BLUESTAR**
- 3. CARRIER**
- 4. DAIKIN**
- 5. LG**
- 6. HITACHI**

**NOTE:-**

- The Bidders shall use all the material strictly as per the list of approved make as stated above, it is mandatory to take the written confirmation well in advance if the material as stated above is not available and / or the same is not suitable (colour, size, shape, texture) as per the site condition.
- Whether a product is equivalent or not will be decided by the Engineer-in-Charge only.
- Contractor has to submit purchases voucher of items from authorized vendor of respective brand on demand by EIC.



III. CERTIFICATE

The measurements on the basis of which the above entries for the Bill No..... made have been taken jointly on ..... and are recorded at pages .....to ..... Of measurement book no./Sheets .....

Signature and date of

Signature and date of

Contractor

Engineer of SBI

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

Architect

Site Engineer/Bank's Engineer



IV – MEMORANDUM FOR PAYMENT

R. BILL NO .....

- 1. Total amount due since previous bill (D) (A+B) Rs.....
- 2. PVA on account of escalation in price of steel cement and other materials and labour as detailed in separate statement enclose Rs.....
- 3. Deductions:
  - a. Secured Advance paid in the previous R.A. Rs. ....
  - b. Retention money on value of works as per accepted tenders: up to date amount  
Less: Already recovered (-) Rs.....  
Balance to be recovered Rs.....
  - c. Mobilization advance, if any
    - i. Outstanding amount (Principal + Interest) as on date Rs.....
    - ii. To be recovered in this bill Rs.....
    - iii. Any other departmental material cost to be recovered as per contract, if any Rs.....
    - iv. Any other departmental service charges to be recovered if any, as per contract (Water, power etc.)  
Enclose statement Rs.....
- 4. Total deduction as per contractor Rs.....
- 5. Net amount payable as per Contract (E-F) Rs.....

(Rupees.....) in words.

This bill amounting to .....(both figures and words) has been scrutinized by me after due test check of the measurement of works as required and as recommended for payment.

Dated Signature of Bank's Engineer

In charge of the project

STATUTORY DEDUCTIONS:

- 1. Total amount due (E) Rs.....
- 2. Less: Income Tax Payable Rs.....





3. Net Payable

Rs.....

The figure in the Memorandum for Payment has been verified and the bill passed for payment Rs.....(Words and figures)

Date:

Signature of Premises office

**DETAILS OF INSURANCE POLICIES**

Type of Polices	Name of Insurance	Amount (Rs.)	Policy No.	Validity
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Workmen's Compensation

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Remarks:

1. This only an 'on -account' payment and is not be interpreted either as approval of work, materials brought or affixed at site or for that matter approval of any sort.
2. The quantum of work done and materials delivered at site have been certified by .....
3. Should you wish to audit such work, kindly contract the undersigned and oblige.

\_\_\_\_\_  
Architects



**PROFORMA OF HINDRANCE REGISTER**

Name of Work : Date of state of work:

Name of Contractor : Period of completion:

Agreement No. : Date of completion:

Sr. no.	Nature of hindrance	Date of occurrence of hindrance	Date of which hindrance was removed	period of hindrance	Signature SE/PE	Remarks
1	2	3	4	5	6	7

SE = Site Engineer

PE = Project Engineer



**MAINTENANCE OF RECORDS**

A) Registers at the site office of the Bank's Engineer:

1. Measurement Books
2. Drawing register
3. Materials and site register
4. Hindrance Register
5. Site visit & instructions Register.



**PROFORMA FOR APPLICATION BY CONTRACTOR FOR EXTENSION OF TIME**

1. Name of Contractor:
2. Name of the work as given in the Agreement
3. Agreement WO
4. Tender amount
5. Date of commencement of work
6. Period allowed for completion as per agreement
7. Date of completion as per agreement
8. Period for which extension of time has been given

Date

Month

Year

- a) 1<sup>st</sup> extension vide Bank's letter no.
- b) 2<sup>nd</sup> extension vide Bank's letter no.
- c) 3<sup>rd</sup> extension vide Bank's letter no.

9. Reasons for which extension have been previously given (copies of the previous applications should be attached)
10. Period for which extension is applied for and the reasons thereof including hindrances, time for extra work assigned if any etc.

Signature of Contractor



**BILL OF QUANTITIES (BOQ)**

**(AS PER ANNEXURE-III IN SEPARATE ATTACHMENT FILE)**