

NO.NB.LK.U.P.R.O.GAD/ / /2006-07

27 February 2007

**INVITED ONLY FROM 10 EMPANELLED CONTRACTORS/FIRM WITH THE BANK**

**DEAR SIR**

INVITATION TO BID FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 250 KVA D.G. SET AND ASSOCIATED WORKS AT BANKER'S INSTITUTE OF RURAL DEVELOPMENT, SECTOR - H, LDA COLONY, KANPUR ROAD, LUCKNOW

In continuation of our earlier letter no. NO.NB.LK.U.P.R.O.GAD/ /BIRD-13/2006-07 dated 14 February 2007 on the captioned subject, we put forth our proposal as under.

**1. National Bank for Agriculture and Rural Development (NABARD)** has pleasure in inviting you to tender for the aforesaid work.

2. The Tender Documents will be made available till 16 April 2007 during Office Hours except Sundays and Holidays for sale in the Office of NABARD. Applications for Tender Documents shall be accompanied by Rs.500/- (Rupees five hundred only) towards the cost of Tender Documents in cash / by Demand Draft payable to NABARD. The Tender Documents requested for, will be issued on payment of the aforesaid sum, which will not be refunded under any circumstances. The tender is also available on bank's web site <http://nabard.org> & if the tenderer chooses to download the tender from website, the cost will be payable alongwith the sealed tender.

Each tenderer will be issued with two copies each of Part - I comprising of General conditions of Contract, Form of Tender, Articles of Agreement, Special conditions of Contract, Instructions to tenderers, General and Detailed Specifications with one set of tender drawings and Part - II for Schedule of Quantities.

3. Sealed Tenders in the prescribed Tender Form in two separate envelopes should be submitted to the Shri Sukhbir Singh, Chief General Manager, Regional Office, National Bank for Agriculture and Rural Development, Lucknow and superscribed "Tender for - Supply, Installation, Testing and Commissioning of Diesel Generator Set at the Bankers Institute of Rural Development, Sector H, LDA Colony, Kanpur Road, Lucknow".

Envelope No.1 - Shall contain Earnest Money Deposit, copies of Part - I (conditions of Contract), Technical Specifications and Drawings.

Earnest Money Deposit shall be submitted in a separate cover along with Envelope No.1.

Envelope No.2 - Shall contain both copies of Part - II (Schedule of Quantities) indicating prices and complete in all respects. This shall not include any conditions whatsoever. In case conditions are included in Envelope No.2, the same may not be taken into consideration for evaluation of the Tender.

All the envelopes shall be submitted to the above Office not later than 15.00 hours on 19.03.2007. Envelope No.1 along with the envelope of EMD will be opened at 15.30 hours on 19.03.2007 in the presence of tenderers or their authorised representative who choose to be present.

After opening of the Envelope No.1 and assessing the conditions, if any, the Employer will, if they so decide, inform all the tenderers regarding any modifications in the Tender conditions. Tenderers who agree to the changed conditions along with original in TOTO, will be allowed to make modifications if they so wish, in their Tender Prices by means of a letter to be submitted in sealed cover which along with their price bid will form the final price bid. The Tender will be rejected, if any tenderer proposes any deviation from the above in this letter / at this stage.

The Envelope No.2 shall be opened only in respect of those tenderers who after discussion bring their Tenders in line with the requirements of Tender Document and are acceptable to the Bank. The decision of the Bank in this regard shall be binding on the tenderers and not open to question or appeals. The date and time of opening of Envelope No.2 shall be intimated after opening of Envelope No.1.

Tenders received late on account of any reason whatsoever and telegraphic and faxed Tender shall not be entertained.

4. The Earnest Money Deposit of Rs.34,000/- (Rupees thirty four thousand only) by Demand Draft of any Scheduled Bank in favour of "National Bank for Agriculture and Rural Development" payable at Lucknow or in the form of Bank guarantee as per the format given in the tender document should be submitted along with the Tender.

5. Completion period of the work shall be six (6) Months (inclusive of monsoon months) from the date of issue of Work Order.

6. Liquidated Damages for delay shall be 0.25% (0.25 percent only) of the accepted Tender amount per week of delay for each week beyond the scheduled date of completion or the extended period of completion upto a maximum of 5% of the accepted tender amount.

7. Defects Liability Period shall be 12 Months after the certified date of Virtual Completion for all items except for specialised items where the period is mentioned separately. The Contractor shall maintain the D.G. Set in normal working condition during the Defect Liability Period.

8. Validity of Tender shall be 120 days from the date of opening of Envelope No.2.

9. National Bank does not bind itself to accept the lowest or any Tender and reserve to itself the right to accept or reject any or all tenders, either in whole or in part, without assigning any reason for doing so.

**THANKING YOU**

**YOURS FAITHFULLY**

( V.N. Kapale )  
Dy. Gen. Manager

## Annexure-I

### INSTRUCTIONS TO TENDERERS

#### 1.0 LOCATION:

1.1 The site is at BIRD Complex, Sector - H, LDA Colony, Kanpur Road, Lucknow.

1.2 Tenderers must get acquainted with the proposed work and study drawings, designs, specifications, conditions of contract and other conditions carefully before tendering. No request of any change in rates or conditions for want of information on any particular point shall be entertained after receipt of Tenders.

1.3 The tenderers are advised to inspect the site to ascertain the nature of site, access thereto, location, facilities for procurement of materials and labour rates for execution of the work and acquaint himself with all laws, regulations and practices. The tenderers shall be deemed to have full knowledge of the site and drawings whether or not, they actually inspect.

#### 2.0 SUBMISSION OF TENDER :

2.1 Tender must be submitted in original and as per details given hereunder. The rates shall be filled in the Schedule given in Part - II of the Tender Document.

2.2 The Tender shall be submitted in two parts in separately sealed envelopes as described below:

Envelope No.1

Part - I: Technical and Commercial aspects of the offers, Specifications, Instructions to tenderers, Tender Drawings and Earnest Money Deposit

Envelope No.2

Part - II: Schedule of Quantities / Price Bid

The envelopes shall be duly superscribed with the above titles of work.

2.3 Part - II of offer shall contain only the "Schedule of Quantities / Price Bid" along with Quoted Rates" and no conditions whatsoever. Any conditions / stipulations mentioned in Part - II may not be taken into consideration for evaluation of the Tenders.

2.4 Tenderers are requested to quote strictly as per the terms and conditions, specifications, standards given in the Tender Document and not to stipulate any deviations. However, deviations, if unavoidable, should be indicated separately, indicating the specific page number and clause number against the deviations.

2.5 Addenda to this Tender Document, if issued, must be signed and submitted along with the Tender Document. Tenderers should write clearly the revised quantities in "Schedule of Quantities" of Tender

Document and should price the work based on the revised quantities when amendment for quantities are issued in addenda.

#### 2.6 All Pages To Be Initialed :

All signatures in Tender Documents shall be dated as well. All pages of Tender Documents shall be initialed at the lower right hand corner or signed wherever required in the Tender Papers by the tenderer or by a person holding Power of Attorney authorising him to sign on behalf of the tenderer before submission of Tender.

#### 2.7 Rates To Be In Figures and Words :

The tenderer should quote in English both in figures as well as in words the rates and amounts tendered by him in the Schedule of Quantities for each item and in such a way that interpolation is not possible. The amount for each item should be worked out and entered and requisite totals of all items given, both in figures and in words. The tendered amount for the work shall be entered in the Tender and duly signed by the tenderer.

#### 2.8 Corrections and Erasures:

All corrections and alterations in the entries of Tender Papers should be signed and dated in full by the tenderer. Corrections with white fluid and overwriting are not permitted.

2.9 The Tender shall contain the names, residence and place of business of person or persons making the Tender and shall be signed by the tenderer with his usual signature. Partnership firms shall furnish the full names of all Partners in the Tender. It should be signed in the Partnership name by all the Partners or by duly authorised representative followed by the name and designation of the person signing. An authorised representative shall sign the tender and a Power of Attorney on their behalf shall accompany the Tender (Envelope No.1). A copy of the Partnership Deed of the firm with names of all Partners shall be furnished.

The language for submission of Tender should be English.

#### 2.10 Witness:

Witnesses and Sureties shall be persons of status and propriety and their names, occupation and address shall be stated below their signatures.

### **3.0 SCOPE OF WORK**

The electrical contractor selected for the execution of the work shall be conversant with all codes of practice for LT & HT installation and shall be registered licensed electrical contractor. The contractor shall be conversant with all rules of local Electrical Authorities and obtaining approvals from Electrical Inspector.

- i. The contract comprises of supply, installation, connecting to Emergency/Main Panel, testing and commissioning of a 250 kVA Diesel Generating Set, cabling between Generator and the Control Panel/existing main distribution panel, providing separate acoustic enclosure to D.G.Set, Supply and installation of standard Panel, providing exhaust pipes, earthing, etc. in accordance with drawings.
- ii. It shall also include supply of spares required during the Defects Liability Period, testing and commissioning of all equipments and obtaining necessary approval from Electrical Inspectorate and/or any other local authorities including Pollution Control Board, etc. as required for the installation and its operation.
- iii. The consultant/employer shall have the right to inspect the execution of work from time to time and issue the instructions or directives, if any, to the contractor.
- iv. Notwithstanding anything contained herein to the contrary the Employer shall always have the right to add or to omit any item of the work. The Contractor shall carry out and complete the said work in every respect in accordance with the contract and with the directions of and to the satisfaction of the Consultant/Employer. The Consultant/Employer may in their absolute discretion and from time to time issue further drawings and/or written instructions, details, directions and explanation which are hereafter collectively referred to as "Consultants' Instructions" in regard to the variation or modification of the design, quality and quantity of works or the deletion or omission or substitution of any work. The supply, installation, testing and commissioning includes Manual Change Over Panel, fuel tank, fuel and water piping, exhaust piping, acoustic treatment / encloser, and any other auxiliary work required for the D.G. Set installation.
- v. Drawings: The drawings showing the location of site and the proposed layout of the substation, LT main panel, Single line diagram etc. are enclosed with this tender document.

The work shall include the following items of work broadly:

- a. Providing and erecting swichgear control panels and interconnecting cables, laying and jointing.
- b. Providing and fixing lighting and power distribution board, if required, including laying of incoming and outgoing cables/wires in conduit for power wiring of light and power points.
- c. Providing and fixing, testing and commissioning, if required, of all light fittings including provision of necessary support, ball and sockets etc. including lamp.
- d. Providing and fixing, if required, all switch socket, switches including provision of concealed boxes and covers, earthing, etc.
- e. Providing and fixing complete earth stations and earthing bus bars for earthing for the installation including provision of earth chamber with cover and marker.
- f. Providing and fixing, if required, lightning arrester and lightning conductor including earth stations as above.

- g. Providing and laying all cables between panels to various electrical equipment such as lifts, pumps, fans, control panels complete with tray fixing clamps, cable markets, joints, termination, etc.
- h. Preparation of working drawings such as concealed conduit layouts, foundation details of all electrical equipment, single line diagrams. Submitting these drawings after getting approval from Bank/Consultant and finally to approving Authorities, and getting the installation approved by Electrical Inspectorate, other statutory authorities, if any.
- i. Submit all the required information about Installation to Electrical Inspectorate and liaise with all agencies in getting sanctions/approval/clearance NOCs etc. from the authorities. (Employer will sign all necessary and concerned documents/forms and statutory payments only for getting such approvals).
- j. Testing and commissioning of all the electrical equipment, motors and panels and distribution boards and submit the test reports to local authorities as per the relevant Rules/By laws of Electric Power Supply Company and Electrical Inspectorate with a copy to Bank/Consultant as required.

**4.0** The following details are required to be furnished along with the Tender :

- (i) Site Organisation Chart with bio-data of Resident Engineer and key personnel proposed to be deployed at site.
- (ii) Details of present commitments giving contract values, details of work, date of commencement or work, percentages completed as on date and scheduled date of completion in the proforma given in the Tender.
- (iii) Information about tenderer in the proforma given in the Tender.
- (iv) Latest Income tax clearance and Sales Tax clearance certificates.
- (v) Power of attorney in the name of persons who have signed the Tender Document

Any printing or typographical errors / omission in tender document shall be referred to employer and his interpretation regarding correction shall be final and binding on the contractor.

#### **5.0 TRANSFER OF TENDER DOCUMENTS :**

Transfer of tender documents purchased by one intending tenderer to another is not permitted.

#### **6.0 EARNEST MONEY:**

6.1 The tenderer must pay the amount of Earnest Money as mentioned in the letter Inviting Tender. Crossed Bank Demand Draft payable to National Bank for Agriculture and Rural Development at Lucknow. No interest on Earnest Money deposited by the tenderer shall be payable.

The tenderer should attach the Bank Draft along with the tender, failing which, the tender will not be considered.

6.2 The Earnest Money Deposit of the unsuccessful tenderers will be refunded within a reasonable period of time without any interest.

6.3 The Earnest Money deposited by successful tenderer(s) will be retained towards the Security Deposit for the fulfillment of the contract but shall be forfeited if the tenderer fails to start the work within a period of 21 (twenty-one) Calendar Days from the date of Work Order or handing over of the site to commence the work, whichever is later.

#### **7.0 VALIDITY:**

Tenders submitted by tenderers shall remain valid for acceptance for a period upto end of 120 days from the date of opening of the price part of the tender. The tenderers shall not be entitled during the period of validity, without the consent in writing of Employer to revoke or cancel his tender or to vary the tender given or any terms thereof.

#### **8.0 ADDENDA:**

8.1 Addenda to the tender document may be issued prior to the date of opening of the priced tenders to clarify documents or to reflect modifications to the design or contract terms.

8.2 Each addendum issued by the Employer will be distributed to each person or organisation to whom a set of tender documents has been issued. Each recipients will submit the same along with his tender. All addenda issued by the Employer shall become part of tender documents.

#### **9.0 RIGHT TO ACCEPT OR REJECT TENDER :**

9.1 The acceptance of a Tender will rest with the Employer who do not bind themselves to accept lowest Tender and reserve to themselves the authority to reject any or all the Tenders received without assigning any reasons. They also reserve the right of accepting the whole or any part of the Tender and the Tenderers shall be bound to perform the same at the rates quoted. All Tenders in which any of the prescribed conditions are not fulfilled or are incomplete in any respect or there is any correction not duly signed and dated by the tenderer are liable to be rejected.

9.2 The job may be awarded to one or more agencies duly splitting the work at the entire discretion of the Employer. The quoted rates shall hold good for such an eventuality.

#### **10.0 TIME SCHEDULE:**

The time allowed for carrying out the job is 06 (six) months inclusive of monsoon months to be reckoned from the date of issue of Work Order. In view of this, no price variation will be allowed including IEEMA Clause.

**11.0 LIQUIDATED DAMAGES FOR DELAYED COMPLETION:**

If the Contractor fails to complete the work by the scheduled date of completion or within any sanctioned extended time, he will have to pay 0.25% of the accepted Tender amount per week as liquidated damages for each week beyond the scheduled date of completion or the extended period of completion, works remaining incomplete. The maximum liquidated damages recoverable shall be 5% of accepted Tender amount.

**12.0 RATES:**

The Employer is not concerned with any rise or fall in the prices of any materials. The rates quoted shall include all costs, allowances, taxes including Works Contract Tax or any other charges including any enhanced labour rates, etc., which may be enacted from time to time by state and / or the central government upto opening of price bid. Under no circumstances, shall the Employer be held responsible for compensation of loss to the Contractor due to any increase in the cost of labour or materials, etc., unless provided otherwise.

The rates quoted by the tenderers shall include all eventualities such as heavy rain, sudden floods, etc. which may cause damage to the executed work or which may totally wash out the work. Until the Completion Certificate is issued to the Contractor, the Employer will not be responsible for such damage or wash out of the work.

**13.0 WATER AND ELECTRICITY:**

Water and Electricity will be provided by the Bank free of charge at one point. However, it shall be the responsibility of the contractor to arrange for taking power from one of the existing feeder, use for erection work and make good the system after the work is over. Damage if any, caused by them will have to be made good by them at their cost.

**14.0 SIGNING OF THE CONTRACT:**

The successful tenderer shall be required to execute an Agreement in the proforma attached with this tender document within 15 days from the date of receipt of the notice of acceptance of Tender or Letter of Intent. In the event of failure on the part of the successful tenderer to sign the Agreement within the above-stipulated period, the Earnest Money may be forfeited and the acceptance of the Tender shall be considered as cancelled.

15.0 On acceptance of the Tender, the name of the accredited representatives of the Contractor, who would be responsible for taking instructions from the Employer shall be communicated to the Employer.

16.0 Any further information may be obtained and detailed further drawings can be seen in the Office of the Employer.

**17.0 Retention Money**

The total retention money recovered from running bill shall be 5% of contract value including Earnest Money Deposited. The retention money will be deducted from running account bills @ 5% of gross value of each running bill.

The contractor would be paid 50% of the above retention deposit after the virtual completion certificate is issued by the Bank and the installation is handed over to Bank and remaining 50% will be paid after the completion of defect liability period as mentioned in general conditions of contract.

Adhesive Stamp of Appropriate Value to be fixed as an Agreement and Stamped by the Stamp Office

### ARTICLES OF AGREEMENT

ARTICLES OF AGREEMENT MADE at Lucknow on the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_ between The National Bank for Agriculture and Rural Development (NABARD), a body instituted and having its Head Office at Plot No. C-24, 'G' Block, Bandra-Kurla Complex, Bandra (East), Mumbai : 400 051 and Regional Office at 11, Vipin Khand, Gomti Nagar,, Lucknow (hereinafter called "the Employer"), which expression shall, unless repugnant to the context, mean and include its successors and assigns of the ONE PART and \_\_\_\_\_ (hereinafter called "the Contractor") which expression shall unless repugnant to the context, mean and include successors and assigns of the OTHER PART.

#### **WHEREAS**

1. The Employer is desirous of executing the work of supply, installation, testing and commissioning of a 250 kVA Diesel Generator Set at the Bankers Institute of Rural Development, Sector - H, LDA Colony, Kanpur Road, at Lucknow (hereinafter referred to as "the Said Work"), which is more fully described in the layout drawing.
2. The Employer has for the purpose, caused the building plans, drawings and specifications, describing the works to be done..
3. The Contractor has agreed to execute the said works viz. supply, installation, testing and commissioning of D.G. Set at the proposed Office Complex at Bankers Institute of Rural Development, Sector - H, LDA Colony, Kanpur Road, Lucknow, subject to the provisions hereinafter contained and subject also to the General Instructions to the Contractors (vide Annexure - I hereto), General Conditions of Contract (vide Annexure - II hereto), Special Conditions (vide Annexure - III hereto), Safety Code (vide Annexure - IV), Specifications (vide Annexure - VI), Preambles and Schedule of Quantities (vide Part - II) and construction schedule (all of which are hereinafter collectively referred to as "the said Conditions") strictly in accordance with the said drawings approved hereto and the Specifications and Schedule of Quantities referred to above at or for the respective rates set out in the Schedule of Rates annexed hereto and marked as Part - II amounting to the sum as thereunder arrived at or such other sums as shall become payable thereunder (hereinafter referred to as "the Said Contract Amount").

#### **NOW THEREFORE THIS AGREEMENT WITNESSETH THAT :**

1. In consideration of the said Contract Amount to be paid by the Employer to the Contractor at the times in the manner set forth in the said Conditions and in accordance with the Schedule of Payments and complete the work shown upon the said Drawings and described in the said Specifications and Schedule of Quantities with due care and diligence.

2. The said Conditions and the Annexures thereto shall be read and construed as forming part of this Agreement and the parties hereto shall strictly abide by, submit themselves to the said Conditions and perform the Agreements on their part respectively contained in the said Conditions.

4. Tender documents containing notice to the Contractors, Conditions of Contract, Appendix thereto, Special Conditions of Contract, Technical Specifications, Preamble to the Schedule of Quantities and Schedule of Quantities with the rates entered therein, shall be read and studied as forming part of this Agreement and the parties hereto shall respectively abide by and submit themselves to the conditions and stipulations and perform the Agreements on their part respectively in such conditions contained.

5. This Contract is neither a Fixed Lumpsum Contract nor a Piece Work Contract, but is a Contract to carry out work to be paid for according to actual measured quantities at the rates contained in the Schedule of Quantities (Part - II) and probable quantities or as provided in the said Conditions.

6. The Employer reserves to itself the right of altering the drawings and nature of the work or adding to or omitting any items of work or having portions of the same carried out without prejudice to this Contract.

7. (a) The Contractors represent that they have experienced and competent staff which will enable them to ensure proper quality check on the materials, and who will ensure that the Contractors will carry out proper tests as required by the specifications and will supervise the day-to-day working and execution of the Contract works.

(b) If the Contractors have any doubt about the quality of any materials or any difficulty in supervision of the day-to-day work, it shall be the duty of the Contractors to report the matter in writing forthwith to the Employer and, for the time being, to suspend that portion of the work about which difficulty is experienced, and the Contractors will abide by the direction of the Bank.

(c) The Contractors covenant and warrant that completed items of the work as well as the entire work on completion will be in conformity with the specifications and the terms and conditions of the Contract and will be of proper quality and description.

8. Time shall be considered as the essence of this Contract and the Contractor hereby agrees to commence the work within 10 days from the date of Work Order or handing over of the site, whichever is later, subject, nevertheless to the provisions of extension of time as contained in the said Conditions.

9. The Contract herein contained shall comprise not only the works mentioned above but all subsidiary works connected therewith within the same site as may be ordered to be done from time to time by the Employer for the time being, even if such work may not be shown in the said Drawings or described in the said Schedule of Specifications and Quantities.

10. All payments by the Employer under this Contract will be made only at Lucknow by cheque only.

11. All disputes arising out of or in any way connected with this Agreement shall be deemed to have arisen at Lucknow and only Courts in Lucknow shall have jurisdiction to determine the same.

12. This Agreement shall be signed in duplicate, the original whereof shall be kept in the custody of the Employer, the duplicate with the Contractor, Stamp Duty shall be borne and paid by Contractor.

IN WITNESS WHEREOF the Employer has set its hands hereunto and one duplicate hereof through its duly authorised official and the Contractor has caused and these presents and one hereof under its common seal / by its duly authorised representative at the place and on the date and year first hereinabove written.

**SIGNATURE CLAUSE**

SIGNED, SEALED AND DELIVERED by the National Bank for Agriculture and Rural Development by the hand of Shri \_\_\_\_\_ (Name and Designation) In the presence of

Witness No.1 \_\_\_\_\_

Witness No.2 \_\_\_\_\_

SIGNED, SEALED AND DELIVERED by the Contractor by the hand of Shri \_\_\_\_\_ (Name and Designation) In the presence of

In the presence of:

Witness No.1 \_\_\_\_\_

Witness No.2 \_\_\_\_\_

**OR**

THE COMMON SEAL OF \_\_\_\_\_ was hereunto affixed pursuant to the resolutions passed by its Board of Directors at the meeting held on \_\_\_\_\_ in the presence of

(1) \_\_\_\_\_

(2) \_\_\_\_\_

Directors who have signed these presents token in thereof in the presence of

(1) \_\_\_\_\_

(2) \_\_\_\_\_

Directors who have signed these presents in token thereof in the presence of

(1) \_\_\_\_\_

(2) \_\_\_\_\_

SIGNED AND DELIVERED BY THE CONTRACTOR by the hand of Shri  
\_\_\_\_\_, it's duly constituted Attorney

## ANNEXURE - II

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## ANNEXURE - II

### GENERAL CONDITIONS OF CONTRACT

#### 1. INTERPRETATIONS:

In construing these conditions and the specifications, Schedule of Quantities and Contract Agreement, the following words, shall have the meanings herein assigned to them except where the subject or context otherwise requires :

(i)"Employer"/ "Client" shall mean National Bank for Agriculture and Rural Development (NABARD) with its Regd. Office at Plot No.C-24, 'G' Block, Bandra-Kurla Complex, Bandra (East), Mumbai : 400 051 and shall include his / their heirs, legal representatives, assignees and successors.

(ii)"Contractors" shall mean the person, or persons, firm or company whose Tender has been accepted by the Employer and shall include his / their heirs and legal representatives and the permitted assigns.

(iii)The "Engineer" shall mean persons employed by Bank for the said work.

(iv)"Works" shall mean the works to be executed and recorded in accordance with the Contract and shall include all extra or additional altered or substituted works as required and recorded for the performance of the Contract and "Site" shall mean the land and other places as shown bounded red on the site plan on or under , which the works are to be executed or carried out and other lands or places provided by the Employer for the purposes of the Contract.

(v)"Contract Documents" shall include the Notice Inviting Tenders, the Articles of Agreements, the General Conditions of Contract and Special Conditions of Contract, the Appendices, the Schedule of Quantities, Specifications for Materials, Work Sheet and Mode of Measurements, and Drawings pertaining to the work. All Sections of this Contract Document are to be read together.

(vi)"Drawings" shall mean the drawings referred to in the Specifications, Description of Items, etc. and any modifications of such drawings approved in writing by the Employer and such other drawings as may from time to time be furnished or approved in writing by the Employer.

(vii)"Notice in Writing" or written notice shall mean a notice in writing, typed or printed characters, sent (unless delivered personally or otherwise) proved to have been received by registered post to the last known private or business address or registered office of the addressee and shall be deemed to have been received when in the ordinary course of post it would have been delivered.

(viii)"Act of Insolvency" shall mean any Act of Insolvency as defined by the Presidency Town Insolvency Act, or the Provincial Insolvency Act or any Act amending such original.

(ix)"Virtual Completion" shall mean that the works are in the opinion of the Employer complete and fit for taking over and usage.

(x)Words importing persons include firms and corporations. Words importing the singular only also include the plural and vice versa where the context requires.

(xi)Headings and marginal notes to these conditions shall not be deemed to form a part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.

## **2. SCOPE OF CONTRACT :**

The Contractor shall carry out and complete the said works in every respect in accordance with this Contract and with the directions of and to the satisfaction of the Employer. The Employer may in their absolute discretion and from time to time issue further drawings and / or written instructions, details, directions and explanations which are hereafter collectively referred to as "Instructions" reflected either in the minutes or in any other form in regard to.

(i)The variation or modification of the design quality or quantity of works or the addition or omission or substitution of any work.

(ii)Any discrepancy in or divergence between the Drawings or between the Schedule of Quantities and / or Drawings and / or Specifications.

(iii) The removal from the site of any material brought thereon by the Contractor and the substitutions of any other materials thereof.

(iv) The removal and / or re-execution of any works executed by the Contractor.

(v) The postponement of any work to be executed under the provisions of this Contract.

(vi) The dismissal from the works of any person employed thereupon.

(vii) The opening up for inspection of any work covered up.

(viii) The amending and making good of any defects.

(ix) Co-ordination of work with other agencies.

(x) The Employer shall have a right to delete any item of work from the scope of Contract and Contractor shall not make any extra claim of this account. It shall be Contractor's responsibility to maintain the installations installed by him during the Defects Liability Period without any extra cost.

(xi) The Contractor shall forthwith comply with and duly execute any work comprised in such instructions provided always that verbal instructions, directions and explanations given to the Contractor or his representative upon the works by the Employer shall, if involving a variation, be confirmed in writing by the Contractor within 7 days, and if not dissented from in writing within a further 7 days by the Employer shall be deemed to the Employer's instructions within the scope of the Contract.

(xii) If compliance with the Employer's instructions involves any variation, such variation shall be dealt with under "prices for extras, etc. Ascertainment of".

(xiii) Where extra work cannot properly be measured and valued, the Contractor shall be allowed day work prices, provided that a written authority for day work is obtained by the Contractor before the execution of the extra work and provided that in any case vouchers specifying the time daily spent upon the work countersigned by the Employer and the materials employed, shall be delivered for verification to the Employer not later than the end of the week following that in which the work has been executed.

(xiv) If the Contractor fails to comply with Employer's instructions within a fortnight after the receipt of the written notice requiring compliance with such instructions, the Employer may employ some other agency to execute any work whatsoever which may be necessary to give effect to such instructions.

(xv) For the purpose of entering day-to-day instructions, the Contractor shall maintain at his own cost, a "Site Instruction Book" in triplicate in which the instructions will be entered by Employer.

### **3. DRAWINGS AND SPECIFICATIONS:**

The work shall be carried out to the entire satisfaction of the Employer and in accordance with the signed drawings, specifications, preambles and such further drawings and details as may be provided by the Employer and in accordance with such written instructions, directions and explanations as may from time to time be given by the Employer, whose decisions as to the sufficiency and quality of the work and materials shall be final and binding upon all parties.

No drawing shall be taken as itself an order for execution unless, in addition to the Employer's signature, it bears express words stating remark "VALID FOR CONSTRUCTION". No claim for payment for extra work shall be allowed unless the said work shall have been executed under the provision of Clause 8 (Authorities, Notices, Patent Rights and Royalties) or by the authorities (directions in writing of the Employer as herein mentioned).

The drawings enclosed with the Tender are only for Tender purposes and it is subject to further modifications during the execution of work.

One complete set of the signed Drawings and Specifications and Schedule of Quantities shall be furnished by the Employer to the Contractor. The Employer shall furnish within such time as he may consider reasonable, one copy of the additional drawings, which in his opinion be necessary for the execution of the

work. Such copies shall be kept on the works, and the Employer shall at all reasonable time have access to the same. All Drawings and Specifications shall be returned to the Employer by the Contractor before the issue of the Final Certificate.

#### **4. SCHEDULE OF QUANTITIES :**

The Schedule of the Quantities unless otherwise stated shall be deemed to have been prepared in accordance with the standard procedures and shall be considered to be approximate and no liability shall attach to the Employer for any error that may be discovered therein.

#### **5. SUFFICIENCY OF SCHEDULE OF QUANTITIES :**

The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his Tender for the works and of the prices stated in the Schedule of Quantities and / or the Schedule of Rates and Prices, which rates and prices shall cover all his obligations under the Contract, and all matters and things necessary for the proper completion of the works.

#### **6. ERRORS IN SCHEDULE OF QUANTITIES :**

Should any error appear in the Schedule of Quantities, other than in the Contractor's prices and calculations, it shall be rectified and such rectification shall not vitiate the Contract but shall constitute a variation of the Contract and shall be dealt with as an authorised extra or deviation.

#### **7. CONTRACTOR TO PROVIDE EVERYTHING NECESSARY :**

The Contractor shall provide everything necessary for the proper execution of the works according to the true intent and meaning of the Drawings, Specifications and Schedule of Quantities taken together whether the same may or may not be particularly shown or described therein, provided that the same can be inferred therefrom and if the Contractor finds any discrepancy in the Drawings or between the Drawings, Specifications and Schedule of Quantities he shall immediately refer the same in writing to the Employer, who shall decide which shall be followed, and his decision shall be final and binding on all parties. The Contractor shall arrange for water and power for carrying out the works at his own cost. The Employer shall not charge the Contractor for its own unrented ground but shall on no account be responsible for the expenses incurred by the Contractor for hired ground. If water from any source other than Municipal Main is to be used for construction, the same shall be tested at the Contractor's cost and a report submitted to the Employer for their approval, before such water is used for the works.

The Contractor shall provide and maintain all measuring and surveying instruments including steel tape, megger, tongue tester, multimeter, etc. at all times for properly carrying out the work and for the use of the Employer, including skilled attendants as required.

The Contractor shall supply, fix and maintain at his cost during the execution of any works, all the necessary centering, scaffolding, staging, timbering, strutting, shoring, pumping, fencing, hoarding, watching and lighting by night as well as by day required not only for the proper execution and protection of the public and safety of any adjacent roads, streets, cellars, vaults, pavements, walls, houses, buildings and all other erections, matters or things. The Contractors shall take down and remove any or all such centering, scaffolding, staging, planking, strutting, shoring, etc. as occasion shall require or when ordered to do so, and shall fully reinstate and make good all matters and things disturbed during the execution of the works, to the satisfaction of the Employer.

#### **8. AUTHORITIES, NOTICES, PATENTS, RIGHTS AND ROYALTIES :**

The Contractor shall conform to the provisions of the statutes relating to the works, and to the Regulations and Bye-laws of any local authority, and of any Water, Lighting, other Companies or Authorities with whose systems the structure is proposed to be connected, and shall before making any variation from the drawings or specifications that may be necessitated by so conforming, give to the Employer written notice, specifying the variations proposed to be made and the reason for making it, and apply for instruction thereon. In case the Contractor shall not within ten days receive such instructions, he shall proceed with the work conforming with the Provisions, Regulations or Bye-laws in question.

The Contractor shall bring to the attention of the Employer all notices required by the said Acts, Regulations or Bye-laws to be given to any authority by the Employer and pay to such authority, or to any Public Officer, all fees that may be properly chargeable in respect of the works, and lodge the receipts with the Employer.

The Contractor shall indemnify the Employer against all claims in respect of patent rights, design, trade marks of name or other protected rights in respect of any constructional plant, machine work or material used for or in connection with the works or temporary works and from against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto. The Contractor shall defend all actions arising from such claims, unless he has informed the Employer, before any such infringement and received their permission to proceed, and shall himself pay all royalties, license fees, damages, costs and charges of all and every sort that may be legally incurred in respect thereof.

#### **9. MATERIALS AND WORKMANSHIP TO CONFORM TO DESCRIPTION:**

All materials and workmanship shall, so far as procurable, be of the respective kinds specified in the Schedule of Quantities and / or Specifications and in accordance with the Employer's instructions and the Contractor shall upon the request of the Employer furnish to them all invoices, accounts, receipts and other vouchers to prove that the materials comply therewith. The Contractor shall at his own cost arrange for and / or carry out any test of any materials which the Employer may require. The Contractor shall submit the samples of various materials for the approval of the Employer.

If the Contractor contends that any of the materials, goods or workmanship specified as aforesaid, is unobtainable, he shall submit to the Employer, his grounds for his contention, and thereupon, the Employer shall decide whether the same is unobtainable in fact. If the Employer shall decide that any of the materials, goods or workmanship is in fact unobtainable, it shall issue an order in writing as to be substituted thereof and such order shall be deemed to be an order of variation, such order shall, however, be got approved by the Employer before issue.

**10. THE SETTING OUT:** The Contractor shall at his own expense, set out the works accurately in accordance with the plans. The Contractor shall be solely responsible for the true and perfect setting out of the works, and for the correctness of the position, levels, dimensions and alignment or all parts thereof. If at any time any error shall appear during the progress or on completion of any part of the work, the Contractor shall at his own cost rectify such error if called upon, to the satisfaction of the Employer. The work shall from time to time be inspected by the Employer and / or his / their representatives but such inspections shall not exonerate the Contractor in any way from his obligations to remedy any defects which may be found to exist at any stage of the work or after the same is completed.

**11. REMOVAL OF ALL OFFENSIVE MATTERS :**

All soil, filth or other matter of an offensive nature taken out of any trench, sewer, drain, cesspool or other place shall not be deposited on the surface, but shall be at once carried away by the Contractor to some pits or place provided by him and shall be disposed off as per the Rules and Regulations of the Local Authorities concerned, beyond the property limits.

**12. OPENING UP WORKS :**

The Contractor shall notify the Employer in writing immediately the trenches or excavation shown on drawings are got ready or as soon as any ground is cut into, which from unexpected causes, appears to need immediate attention. After notifying the Employer, he shall await instructions which shall be given within seven days of receipt of such notice. If the Contractor puts in any parts of the foundation before he has so notified the Employer and received instructions, he shall be liable to reinstate all work that may subsequently be, at any time, damaged on account of any defect in or insufficiency of the foundations. The Contractor shall, at request of the Employer, within such time as the Employer shall name, open up for inspection any other work and should the Contractor refuse or neglect to comply with such requests, the Employer, may employ other workmen to open up the same. If the said work has been covered up in contravention of the Employer's instructions, or if on being opened up, it be found not in accordance with the Drawings and Specifications or the instructions of the Employer, the expenses of opening and covering it up again, whether done by the Contractor or such other workmen, shall be borne by and recoverable from the Contractor or may be deducted from any money due or which may become due to the Contractor.

**13. CONTRACTOR'S SUPERINTENDENCE AND REPRESENTATIVE ON WORKS :**

The Contractor shall give all necessary personal superintendence during the execution of the works and as long thereafter as the Employer may consider it necessary until the expiration of the "Defects Liability Period" stated in Clause 24.

The Contractor shall maintain and be represented on site, at all times while the work is in progress, by a responsible and efficient Engineer-in-Charge, approved by the Employer and who must thoroughly understand all the trades entailed and be constantly in attendance, while the men are at work. Any directions, explanations, instructions or notices given by the Employer to such Engineer shall be deemed to be given to the Contractor and shall be binding as such on the Contractor. The Engineer-in-Charge shall be thoroughly conversant with the English Language and should be able to read, write and speak English.

**14. DISMISSAL OF WORKMEN:**

The Contractor shall on the request of the Employer, immediately dismiss from the works any person employed thereon who may, in the opinion of the Employer, be unsuitable or incompetent or who may misconduct himself and such person shall not again be employed or allowed on the works without the permission of the Employer.

**15. ACCESS TO WORKS :**

The Employer and any person authorised by them shall at all reasonable times have free access to the works, and to the workshops, factories or other places where materials are being prepared or fabricated for the Contract and also to any place where the materials are lying or from which they are being obtained. The Contractor shall give every facility to the the Employer and their representative for inspection and examination and test of the materials and workmanship. No person unless authorised by the Employer, except the Representatives of Public Authorities, shall be allowed on the works at any time. If any work is to be done at a place other than the site of the works, the Contractor shall obtain the written permission of the Employer for doing so.

**16. ASSIGNMENT OR SUB-LETTING :**

The work included in the Contract shall be executed by the Contractor and the Contractor shall not directly or indirectly transfer, assign or underlet the Contract or any part thereof or interest therein, nor shall he take a new partner, without the written consent of the Employer and no undertaking shall relieve the Contractor from the full and entire responsibility of the Contract or from active superintendence of the works during their progress.

**17. APPROVAL OF SUPPLIERS :**

For all supplies, the name of manufacturers / brands have to be got approved by the Employer. All materials will be of tested quality and as per relevant Indian Standards. In addition to the Test Certificates,

Mandatory Tests will also be done on them by the Employer at an approved laboratory at the cost of the Contractor at regular frequency laid down on the relevant Indian Standards.

**18. VARIATIONS NOT TO VITIATE CONTRACT :**

The Contractor shall when directed in writing by the Employer to omit from or vary any works shown upon the Drawings or described in the Specification or included in the priced Schedule of Quantities, carry out such directions but the Contractor shall not make any alterations in the provisions of the Contract without such authorisation or direction in writing from the Employer. No claim for an extra shall be allowed unless it shall have been executed by the authority of the Employer as herein mentioned. Any such extra is hereinafter referred to as an authorised extra. No variation, i.e. additions, omissions or substitutions shall vitiate the Contract.

The rate of items not included in the Bill of Quantities shall be settled by the Employer in accordance with the provisions of Clause 20 thereof (Prices for extras, etc. Ascertainment of).

**19. MEASUREMENT OF WORKS :** The Employer may from time to time intimate the Contractor that he requires the works to be measured and the Contractor shall forthwith attend or send a qualified Engineer to assist the Employer's representative in taking such measurements and calculations and to furnish all particulars or give all assistance required by either of them.

Should the Contractor omit to attend or neglect or omit to send such representative, then the measurements taken by the Employer shall be taken to be the correct measurements. The works shall be measured according to the mode of measurements stated in the annexed General Specifications. The measurement shall wherever not mentioned in the Tender be taken in accordance with the Indian Standard of "Method of Measurement of Building Works (I.S. 1200)" and its latest revision, if any. Measurements will also be checked / test checked by the Employer for each trade and for this the Contractor has to render all necessary assistance and co-operation. Concealed works shall be measured and recorded before the Contractor is allowed to proceed with backfilling connections or making good chases as the case may be.

The Contractor or his representative may at the time of measurement take such notes and measurements as he may require.

**20. PRICES FOR EXTRAS, ETC. - ASCERTAINMENT OF :**

Should it be found from measurements taken in accordance with the previous paragraph that any of the quantities or amounts of works thus ascertained are less or greater than the amounts specified for the works in the priced Schedule of Quantities and / or that any variation is made from the Tender Schedule of items by operating additional items called "Extra Items" or "Substitute Items" in substitution of some tendered items, the rate and valuation thereof, of such items unless previously or otherwise agreed upon, shall be made in accordance with the following Rules :

(a) (i) The net rates or prices in the original Tender shall determine the valuation of the extra item where extra item / substitute item is of a similar character and executed under similar conditions as the work priced therein.

(ii) The net rates or prices in the original Tender shall determine the value of the items omitted, provided if omissions vary the conditions under which any remaining items of works are carried out, the prices for the same shall be valued under (b) hereof.

(b) For extra items / substitute items, the following method shall hold good :

(i) Where the extra item works are not of similar character and / or not executed under similar condition as aforesaid or where the omissions vary, the conditions under which any remaining items of works are carried out or if the amount of any omission or additions relative to the amount of the whole of the Contract works or to be any part thereof shall be such that in the opinion of the Employer, the net rate or price contained in the priced Schedule of Quantities or Tender or for any item of the works involves loss or expenses beyond that reasonably contemplated by the Contractor or is by reason of such omission or addition rendered unreasonable or inapplicable, the Employer shall fix such other rate or price as in the circumstances he shall think reasonable and proper, on the basis of actual rate analysis for cost of work involved plus fifteen percent (15%) towards Contractor's overhead and profits, which shall be final and binding on the Contractor. No escalation shall be entertained on the extra or deviated items.

(c) The measurement and valuation in respect of the Final Contract as executed shall be completed within the "period of **Final Measurement**" or within 6 (six) months of the completion of the Contract works as defined under Clause for Certificate of Virtual Completion.

## **21. REMOVAL OF IMPROPER WORK AND MATERIALS:**

The Employer shall, during the progress of the works, have power to order in writing from time to time the removal from the works, within such reasonable time as may be specified in the order, of any materials which, in the opinion of the Employer are not in accordance with the specifications or the instructions of the Employer and the substitution of proper materials and the removal and proper re-execution of any work, which has been executed with materials or workmanship, not in accordance with the Drawings and Specifications or instructions, and the Contractor shall forthwith carry out such order. The Employer shall have power to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto shall be borne by the Contractor, and shall be recoverable from him or may be deducted from any money due or that may become due to the Contractor.

If the correcting works are not done in accordance with the Contract, the Employer may allow such work to be got done through other parties at Contractor's risk and cost and in that case, they may make allowance for the difference in value together with such further allowance for damages to the Employer, as in their opinion may be reasonable.

## **22. DEFECTS AFTER COMPLETION:**

Any defect, shrinkage, settlement, unsound construction or other faults in equipments supplied and installed, which may appear within the "Defects Liability Period" stated in the Appendix hereto or if none stated, then for a period of 12 months after the Virtual Completion of the work arising in the opinion of the Employer from materials or workmanship not in accordance with the Contract, shall upon the directions and writing of the Employer, and within such reasonable time as shall be specified therein, be amended and made good by the Contractor, at his cost, unless, the Employer shall decide that he ought to be paid for such amending and making good and in case of default the Employer may employ and pay other persons to amend and make good such defects, shrinkage, settlements or other faults and all damages, loss and expenses consequent thereon or incidental thereto, shall be made good and borne by the Contractor and such damage, loss and expenses shall be recoverable from him by the Employer or may be deducted by the Employer from the amount retained with the Employer vide Clause 34 (Certificate and Payments) or any money due or that may become due to the Contractor or the Employer may in lieu of such amending and making good by the Contractor, deduct from such money a sum to be determined by the Employer, equivalent to the cost of amending such works and in the event, the said amount retained under Clause 34 (Certificate and Payments) and / or the other sums payable to the Contractor being insufficient, recover the balance from the Contractor.

## **23. CERTIFICATE OF VIRTUAL COMPLETION OF WORKS :**

The Contractor shall report in writing to the Employer in the form of Certificate as per Proforma 'D' annexed hereto as and when the works are completed in all respects. The Employer shall issue the Contractor a Certificate to be called "Virtual Completion Certificate", The Defect Liability Period shall commence only after the date of actual possession.

## **24. OTHER PERSONS ENGAGED BY THE EMPLOYER :**

The Employer reserves the right to use the premises and any portion of the site for the execution of any work not included in this Contract which he may desire to have carried out by other persons, and the Contractor is to allow all reasonable facilities for the execution of such work, but is not required to provide any plant or material for the execution of such work except by special arrangement with the Employer. Such work shall be carried out in such a manner as not to impede the progress of the works included in the Contract and the Contractor shall not be responsible for any damage or delay which may happen to or be occasioned by such work.

## **25. UNFIXED MATERIALS:**

When any materials intended for the works shall have been placed at site by the Contractor, such materials shall not be removed therefrom (except for the purpose of being used on the works) without the written

authority of the Employer and when the Contractor shall have received payment in respect of any Certificate in which the Employer shall have stated that he has taken into account the value of such unfixed materials on the works, such materials shall become the property of the Employer and the Contractor shall be liable for any loss or damage to any such materials.

## **26. INSURANCE CONTRACT CONDITIONS:**

### **CONTRACTOR'S LIABILITY AND INSURANCE:**

(i) From commencement to completion of works, the Contractor shall take full responsibility for the care of the work and for taking precautions to prevent loss or damage to the works and to minimise the loss or damage to the greatest extent possible and shall be liable for any damage or loss that may happen to the works or any part thereof from any cause whatsoever, inherent defects and failures due to poor workmanship and causes such as lightning, explosion, earthquake, storm, hurricane, floods, inundation, subsidence, landslides, rock slides, riots (excluding civil war, rebellion, revolution and insurrection) and shall at his own cost repair and make good the same so that at all times the work shall be in good order and condition and in conformity in every respect with the requirements of the Contract.

#### **Explanation:**

For the purpose of this condition, the expression "from the commencement to the completion of work" shall mean the time commencing from the issue of the work order to the Contractor and ending with the date of issue of Virtual Completion Certificate provided in the Agreement.

(i) Without limiting the obligations and responsibilities under this condition, the Contractor shall insure and keep insured the works from commencement to completion, as aforesaid, for their full value provided under this Contract, increased by 25% against the risk of loss or damage from any cause whatsoever including the causes enumerated in the Clause (a) above. In the event of there being a variation in the nature and extent of the work, the Contractor shall from time to time increase or decrease the value of the insurance correspondingly. All the premia shall be borne and paid by the Contractor. The said insurance shall also provide for the removal of debris of the lost or damaged works. The said insurance shall be in the joint name of the Employer and the Contractor, Employer's name being mentioned first in policies and the Contractor should deposit with the Employer the said policy or policies before commencing work at site. All money payable by the insurers under such policy or policies shall be recovered by the Employer and shall be paid to the Contractor in installments for the purpose of rebuilding or replacement or repair the works and / or goods destroyed or damaged as the case may be.

(ii) If the Contractor has a blanket insurance policy for all the works and the policy covers all the items to be insured under the condition, the said policy shall be assigned by the Contractor in favour of the Employer, provided, however, that if any amount is payable under the policy by the insurers in respect of

works other than the work under the Contract, the same may be recovered by the Contractors directly from the insurers.

(iii)The Contractor shall indemnify and keep indemnified the Employer against all losses and claims, for injuries or damage to any person or any property whatsoever which may arise out of or in consequence of the construction and maintenance of the work and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto. Before commencing the execution of the works, the Contractor shall without in any way limiting his obligations and liabilities under this condition insure against any damage or loss or injury which may occur to any property including, Employer or their Agents and Servants in the execution of this Contract.

(iv)The Contractor shall at all times indemnify the Employer against all losses, claims or damages or compensation under the provisions of the payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, the Maternity Benefit Act, 1961, the Shop and Establishment Act, 1947, Industrial Disputes Act, 1947 and Contract Labour and Regulation and Abolition Act, 1970, Employer State Insurance Act, 1948 or any modification thereof or any other law relating thereto and Rules made thereunder from time to time or as a consequence of any accident or injury to any workman or other persons in or about the work whether in the employment of the Employer or Contractor or not and also against all costs, charges and expenses of any suit, action or proceedings whatsoever out of such accident or injury or combination of any such claims.

Without limiting his obligations and liabilities as provided damages or compensation payable under this Clause, the Contractor shall as also indemnify the Employer against damage due to fire caused due to any reason whatsoever, to structures, Employer's property, men working around, etc.

(i)Before commencing the work, the Contractor shall without limiting his obligations and responsibilities under this condition, insure against any loss of life or injury to any personnel in the employment of Contractor / Sub Contractor / Nominated Sub Contractor. For this purpose, an insurance shall be taken by the Contractor / Sub Contractor. Such an insurance shall be taken to include both Employees / Workmen covered by the Workmen's Compensation Act, 1923 as well those Employees / Workmen not covered by the said Act. Separate insurance policies may be taken for Employees / Workmen covered by Workmen's Compensation Act, 1923, and Employees / Workmen not covered by the said Act. All the premia shall be paid by the Contractor. Policy / Policies taken under this Clause for the personnel in employment with the Contractor / Sub Contractor / Nominated Sub Contractors, the Employee and Contractor shall recover directly from the Insurance Company and ensure that payment of the same is made to the affected parties. The policy in original shall be deposited with the Employer.

(ii)The Contractor shall at all times indemnify and keep indemnified the Employer against all losses and claims for injuries or damage to any person or any property whatsoever which may arise out of or in consequence of the construction and maintenance of the work and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect or the in relation thereto. Before

commencing the execution of the works, the Contractor shall without in any way limiting his obligations and liabilities under this condition, insure at his cost and expense against any damage or loss or injury which may be caused to any person or property including the Employee or Servants of the Employer and their property by or in the course of the execution of the works. Such insurance to be known as the Third Party Insurance shall be in a sum equivalent to two percent of the estimated value of the work, subject to the minimum sum of Rupees Five Lakhs. The Insurance Policy to be so obtained by the Contractor shall be deposited by the Contractor with the Employer within seven days of its issue by the insurer.

(iii)The Contractor shall provide the Employer with documentary evidence from time to to time, that he has taken all the insurance policies mentioned in the foregoing paragraphs and that he has paid the necessary premia for keeping the policies valid till the works are completed and handed over to the Employer.

(iv)The Contractor shall ensure that similar insurance policies are taken out by his Sub Contractors or Nominated Contractors, if any, and shall be responsible for any claim or loss resulting from their failure to obtain adequate insurance protection in connection thereof. While taking the insurance policies, Contractor should indicate clearly to the insurance companies that policies issued shall cover their Sub Contractors and Nominated Sub Contractors also.

(v)If the Contractor and / or his Sub Contractor or Nominated Sub Contractor, if any, shall fail to effect and keep in force the insurance referred to above or any other insurance which he / they may be required to effect under the Terms of the Contract, then in any such case, the Employer may, without being bound to effect and keep in force any such insurance policy and pay such premium or premiums, as may be necessary for that purpose from time to time and deduct the amount so paid by the Employer from any moneys due or which may become due to the Contractor, recover the same as a debt due from the Contractor.

(vi)All insurances to be effected by the Contractor, and / or his Sub Contractors or Nominated Sub Contractors, if any, shall be taken only with the Insurance Company to be approved by the Employer.

(vii)Without prejudice to any of his obligations and responsibilities under this condition, the Contractor shall within 30 days from the date of Work Order and thereafter at the end of each quarter submit a report to the Employer in **Proforma 'C'** annexed hereto. The detailed information of the insurance policies with relevant documentary evidence.

(viii)No work shall be commenced by the Contractor unless and until he has obtained the insurance or insurances required to be obtained by him under or by the foregoing clauses and no work shall be carried out or continued by the Contractor unless and until each insurance is current and valid at that time. All the receipts in original along with two photocopies thereof, for the payment of the premia shall be furnished by the Contractor to the Employer. The original receipts will be returned to the Contractor after verification. The Employer reserves the right for payment on works done subject to fulfillment of this condition.

(ix) In the event of any claim for insurance becoming due on account of any eventuality covered by the respective insurance policy / policies, the Contractor shall reinstate the installation, replace the materials or equipments or pay compensation to the affected Personnel / Employees without waiting for settlement of the claim from insurance company.

(x) If the Contractor shall not perform and observe any of the duties and obligations devolving upon him hereunder, and such omission or breach by the Contractor shall involve the Employer in any liability tortuous or otherwise and / or loss or damage, the Employer shall be entitled to recover the amount of restitution from any moneys due to the Contractor from the Employer under this Contract or any other Contract.

(xi) Upon occupation of the building, the Clients shall take out parallel insurance, to insure all persons who are not the Contractor's or the Sub Contractor's or the Nominated Sub Contractor's or the Agent of the Employers authorised representatives ; on getting the Occupation Certificate, the Clients will maintain their own insurance policy and the Contractors will cease to be responsible for the insurance.

(xii) The Contractor shall ensure the validity of the Insurance Policies. The Contractors shall hand over the insurance policies to the Clients. Once delays are certified by the Employer, he shall have to ensure that the insurance policies are progressively extended.

(xiii) The Employer's insurance policy shall cover the risk for Employer's Agents, Interior Designers, etc. appointed by the Clients. The Clients shall insure the structure in totality on obtaining possession of the building and other structures.

## **27. TO DEFINE TERMS AND EXPLAIN PLANS:**

The various parts of the Contract are intended to be complementary to one another, but should any discrepancy appear, or any misunderstanding arise as to the import of anything contained therein, the explanations of the Employer shall be final and binding. The correction of any errors or omissions of the Drawings and Specifications may be made good by the Employer, when such correction is necessary to bring out clearly the intention that is indicated by a reasonable interpretation of the Drawings and Specifications as a whole.

## **28. DATE OF COMPLETION:**

On receiving the Work Order, the Contractor shall thereupon and forthwith begin the works and shall proceed regularly with and complete the same in accordance with the programme of execution of work within 6 months from the date of work order, to the entire satisfaction of the Employer subject nevertheless, to the provisions for extension of time hereinafter contained. The Contractor shall not have any lien or charges on the site, building and / or other plant, equipment, machinery, etc. lying on the site in respect of any of his claims arising under the Contract or otherwise.

## **29. DELAY AND EXTENSION OF TIME:**

If in the opinion of the Employer, the works be delayed (a) by force majeure or (b) by reason of any exceptionally inclement weather or (c) by reason of proceedings taken or threatened by the dispute with adjoining or neighbouring Employers or public authorities arising otherwise than through the Contractor's own default or (d) by the works or delays of other Contractors or Tradesmen engaged or nominated by the Employer and not referred to in the Schedule of Quantities and / or Specifications or (e) by reason of the Employer's instructions as per Clause (g) below or (f) by reason of civil commotion, local commotion of workmen or strike or lockout affecting any of the building trades or (g) in consequence of the Contractor not having in due time, necessary instructions from the Employer, for which he shall have specifically applied in writing, ahead of time, giving the Employer reasonable time to prepare such instructions, the Employer shall make a fair and reasonable extension of time for completion of the contract works. In case of such strike or lockout, the Contractor shall, as soon as may be, give written notice thereof to the Employer, but the Contractor shall nevertheless constantly use his endeavours to prevent delay and shall do all that may reasonably be required to the satisfaction of the Employer to proceed with the work.

The Contractor shall take all practicable steps to avoid or reduce any delay in the execution and completion of the works arising out of:

- (i) Force Majeure
- (ii) Exceptionally inclement weather
- (iii) Loss or damage by fire and earthquake
- (iv) Civil commotion, lockout, strike, etc.
- (v) Employer's instructions, as the case may be.
- (vi) Delay on the part of the Nominated Sub Contractor or Nominated Supplier.
- (vii) Delay on the part of the other Contractors employed by the Employer.

## **30. DAMAGES FOR NON-COMPLETION :**

(i) If the Contractor fails to complete the works by the date named in Clause 28 (Date of Completion) or within any extended time under Clause 29 (Extension of Time) and if the Employer shall certify in writing on or before the date of issue of the Certificate for the last payment to which the Contractor may become entitled hereunder that the works could reasonably have been completed by the date or within the said extended time, then the Contractor shall pay or allow the Employer the sum to be worked out at 0.25% of CONTRACT PRICE PER WEEK to be recovered as Liquidated Damages (and not by way of penalty) for the delay, beyond the said date or extended time, as the case may be, during which the works shall remain

unfinished and such damages may be deducted from any moneys due or which may become due to the Contractor. The deduction of such sum shall not, however, absolve the Contractor of his responsibility and obligations to complete the work in its entirety. The maximum amount of Liquidated Damages shall be 5% of the Contract Price.

(ii) Without prejudice to the right of the Employer to recover from the Contractor the Liquidated Damages under the foregoing Clause, the Employer shall be entitled to recover from the Contractor compensation for any loss or damage arising to the Employer from such breach of the Contract or any breach of the Contract by the Contractor including compensation under the following heads:

(a) Compensation for the cost incurred by the Employer to maintain the on-site and off-site establishment in consequence of the breach of the Contract committed by the Contractor to so complete the work.

(b) Compensation for the cost incurred by the Employer to pay the charges towards contract for generator taken on hire intended to be terminated upon the completion of the commissioning of the generator under this Contract.

(c) Compensation for the loss of interest on the funds invested in the execution of works, such interest being at a rate 3% higher than the lending rate by the Nationalised Banks.

The deduction of such sum shall not, however, absolve the Contractor of his responsibility and obligations to complete the work in its entirety.

### **31. FAILURE BY CONTRACTOR TO COMPLY WITH EMPLOYER'S INSTRUCTIONS :**

If the Contractor after receipt of notice from the Employer requiring compliance, with such further drawings and / or instructions, fails within seven days to comply with the same, the Employer may employ other persons to execute any such work whatsoever as may be necessary to give effect thereto and all costs incurred in connection therewith shall be recoverable from the Contractor by the Employer from any moneys due/ to become due to the Contractor.

### **32. EMPLOYER'S DELAY IN PROGRESS:**

The Employer may delay the progress of the works in case of rains or otherwise, without vitiating the Contract and grant such extension of time for the completion of the Contract as he may think proper and sufficient in consequence of such delay, and the Contractor shall not make any claim for compensation of damage in relation thereto.

### **33. SUSPENSION OF WORKS:**

If the Contractor except on account of any legal restraint upon the Employer preventing the continuance of the works, on account of any of the causes mentioned in Clause 29 (Extension of Time) in the case of a Certificate being withheld or not paid when due, shall suspend the works, or, shall neglect or fail to

proceed with due diligence in the performance of his part of the Contract or if he shall more than once make default in the respects mentioned in Clause 21 (Removal of Improper Work and Materials), the Employer shall have power to give notice in writing to the Contractor requiring that the works be proceeded with a reasonable manner and with reasonable dispatch. Such notice shall not be unreasonably given and must signify that it purports to be a notice under the provisions of this Clause and must signify the act or defaults on the part of the Contractor upon which it is based. After such notice shall have been given, the Contractor shall not be at liberty to remove from the site of work, or from any ground contiguous thereto, any plant or materials belonging to him which shall have been placed thereon for the purpose of the works, and the Employer shall have lien upon such plant and materials to subsist from the date of such notice being given until the notice shall have been complied with. If the Contractor shall fail, for 7 (seven) days after such notice has been given to proceed with the works as therein prescribed, the Employer may enter upon and take possession of the works and of all such plant and materials thereon intended to be used for the work, and the Employer shall retain and hold a lien upon all such plant and materials until the works shall have been completed under powers hereinafter conferred upon him. If the Employer shall exercise the above power, he may engage any other person to complete the works and exclude the Contractor, his agents and servants, from entry upon or access to the same, except that the Contractor or any person appointed in writing may have access at all reasonable times during the progress of the works to inspect, survey and measure the works. Such written appointment or a copy thereof shall be delivered to the Employer before the person so appointed comes on to the works, and the Employer shall take such steps as in the opinion of the Employer may be reasonably necessary for completion of the works, without undue delay or expenses, using for that purpose the plant and materials above mentioned in so far as they are suitable and adaptable to such use. Upon the completion of the work, the Employer shall certify the amount of the expenses properly incurred, consequent on and incidental to the default of the Contractor as aforesaid and in completing the works by other persons. Should the amount so certified as the expenses properly incurred be less than the amount which would have been due to the Contractor upon the completion of the works by him, the difference shall be paid to the Contractor by the Employer; should the amount of the former exceed the latter, the difference shall be paid by the Contractor to the Employer. The Employer shall not be liable to make any further payment or compensation to the Contractor for or on account of the proper use of the plant for the completion of the works under the provision hereinbefore mentioned other than such payment as included in the Contract. After the works shall have been so completed by persons other than the Contractor, under provision hereinbefore contained, the Employer shall give notice to the Contractor, to remove his plant and all surplus materials as may not have been used in the completion of the works, from the site. If such plant and materials are not removed within a period of 14 days, after the notice shall have been given, the Employer may cause to remove and sell the same, holding the proceeds, less the cost of the removal and sale, to the credit of the Contractor. The Employer shall not be responsible for any loss sustained by the Contractor from the sale of the plant in the event of the Contractor not removing it after notice.

#### **34. CERTIFICATE AND PAYMENT - CONTRACT CERTIFICATES:**

The Contractor shall be entitled to the payment by the Employer within 30 days against bills of minimum value as contained in appendix hereto subject to work being executed in accordance with this Contract, and scrutiny by the Employer. The retention at the rate of 5 percent of the value of the work so executed shall be deducted from running bills. The Contractor shall be entitled to receive payment of 50 percent of total security amount after Virtual Completion and balance 50 percent at the end of Defects Liability Period, provided the defects are made good according to the true intent and meaning hereof after due completion of work.

The Contractor shall submit Interim Bills after recording measurements by Employer jointly with Contractor at site in the Measurement Book. This is not only to regulate the correctness of the quantity but also to facilitate expeditious clearing of the bills. The bills shall be submitted in the following proforma.

TENDER ITEM NO.	BRIEF DESCRIP TION OF ITEMS □ □	AS PER		M.B. PAGE NO.	PREVIOUS BILL		SINCE LAST BILL		UPTO DATE		REMARK S
		TENDER			QTY.	AMT	QTY.	AMT.	QTY.	AMT.	
1	2	3	4	5	6	7	8	9	10	11	12

**NOTE:**

If any part / reduced rate is proposed by the Contractor, the same should be brought out in the Remarks Column along with reasons.

The Employer shall carry out checking / test checking of measurements as and when required.

The Contractor shall be paid 75% of the value of the material. On payment of 75%, the property in goods shall vest in the Employer and the Contractor will keep it in his custody indemnifying the Employer against any damage, loss, theft or mishap attributable to their storage.

The Contractor shall submit the Final Bill within three months of Virtual Completion Certificate. The Employer shall make payment upon Final Certificate within a period of six months from the date of its receipt.

The Contractor shall submit extra / deviated items of work in the Proforma approved by Employer.

R.A. Bills / Final Bills received without Test Certificates / results shall be returned to the Contractor for the reason of the same being not submitted duly.

**35. NOTICES:**

Notices of the Employer to the Contractor may be served personally or by being left at or sent by Registered Post to the last known place of the business of the or being left on the works. In the case of Company or Corporation, Notices may be served at or sent by Registered Post to the Registered Office of the Company or Corporation. Any Notice sent by Registered Post shall be deemed to be served in the time when, in the ordinary course of post, it would be delivered.

**36. TERMINATION OF CONTRACT BY THE EMPLOYER :**

If the Contractor being an individual or a firm, commits any "Act of Insolvency" or shall be adjudged as Insolvent or being an Incorporated Company shall have an order for compulsory winding up voluntarily or subject to the supervision of the Court and of the Official Assignee or the Liquidator, in such acts of insolvency or winding up shall be unable within seven days after notice to him requiring him to do so, to show to the reasonable satisfaction of the Employer that he is able to carry out and fulfill the Contract, and to give security, therefor, 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 sub-let the Contract without the consent in writing of the Employer first obtained,

Or shall charge or encumber this Contract or any payments due or which might become due to the Contractor thereunder.

Or if the Contractor has abandoned the Contract, or

(a) has failed to commence the works, or has without any lawful excuse under these conditions suspended the progress of the works for seven days after receiving from the Employer, written notice to proceed, or

(b) has failed to proceed with the works with such due diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon, or

(c) has failed to remove materials from the site or to pull down and replace work for seven days after receiving from the Employer written notice that the said materials of work were condemned and rejected by the Employer under these conditions, or

(d) 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 requiring the Contractor to observe or perform the same, or

(e) has to the detriment of good workmanship or in defiance of the instructions to the contrary sub-let any part of the Contract.

Then in any of the said cases the Employer may, notwithstanding any previous waiver, after giving seven days notice in writing to the Contractor, terminate the Contract but without thereby affecting the obligations and liabilities of the Contractor, the whole of which shall continue in force as fully as if Contract has not been terminated and as if the works subsequently executed has been executed by or on behalf of the Contractor. And further, the Employer may enter upon and take possession of the work and all plant, tools, scaffoldings, sheds, machinery, steam and other power machineries, utensils and materials lying upon the premises or the adjoining land or roads and use the same as his own property or may employ the same by means of his own servants and workmen carrying on and completing the works or by employing any other Contractors or other persons to complete the works, and the Contractor shall not in any way interrupt or do any act, matter or things to prevent or hinder such other Contractor or other person or persons employed for completing or 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 plant, and should the Contractor fail to do so within a period of 14 days after receipt thereof by him, the Employer shall sell the same by public auction, and shall give credit to the Contractor for the amount realised after deducting therefrom the costs of removal and sales by the Employer for the values of the said plant and material so taken possession of by the Employer and the expense or loss which the Employer shall have been put into procuring the works to be completed and the amount, if any, owing to the Contractor and the amount which shall be so certified shall thereupon be paid by the Employer to the Contractor, or by the Contractor to the Employer, as the case may be. On termination of the Contract, the Contractor shall forthwith remove himself and his workmen from the works site.

### **37. TERMINATION OF THE CONTRACT BY THE CONTRACTOR :**

The payment of the amount payable by the Employer as provided for hereinafter shall be in arrears and unpaid for 30 (thirty) days after notice in writing requiring payment of the amount with interest as aforesaid shall have been given by the Contractor to the Employer (or if the Employer interferes with or obstruct issue of any such Certificates), or the Employer commits any 'Act of Insolvency', or if the Employer being an individual, or firm shall be adjudged insolvent or have an incorporated company shall have an order made against it or passes an effective resolution for winding up either compulsorily or subject to the supervision of the Court or voluntarily, or if the Official Assignee of the Employer shall repudiate the Contract, or if the Official Assignee or the Liquidator in any such winding up fails within 15 (fifteen) days after Notice to him requiring him to do so, to show to carry out and fulfill the Contract and to make all payments due, and to become due hereunder and if required by the Contractor, to give security for the same, or if the works be stopped for 3 (three) months under an order of the Employer or by an injunction or other orders of any Court of Law, then and in any of the said cases, the Contractor shall be at liberty to determine the Contract by Notice in writing to the Employer, and he shall be entitled to recover from the

Employer payment for all works executed and for any loss he may sustain upon any plant or material supplied or purchased or prepared for the purpose of the Contract.

In arriving at the amount of such payment, the net rates contained in the Contractor's original Tender shall be followed, or where the same may not apply, valuation shall be made in accordance with Clause 20 (Prices for Extras, etc. Ascertainment of) hereof.

**38. FORECLOSURE OF CONTRACT IN FULL OR IN PART :**

If at any time after acceptance of the tender the Employer shall decide to abandon or reduce the scope of the works for any reason whatsoever and hence, not require the whole or any part of the works to be carried out, he shall inform the Contractor in writing to that effect and the Contractor shall have no claim to any payment or compensation or otherwise whatsoever, on account of any profit or advances which he might have derived from the execution of the works in full, but which he did not derive in consequence of the foreclosure of the whole or part of the works.

The Contractor shall be paid at the Contract rates full amount for works executed at site, and in addition, reasonable amount as certified for the value of such material (which material shall thereupon become the property of the Employer) and also such further allowances as the Employer may think reasonable and fair in respect of (a) any expenditure incurred by the Contractor towards preliminary works, etc. and (b) other reasonable and proper engagement, the Contractor may have entered into for carrying out the work.

**39. INSPECTION OF SITE AND SUFFICIENCY OF TENDER:**

(i) The Contractor shall inspect and examine site and its surroundings and shall satisfy himself before submitting his tender as to the nature of the ground and subsoil, the form and nature of the site, the quantities and nature of work and materials necessary for the completion of the works and the means of access to the site, the accommodation he may require and in general, shall himself obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect his Tender.

(ii) The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his Tender for the works and of the rates and prices quoted in the Schedule of Work / Items / Quantities or in Bills of Quantities, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for proper completion and maintenance of the works.

(iii) No extra charges consequent on any misunderstanding or otherwise shall be allowed.

**40. NOTICE TO LOCAL BODIES:**

The Contractor shall comply with and give all notices required under any Law, Rule, Regulations or Bye-law of Parliament, State Legislature or Local Authority relating to works. The Contractor shall before

commencing the execution of work, issue a Certificate to the Employer that he has obtained all the Permissions / Registrations and give all the notices as are required to be obtained or given under law particularly blasting permission, the Police Permission, etc.

**41. TOTAL SECURITY DEPOSIT :** Total Security Deposit shall comprise :

(i) Earnest Money Deposit

(ii) Retention Money

**(a) EARNEST MONEY DEPOSIT :**

The tenderer shall deposit an amount of Rs.27000/- (Rupees Twenty seven thousand only) in the form of Bank Draft drawn in favour of National Bank for Agriculture and Rural Development, Lucknow and attach receipt / draft at the time of submission of Tender as the Earnest Money. No Tender shall be considered unless the Earnest Money is so deposited. No interest shall be paid on this Earnest Money Deposit. The Earnest Money of an unsuccessful tenderer will be refunded, without any interest, soon after the decision to award the work is taken. The Earnest Money Deposit shall stand absolutely forfeited if the tenderer revokes his Tender at any time during the period when he is required to keep his Tender open for acceptance by the Employer, or if, after the Tender is accepted, the Contractor fails to enter into a formal Agreement / or if he fails to pay the Security Deposit as stipulated / or if he fails to commence the work within stipulated time limit.

**(b) RETENTION MONEY :**

Apart from the Initial Earnest Money Deposit to be made by the Contractor as aforesaid, the Retention Money shall be deducted from progressive Running Account Bills @ 5 percent of the gross value of work done and claimed in each Running Account Bill. Provided that the total Security Deposit i.e. the Earnest Money Deposit plus the Retention amount shall put together not exceed 5% of the Contract price as determined after considering all variations as approved.

On virtual completion of the job and on the Contractor submitting to the Employer the "As Built" drawings, the Employer shall declare the job to be virtually complete and upon this an amount equivalent to 50% of the total Security Deposit will be refunded to the Contractor and the balance shall be retained by the Employer till the end of the Defects Liability Period (12 Months) and the Contractors shall have option to have the balance Retention may replaced by Bank Guarantee of equivalent amount which will be retained with the Employer till the end of the Defects Liability Period (the Bank Guarantee shall be valid upto the end of Defects Liability Period) and the same shall be released only upon successful completion of the Defects Liability Period and on finalising the Final Bill, whichever is later.

If the Contractors do not carry out the rectification work during the Defects Liability Period, the Employer shall have the right to get such defective work rectified after giving due notice in writing to the Contractors and recover the cost of repairs from the amount so retained.

**42. TECHNICAL AUDIT CLAUSE:**

The work is liable to be technically audited by the Chief Technical Examiner of the Central Vigilance Commission, Government of India from time to time. Any defects, improvements or testing, etc. pointed out by the Chief Technical Examiner should be carried out by the Contractor at his own cost and any deduction suggested by the CTE will be effected.

The Employer shall have a right to cause a technical examination and audit of works and the final bills of the Contractor including all supporting vouchers, abstract, etc. to be made at the time of payment of the Final Bill. If a result of this examination or otherwise any sum is found to have been overpaid in respect of any work done by the Contractor under the Contract, the Contractor shall be liable to return the amount of over payment and it will be lawful for the Employer to recover the same from any sum or sums due to him and in any other manner legally permissible and if it is found that the Contractor was paid less than what was due to him under the Contract in respect of any work, executed by him under the Contract in respect of any work, the amount of such under payment shall be duly paid by the Employer.

Any sum of money due and payable to the Contractor (including Security Deposit returnable to him) under this Contract may be appropriated by the Employer and set off against any claim of the Employer for the payment of a sum of money arising out of or under any other Contract made by the Contractor with the Employer.

**43. APPENDIX TO GENERAL CONDITIONS OF CONTRACT :**

S.No	Item		Clause
1	Earnest Money Deposit	Rs.27,000/- (Rupees twenty seven thousand only)	41
2	Retention Money	5 %(Including EMD)	41
3	Defects Liability Period	12 Months (Twelve months after the date of Virtual Completion)	22
4	Date of Commencement	Date of Work Order or Handing Over of the Site, whichever is later	28
5	Date of Completion	6 (six) Months from the Date of Commencement of work	28
6	Agreed Liquidated Damages	0.25 % of the accepted tender amount Per Week of Delay for each Week beyond the Scheduled Date of Completion or the extended period of completion, the works remain incomplete upto a maximum of 5 % (five percent only) of the accepted Tender Amount	30
7	Period of Final Measurement	3 (three) Months from the date of Virtual	

		Completion	
8	Minimum Value of work for the Issue of Interim Certificate	Rs.3.00 lakhs	
9	Period of Honouring Interim Certificate	Adhoc 75 % - To be paid by Employer within 10 Working Days from the receipt of the bill in Regional Office, Lucknow. Balance 25 % - Within 30 working Days from the date of receipt of bill.	34
10	Period of Honouring Final Bill	6 (six) Months from the date of receipt of bill in Regional Office, Lucknow	

Signature

Date

Witness: \_\_\_\_\_  
 \_\_\_\_\_

**44 PROFORMA 'C'**

(See Clause 26 xii of General Conditions)

**CONTRACTOR'S LIABILITY AND INSURANCE SUMMARY**

NAME AND NUMBER OF INSURANCE POLICY WITH DESCRIPTION	VALUE OF INSURANCE	VALIDITY PERIOD	LOSS OR DAMAGE TO WORK (COVERED UNDER POLICY) OR ANY PART THEREOF AND ALL MATERIALS AT SITE FROM ANY CAUSE WHATSOEVER
1	2	3	4
<input type="checkbox"/>			
DAMAGE, LOSS OR INJURY OF ANY PROPERTY OF THE EMPLOYER AND HIS AGENTS AND SERVANTS	CLAIMS UNDER THE WORKMEN COMPENSATION ACT, 1923, THE MINIMUM WAGES ACT ..... AND CONTRACT LABOUR (REGULATION & ABOLITION) ACT .....		REMARKS
5	6	7	
<input type="checkbox"/>			

Details of further Policies, if any, taken and the loss or damage, if any, under that Policy may please be indicated separately at appropriate places.

Signature of Contractor

Address : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Witness: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**45 b PROFORMA 'D'**

**REPORT OF VIRTUAL COMPLETION**

**(See Clause 23 of General Condition)**

**(Draft of Letter to be Written by the Contractor to the Employer in connection with the Virtual Completion Certificate as Per**

**Clause No.23 of Contract)**

Having executed the work in terms of the Contract, we hereby certify and affirm that we have virtually completed the contracted works.

We hereby certify that the work has been executed wholly to our satisfaction and with the materials and workmanship in accordance with the Contract.

We do certify further that we have executed the work in accordance with the applicable Laws and without any transgression of such Laws.

**46 PROFORMA 'E'**

**ITEMS QUALIFYING FOR SECURED ADVANCE**

**(Refer Page No.38)**

D.G. Set

STANDARD panel

Cables

**GUARANTEE IN LIEU OF EARNEST MONEY DEPOSIT**

THIS DEED OF GUARANTEE executed at ..... on this ..... day of ..... 2006  
..... by the ..... Bank, a banking company constituted under  
..... having its Head Office at  
..... (hereinafter referred to as the "the Surety", which expression shall unless  
repugnant to the context or meaning include its successors and assigns).

**IN FAVOUR OF**

**THE NATIONAL BANK OF AGRICULTURE AND RURAL DEVELOPMENT**, a corporation established  
under the National Bank for Agriculture and Rural Development Act, 1981, having its head office at C-24,  
G-Block, Bandra Kurla Complex, Bandra (East), Mumbai-400 051 (hereinafter referred to as "NABARD",  
which expression shall, unless repugnant to the context or meaning include its successors and assigns).

**WHEREAS**

1) NABARD desires to execute air conditioning, ventilation, false ceiling, allied electrical, civil, plumbing,  
piping, ducting works etc, for their Regional Office Building ..... for the said project  
for

2) It is one of the terms and conditions of the said request for quote/tender that the contractor will have to  
deposit a sum equivalent of Rs.....as and by way of Earnest Money Deposit (EMD)  
which is payable by the Contractor in cash or by Demand Draft (DD).

3) M/s .....having its registered office at  
..... (hereinafter referred to as "our said constituents"  
which expression shall, unless repugnant to the context or meaning, include its successors and assigns)  
intent to submit their quotations for the said work.

4) At the request of our said constituents, NABARD has agreed not to insist for Earnest Money Deposit  
payable by cash/DD and accept a guarantee from he Surety in lieu thereof as hereinafter contained.

NOW THEREFORE THIS DEED OF GUARANTEE WITNESSETH that in consideration of NABARD at our  
request, agreeing not to insist upon the Earnest Money Deposit in cash/DD and accepting this guarantee in  
lieu thereof, we the ..... bank, hereby unconditionally and irrevocably

guarantee upto NABARD that our said constituents will perform all their duties and functions and discharge all their obligations under various terms and conditions of the said " Request for Tender" conditions to the full satisfaction of NABARD \* project management Consultant (PMC)/consultant/Architech failing which the surety shall on demand by NABARD, Lucknow the sum of Rs..... only.

2) The surety hereby further covenants that :

(i) The surety shall pay to NABARD the said sum not exceeding ..... on first demand of NABARD made in writing by NABARD without reference to our said constituents and notwithstanding any dispute or difference that may arise between NABARD and our said constituents.

(ii) That this guarantee shall be a continuing guarantee and shall not be revoked by the surety without prior consent in writing of NABARD.

(iii) They the decision of NABARD on the breach of any terms and conditions of the said request for tender by our said constituents or their failure to perform obligations of discharge the duties under the said request for tender shall be final and binding on the surety and shall not be disputed by the surety either inside or outside forum such as court, tribunal, arbitration or other authority.

(iv) That the notice of demand in writing issued by NABARD shall be conclusive proof as regards the amount due and payable to NABARD under this guarantee and it shall not be disputed by the surety either inside or outside forum such as court, tribunal, arbitration or other authority.

(v) That any neglect or forbearance on the part of NABARD in enforcing any of the terms and conditions of the said request for tender or showing of any indulgence or negotiate further by NABARD with or said constituents or any variation in regard to the conditions contained in the said tender and thereby modify these conditions and add thereto any further conditions as may be mutually agreed upon between NABARD and our said constituents or any other act or deed on the part of NABARD which, but for his clause may have the effect of discharging the surety under the law relating to guarantee shall not discharge the surety from its obligations herein and the surety shall be discharged only by compliance by our said constituents of all their obligations, duties under the said request for quote/tender.

(vi) That this guarantee shall not be affected by any infirmity or absence or irregularity in the exercise of the powers by or on behalf of our aid constituents or winding up or merger or amalgamation of our aid constituents or by charge in the constitution or in the name of our said constituents.

(vii) That it shall not be necessary for NABARD to exhaust its remedies against our said constituents before invoking the guarantee and the guarantee herein contained shall be enforceable against the surety notwithstanding any other security which NABARD may have obtained or may obtain from our said constituents, any, at the time when this guarantee is invoked be outstanding and unrealised.

(viii) That the surety hereby agrees that this guarantee commences from the date hereof and shall remain in force till our constituents, if the tender is accepted by you, furnishes the security as required under the said specifications and executes a formal agreement therein provided and be in force for up to six months from the date of bank guarantee and the surety hereby agrees to new this guarantee at the request of NABARD in the event of the said work given to our said constituents under the said request for tender is not completed.

(ix) Any claim arising under this agreement shall be preferred by NABARD within a period of six months from the aforesaid date of the expiry of this guarantee and unless the claim is so preferred against the surety, the surety shall stand discharges of all its liabilities hereinunder.

IN WITNESS WHEREOF the within named surety has caused these presents to be executed on its behalf by the hand of its duly authorised official on the date and at the place first hereinabove written.

Signed, sealed and delivered for and on behalf of

The surety herein by the hand of

Shri ..... Its duly authorised official

## ANNEXURE - III

### SPECIAL CONDITIONS OF CONTRACT

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## **SPECIAL CONDITION OF CONTRACT**

### **1. INSPECTION OF DRAWINGS :**

Before filling in the Tender, the tenderer will have to check up all Drawings and Schedule of Quantities, List of Approved Make / Agencies and will have to get an immediate clarification from the Employer on any point that he feels is vague and uncertain. No claim for damages or compensation will be entertained on this account, after work is awarded.

### **2. TENDERER TO VISIT SITE :**

Each tenderer must before submitting his Tender, visit the site of works so as to ascertain the physical site conditions and prices, availability and quality of materials according to Specifications, before submitting the quotations.

### **3. EXECUTION OF WORK :**

The whole of the work as described in the Contract (including the Schedule of Quantities, Preamble, the Specifications and all drawing pertaining thereto) and as advised by the Employer from time to time is to be carried out and completed in all its parts to the entire satisfaction of the Employer.

The minor details of equipments/installations which are obviously and fairly intended, or which may not have been definitely referred to in this Contract, but which are usual in sound building construction practice and essential to the works, are to be included in the Contract. The Rules and Regulations of Local Bodies, State Government and the Government of India in respect of Building Services System has to be catered to as applicable, and to the full interest of job requirements. The rates quoted in the Schedules shall be inclusive of all freights, taxes such as Octroi, Sales Tax, Works Contract Tax, Labour Welfare Fund, Royalties, etc. as well as transportation so as to execute the Contract as per Rules and Regulations of Local Bodies, State Government and the Government of India and to the full intent of Tender Documents.

Following shall be deemed to be provided for in the quoted rates :

- (i) Labour, maintenance, fixing, carrying, cleaning, making good, hauling, watering, etc.
- (ii) Plant, double scaffolding, frame work, English ladders, ropes, nails, spikes, tools, material and workman like protection from weather, shuttering, temporary supports, plant for and maintenance of the same.
- (iii) Covering for the walling and other works during inclement weather or striked or whenever directed, as necessary.
- (iv) All temporary canvass, lights, tarpaulin, barricades, water sheets, etc.
- (v) All stairs and steps, thresholds and any other requisite protection of the works.

(vi) All such temporary weather-proof sheds at such places and in a manner approved by the Employer for the storage and protection of materials against the effects of Sun or Rain.

(vii) All such temporary fences, guards, approaches and roads as may be necessary for execution of the Contract works and for safeguarding the public / workmen.

(viii) All necessary plant, welding machines, and all such appurtenant accessories, hoists, scaffolding, tackles, cartage, labour and removal of the same on the completion of the work. The Employer will be the sole judge in deciding as to the suitability of the tools and plants that may be brought at the works by the Contractor for the proper execution of the work.

(ix) Testing the installations, as often as necessary. Necessary stoppers, screws, plugs, hose, etc. must be provided for. These shall be taken out and relaid at the Contractor's expense. Suitable testing equipment required for the purpose shall be procured by the Contractor and kept at site for the duration of the job.

(x) Every pipe, device, valve and fittings used in Hydromechanical system shall be capable of withstanding a pressure of 100 p.s.i. in excess of the pressure designed in the system, but in no case less than 150 p.s.i. gauge pressure.

(xi) Painting pipes, fittings and accessories with approved primer and necessary coats of paint of approved make as per Specifications to the colour code prescribed.

(xii) Apportionment of cost for general facilities to be used by the Contractor's staff such as Lifts / Electricity / Telephone, etc. during erection, due to the General Contractor or to Employer who arranges for such facilities in the first instance.

(xiii) Fees for testing the materials by appropriate authorities.

(xiv) All civil work connected with installation of equipment, cabling, piping, etc.

(xv) Numbering the installation as directed.

(xvi) Arranging inspection by Statutory Authorities and obtaining approval for operation.

The rate quoted by the tenderer in the Schedule of Probable Quantities will be deemed to be for the finished work inclusive of the list of providing the above items.

#### **4. TEST REPORTS:**

Employer is given test results for all materials as per BIS Codes. It will not be the Employer's duty to ask for the same. It will be mandatory for Contractor's Engineer to give the requisite reports without being asked for to do so.

## **5. SCHEDULE OF QUANTITIES - NO CLAIM BECAUSE ACTUAL**

### **QUANTITIES DIFFER FROM PRELIMINARY STATEMENT**

A Schedule of Probable Quantities in respect of work and Specifications accompany these conditions. The Schedule of Probable Quantities is liable to alterations by omissions, deductions or additions at the discretion of the Employer.

The quantities of the various kind of work to be done and materials to be furnished under this Contract which have been estimated and are set forth in the proposal or the Agreement or the lists of Contract Prices, are the best available, but may not be accurate in any or all particulars and are only for the purpose of comparing on a uniform basis the bids offered for the work under this Contract. The Contractor agrees that the Employer or any of the employees or agents hereof shall not be held responsible if any of the said estimated quantities shall be found to be not even approximately correct in the construction of the works and that he will not any time dispute or complain of such statement nor assert that there was any misunderstanding in regard to the character, size and type of work to be done or the kind or amount of the materials to be furnished or work to be done. Further, the Contractor shall make no claim for anticipated profits, for loss of profits or for damages because no work is ordered under certain items or because of differences between the quantities of the various kinds of work to be done or materials actually delivered and the estimated quantities set forth by the Employer.

### **6. EQUIPMENT FOUNDATIONS, SUPPORT AND SLEEVES :**

All detailed design and load, the vibration factor and speed of rotation, etc. of the equipment ordered by the Contractor shall be furnished by the Contractor along with detailed working drawings to get the concurrence of the Employer prior to commencement of work.

All openings required for placing the equipment in position and specific facilities proposed for erection, of these shall be furnished for eliciting the Employer's views.

Timely placement of supports, rag bolts, pipe sleeves, etc. in position to suit the facilities planned by him have to be arranged as necessary in the interest of structural / water proofing efficiency.

### **7. ACCESS FOR INSPECTION :**

The Contractor is to provide at all times during the progress of the works and the maintenance period proper means of access, ladders, gangways, etc. and the necessary attendants to move and adjust the same as directed for the inspection or measurement of the works by the Employer or his representatives.

## **8. DIMENSIONS:**

Figured dimensions are in all cases to be followed and in no case should they be scaled. Large scale details take precedence over small scale drawings, in case of discrepancy, the Contractor is to ask for clarification before proceeding with the work.

## **9. PROGRAMME OF WORK:**

The Bidder shall, along with his bid, submit a Schedule for Completion of Work, either in the form of a CPM Net Work or in the form of a Bar Chart, showing how he proposes to complete the works. This programme shall be prepared in sufficient detail and shall indicate, among other things, the following details on a month-to-month basis (for each month).

- (i) Quantum of work under each major item of work that would be carried out.
- (ii) Amount of resources that would be deployed (e.g. skilled / unskilled labour, carpenters, masons, fitters, electricians, welders, equipment, etc.)
- (iii) Schedule of Delivery of Materials to site.
- (iv) Approximate value of work contemplated to be completed each month.
- (v) Schedule and manner in which details or materials (to be issued by the Employer) are required from the Employer.
- (vi) Time period allowed for other agencies' work.
- (vii) Various milestones to be achieved.

The successful tenderer shall supply the following information to the Employer so as to suit the overall scheme of the completion of the project in its entirety.

- (a) A complete set of installation drawings clearly covering the scope of Contractor's work.
- (b) Certified Drawings and Test Reports and Manufacturer's Certificates / ISI Certificates, material and equipment before dispatch to site. The data must also include the actual dimensions / material specifications test pressures and actual performance figures, weight, etc.

This programme, suitably amended after discussions with the Employer shall become binding on the Contractor. However, during the execution of the project, should it become necessary, in the opinion of the Employer to reschedule some of the activities, the Contractor shall do so at no extra cost and / or without any other claim.

Acceptance of a bidder's Tender does not necessarily imply acceptance of the Schedule submitted and the Employer reserves the right to modify / amend this Schedule to suit the overall project schedule and the Contractor shall adhere to these revisions / modifications at no extra cost of the Employer.

**10. TESTING OF WORKS AND MATERIALS AND PREPARATION OF SAMPLES:**

The Contractor shall arrange to test materials and / or portions of the works as instructed by Employer to ISI Standards at his own cost, in order to prove their soundness and efficiency. If after any such test, the work or portions of the works are found to be defective or unsound, the Contractor shall pull down and re-erect the same at his own cost.

Samples of various materials shall be submitted by the Contractor to the Employer for approval and only after the approval is accorded shall the materials be ordered and procured. If the Employer so desires, the Contractor shall, at his own cost, prepare samples to indicate the workmanship on various items and effect of use of different materials. All technical specifications and test reports pertaining to the equipment and fixtures offered and proposed to be installed shall be lodged in triplicate with the Employer and shall conform to duty and rating specified by Rules, Regulations of authorities and codes of practice for respective installations.

**11. NOTICES:**

The Contractor shall give all Notices and pay all fees, charges, royalties which may be levied / leviable by Collector or any other Authority and shall comply with all Acts and Regulations of Local Authorities and Statutory Bodies for the successful completion of the Contract works.

**12. MUNICIPAL AND STATUTORY REGULATIONS :**

The whole of the work is to comply with the requirements and bye-laws of the concerned Municipal Corporation and other Local Bodies / Local Authorities.

The sole responsibility of installation and commissioning of the entire work totally to meet the requirements of the various Authorities whose approvals are necessary shall rest with the Contractor. The Contractor shall also arrange to obtain necessary approval to the system proposed and the required Certificates of Completion to meet the overall Schedule of the project.

Any discrepancy arising out of incomplete or ambiguous description or omissions in the tenderer's offer shall be suitably supplemented in keeping with the Rules and Regulations of local approving authorities bye-laws and will form part of the Contract Price.

The Contractor may indicate at the time of submitting his offer the specific requirements or practice adopted by the local authorities where the work is to be executed which needs the attention of the Employer and steps to ensure that the installations meet with the requirements of all Government, Quasi

Government, Semi Government, Telephone Department and all other authorities whose permissions may be necessary for the completion of the entire installation.

The tenderer must indicate clearly those items that are not in accordance with the local authorities requirements and revisions demanded by the authorities in similar installations, executed by them elsewhere.

**13. MEASUREMENT TO BE RECORDED BEFORE WORK IS COVERED UP:**

The Contractor shall take joint measurements with the Employer before covering up or otherwise placing beyond the reach of measurement for any items of work. Should the Contractor neglect to do so, the same shall be uncovered at the Contractor's expense or in default thereof, no payment or allowance shall be made for such work or the materials with which the same was executed. One qualified Engineer shall be kept by the Contractor exclusively for billing purposes.

**14. WORK AT NIGHT :**

If the Contractor is required to work at night in order to complete the work within the Time Schedule, the Contractor shall provide and maintain at his own cost sufficient lights to enable the work to proceed satisfactorily without danger. Approaches to the site also shall be sufficiently lighted by the Contractor. No extra payments will be made for night work. Prior intimation and approval should also be taken from Employer.

**15. WORK ON HOLIDAY :**

No work shall be done on Sunday or other holidays that may be specified by the Employer without the specific sanction in writing of the Employer.

**16. ACTION WHERE THERE IS NO SPECIFICATION:**

In the case of any class of work for which there is no Specifications mentioned, the same shall be carried out in accordance with the Indian Standard Specifications subject to the approval of the Employer.

**17. REPORTING OF ACCIDENTS TO LABOUR:**

The Contractor shall be responsible for the safety of persons employed by him on the works and shall report serious accidents to any of them, however, and wherever occurring on the works, to the Employer. This shall be without prejudice to the responsibility and liability of the Contractor under the Insurance Clause of the General Conditions.

**18. CLEARING THE SITE OF WORKS:**

The Contractor shall clear site of works as per the instructions and the works shall be cleared of all men, materials, sheds, etc. belonging to the Contractor. The site shall be delivered in a clean and neat condition as required by the Employer within a period of one week after the job is completed. In case of failure by the Contractor, the Employer to get the site cleared at the risk and cost of the Contractor.

**19. TYPOGRAPHICAL OR CLERICAL ERRORS :**

The Employer's interpretation regarding partially omitted particulars or typographical or clerical errors shall be final and binding on the Contractor.

**20. INFORMATION TO BE SUPPLIED BY THE CONTRACTOR :**

The Contractor shall furnish the Bank the following:

- (i) Detailed industrial statistics regarding the labour employed by him, etc.
- (ii) The Power of Attorney, name and signature of his authorised representative who will be in charge for the execution of the work.
- (iii) A list of technically qualified persons employed by him for the execution of the work.
- (iv) The total quantity and quality of materials used for the work.
- (v) Electrical load requirements for equipments, their power factor and arrangements for correction to limits within the local supply agency's requirements.
- (vi) Weight of the equipment, distribution point loads, live loads for suspension or fixing in respective location.
- (vii) Safety features incorporated.
- (viii) Automatic start / out off, visual and / or audio visual devices to indicate healthy and faulty situations, proposed for respective control areas to meet emergencies, and suitable to co-ordinate with Building Automation Work.
- (ix) Description and specifications for any additional item suggested and indication of the quantity and unit rate to evaluate additional cost.
- (x) Technical details of following equipments which he proposes to offer in the Tender:
  - (a) Generator Noise Level

- (b) Ventilation Requirement / Airchanges Per Hour for the Room
- (c) Foundation details and Special Vibration Isolators
- (d) Physical Dimensions and Service Clearance
- (e) Fuel Oil Specification
- (f) Lubricating Oil Specification, etc.

**21. WAGES OF LABOUR EMPLOYED BY THE CONTRACTOR:**

The Contractor shall pay all labour employed by him at rates fixed by him at the commencement of the Contract as per Labour Laws. Wages, as applicable, for the construction work as per norms stipulated for Government of Uttar Pradesh shall be followed by the Contractor. No violation of such Statutory Laws and Rules shall be permissible. This will also include the minimum and the maximum allowable wages for various categories of labour to be employed by the Contractor.

All wages shall be paid in full and without any deduction whatsoever at the approved rates and for full time actually worked during the wage period. They shall have power to exercise supervision over the labour employed by the Contractor, and for such other purpose any of these officers may inspect the wage books, muster books and other labour records of the Contractor. In the event of the report of the Inspecting Officer showing that the proper rates of wages are not being paid, or that in any manner whatsoever the dealings between the Contractor and his labour are not satisfactory, the Officer shall pass such orders upon the report as he considers desirable, and those orders shall be final and binding upon the Contractor. The Contractor shall indemnify and keep indemnified the Employer against any claim arising from failures of the Contractor to comply with such Labour Laws.

**22. EXTRA ITEMS / DEVIATIONS :**

The Contractor shall not commence work in respect of any extra items / deviations without obtaining the approval of the Employer in writing. The Contractor shall immediately submit the rate analysis of such item, with necessary details to support the rate quoted. The rate shall then be settled by the Employer and necessary certificate based on this shall be given to Employer while incorporating the item in the Interim Bills.

**23. INSURANCE POLICIES:**

The Contractor shall not commence any work at site, until all the Insurance Policies, as required in terms of the General Conditions of Contract, have been submitted to the Employer. Renewal of the same, if required, due to extension of time for completion or similar reasons is also the responsibility of the Contractor.

Notwithstanding anything to the contrary mentioned in the Contract, Contractors have to submit all Insurance Policies to the Employer directly to make the Employer satisfy themselves regarding adequacy of values of Insurance, validity, etc. as per Contractual Clauses.

The Contractor shall arrange for renewals on their own. Any omissions to do so or delay in non-receipt of such information will be no excuse for failure to renew them or keep them in force without a break.

**24. INDEBTEDNESS AND LIENS:**

The Contractor agrees to furnish the Employer from time to time during the progress of the work as requested, verified statements showing the Contractor's total outstanding indebtedness in connection with the work covered by the Contract.

Before final payment is made, the Employer may require the Contractor to furnish the Employer with satisfactory proof that there are no outstanding debts or liens in connection with the Contract. If during the progress of the work, the Contractor shall allow any indebtedness to accrue to Sub Contractors or others and shall fail to pay or discharge same within five (5) days after demand, the Employer may withhold any money due to the Contractor until such indebtedness is paid, or apply the same towards the discharge thereof.

**25. INDEPENDENT CONTRACTOR:**

The Contractor agrees to perform this Contract as an Independent Contractor and not as a Sub Contractor, Agent or Employee of the Employer or another agency.

**26. WORK PERFORMED AT CONTRACTOR'S RISK:**

The Contractor shall take all precautions necessary and shall be responsible for the safety of the work and shall maintain all lights, guards, signs, temporary passages, or other protection necessary for the purpose. All work shall be done at the Contractor's risk and if any loss or damage shall result from fire or from other causes, the Contractor shall promptly repair or replace such loss or damage free from all expenses to the Employer. The Contractor shall be responsible for any loss or damage to materials, tools or other articles used or held for use in connection with the work. The work shall be carried on and completed without damage to any work or property of the Employer or of others and without interference with the operation of existing machinery or equipment, if any.

The Contract shall vouch-safe bonafides, conduct and fidelity of the staff employed by him, Sub Contractors and Agents. Any damage caused willfully or in negligence to the works executed by him or other Agencies shall be borne by him.

Additional cost, if any, to set right such damages to ensure guaranteed performance shall be borne by him.

The Sub Contractor selected for portion of specialist trade such as Electrical / Plumbing / Compressed Air / Steam or Boiler Installation / Process Piping, etc. shall be on the approved list of Licensed Contractors of the local body and other authorities in whose jurisdiction the project has to be executed.

**27. MATERIALS SUPPLIED BY THE EMPLOYER :**

If any materials supplied by the Employer, the Contractors must satisfy themselves that the same conform to the Specifications. If the Contractors have any complaint, about the said materials or the quality thereof, the Contractor before using the said materials in writing shall indicate their objection to the Employer. Should the Contractors fail to do so, they will be deemed to have satisfied themselves as to the quality and the suitability of the said materials for being used in the Contract works and the Contractors will be in the same position as if the Contractors themselves had purchased the said materials.

**28. APPOINTMENT OF ENGINEERS :**

The Contractor shall appoint at the site a Senior graduate experienced Engineer and shall continue him in such appointment for three months after the grant of the Virtual Completion Certificate to him. The Employer shall be entitled to approve or disapprove without assigning reasons the appointment of such Engineer proposed by the Contractor. This condition shall be reckoned as being the essence of the Contract and its breach. He shall be assisted by a number of other Engineers and Supervisors in the respective disciplines as required for the smooth and satisfactory execution of the work.

The Engineer so appointed shall co-ordinate the execution of the work by Contractors of other trades in general and shall perform the following functions in particular.

(i)The Senior Engineer-in-Charge of co-ordination, shall be responsible for providing all the necessary support, required to be given by the Main Civil Works Contractor by virtue of the Contract, to the Commissioning Engineers pressed into service by the various Services Contractors for the purpose of commissioning and testing of their respective services.

(ii)The Senior Engineer shall have adequate knowledge about the various services involved in the job, to appreciate the importance of various interface activities to be performed by the Main Civil Work Contractor in the desired sequence so as not to hold up the work of the Services Contractors as regards commissioning and testing of their respective services.

(iii)The Senior Engineer should preferably have past experience of shouldering similar responsibilities to appreciate the importance of this final critical phase of the project where utmost co-ordination is required for cutting down the delays in successful commissioning of the entire facility.

**29. CONSTRUCTION DRAWINGS :**

The successful tenderer shall prepare drawings for the installation purpose, on receiving the Letter of Intent. Apart from clarifications sought during the periodic visits to site by the Employer's representative, the successful tenderer shall obtain all clarifications on the drawings from Employer's office in Lucknow.

**30. COMPLETION DRAWINGS / ACCEPTANCE OF INSTALLATIONS :**

The Contractor shall furnish three sets of drawings "As Erected" and approved by different statutory authorities in accepting the work in its entirety and completion.

The Contractor shall submit the written acceptance of the installation by the different statutory authorities in respect of the different components of the installation and commission the system in the presence of the representatives of the Employer before asking for the Virtual Completion Certificate.

**31. KEEPING THE AREAS AND ACCESS ROADS CLEAN:**

The Contractor shall be required to maintain the site and the building areas in a neat and clean condition at all times to the satisfaction of the Employer. The Contractor shall especially take care to keep areas free from getting water logged, from concrete / mortar drippings, bricks, steel, shuttering materials or any other material / rubbish.

The Contractor shall also be required to maintain all access roads to the site and within the site and keep them free from all obstructions, material dropping, etc. to the satisfaction of the Employer and local authorities.

**32. ELECTRICAL LOAD :**

Within two months from the date on which the Tender of the Contractor is accepted absolutely and unconditionally, the Contractor selected for specific service in the project shall estimate the electrical energy and details as will be required to operate the plant for work agreed hereby to be made for execution by him, shall communicate his load to the Employer/Agency executing the electrification work at the same site. Any variation in such load made from time to time in the course of execution of the contract work shall be communicated alike to the Employer.

**33. TERMS OF PAYMENT :**

(a)60% of the Contract value on pro-rata against delivery of materials at site, less Retention Money.

(b)20% of the Contract value on pro-rata on erection less Retention Money.

(c)10% of the Contract value on pro-rata basis, on testing and commissioning less Retention Money.

(d)Balance 10% of the work done less Retention Money, on obtaining Certificates from all concerned Authorities. The dates of issue of such Certificates will be treated as the date of Virtual Completion.

(e)All the above payments are subject to deduction of all taxes e.g. income tax, work/sale tax, govt levies etc. at the rates being in force.

#### **34. CERTIFICATE FOR PAYMENT TO CONTRACTOR :**

The Contractor's bills will be submitted to Employer for payment as per Bill Proforma enclosed for Interim Bill Certificate and Final Certificate.

#### **35. INDIAN STANDARD CODE :**

The relevant B.I.S. Code of Practice shall be the latest version with its amendments / revisions. The Contractor shall keep and maintain copies of the latest editions of relevant I.S. Codes at the work site and make it available to Employer when required.

#### **36. ARBITRATION :**

If any dispute, difference or question shall at any time arise between the parties as to the construction of this Agreement or concerning anything or as to the rights, liabilities and duties of the parties hereunder, except in respect of matters for which it is provided hereunder that the decision of the Employer or its Chief Engineer is final and binding, the same shall be referred to conciliation or arbitration after giving atleast 30 days' notice in writing to the other (hereinafter referred to as the 'Notice for Conciliation / Arbitration') clearly setting out the items of dispute to a Conciliator or the Sole Arbitrator who shall be appointed as hereinafter provided for the purpose of appointing the Conciliator or the Sole Arbitrator referred above. The Employer shall send to the Contractor, within thirty days of the 'Notice of Conciliation / Arbitration', a panel of three names of persons who shall be presently unconnected with the organisation of the Employer or the Contractors.

The Contractor shall on receipt of the names as aforesaid, select any one of the persons so named to be appointed as the Conciliator or Sole Arbitrator, as the case may be, and communicate his name to the Employer within fifteen days of receipt of the names. The Employer shall thereupon without any delay appoint the said person as the Conciliator or the Sole Arbitrator.

If the Employer fails to send to the Contractors the panel or three names as aforesaid within the period specified, the Contractor shall send to the Employer a panel of three names of persons who shall be unconnected with either party. The Employer shall on receipt of the names as aforesaid, select any one of the persons name and appoint him as the Conciliator or the Sole Arbitrator. If the Employer fails to select the person and appoint him as the Conciliator or the Sole Arbitrator within thirty days of receipt of the panel and inform the Contractor accordingly, the Contractor shall be entitled to appoint one of the persons from the panel as the Conciliator or the Sole Arbitrator and communicate his name to the Employer.

If the person so appointed is unable or unwilling to act or refuses his appointment or vacates his Office due to any reason whatsoever, another person shall be appointed as aforesaid.

The conciliation / arbitration shall be governed by the Conciliation and Arbitration Act, 1996 as in force from time to time. Where the parties do not agree with the Conciliator and appoint an Arbitrator (s), the award of the Arbitrator (s) shall be final and binding on the parties. It is hereby agreed that in all disputes referred to Arbitration, the Arbitrator shall give a separate award in respect of each dispute or difference in accordance with the terms of the reference and the award shall be a reasoned award.

The fees, if any, of the Conciliator or the Arbitrator shall, initially be paid in equal proportion by each of the parties. The cost of the conciliation / arbitration including the fees, if any, of the Conciliator or the Arbitrator, shall be directed to be finally borne and paid by such party or parties to the dispute, in such manner or proportion as may be directed by the Conciliator or the Arbitrator as the case may be in the award.

The Employer and the Contractors also hereby agree that the arbitration under this Clause shall be a condition precedent to any right to action under the Contract with regard to the matters hereby expressly agreed to be so referred to arbitration.

**37. WORK TO BE CONTINUED DURING THE PENDENCY OF THE ARBITRATION :**

The Contractor shall continue with the construction works with due diligence and speed so as to complete the same within the period agreed upon, notwithstanding any dispute or difference or question is referred to arbitration. The works shall not be delayed on account of any such reference made to the Arbitrators.

**38. LIEN ON SUMS PAYABLE TO THE CONTRACTORS :**

Any sums of amount due and payable to the Contractor including any deposits returnable to them under this Contract may be withheld or retained by the Employer, against any claim of the Employer against the Contractor in respect of any sums of amount due under this Contract or any other Contract made by the Contractor with the Employer, but limited to the amount of Employer's claim. The amount so withheld will be kept withheld or retained as such by the Employer until appropriated towards such claim. The Contractor shall not be entitled to claim any interest or damages whatsoever on such retained or appropriated sum.

**39. ADDRESS FOR SERVICE :**

All letters and Notices under or pursuant to these presents shall be hand delivered against acknowledgement or sent by Registered Post with Acknowledgement Due at the respective addresses mentioned below. Any change in the address shall be duly intimated by the concerned party to all others.

**1. Address of Employer :**

THE CHIEF GENERAL MANAGER  
NATIONAL BANK FOR AGRICULTURE AND RURAL DEVELOPMENT  
REGIONAL OFFICE, 11, VIPIN KHAND, GOMTI NAGAR,  
LUCKNOW

**2. Address of Chief General Manager, Premises Department, NABARD, HO :**

The Chief General Manager  
Premises Department  
National Bank for Agriculture and Rural Development  
Plot No.C-24, 'G' Block, 2<sup>nd</sup> Floor, 'B' Wing, Bandra-Kurla Complex  
Post Box No.8121, Bandra (East), Mumbai : 400 051

**40. INSPECTION BY THE CHIEF TECHNICAL EXAMINER (VIGILANCE) :**

The proposed work covered under this Tender during its progress or after completion of work including all records, registers, etc. can be inspected by the Chief Technical Examiner / Technical Examiner or by an Officer of the Vigilance Cell of the Authority on behalf of the Employer.

The Contractor shall afford all reasonable facilities to the above vigilance staff as also provide them with all tools such as ladders, tapes, plumb bob, level bottle, chisel and hammer, etc. as also necessary labour, skilled / unskilled, to complete their inspection / study / technical scrutiny to ascertain that execution of work has been done with materials and workmanship as stipulated in the Contract and no extra shall be admissible to the Contractor on this account.

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(Contractor's Signature)

## ANNEXURE - IV

### SAFETY CODE

i) Suitable scaffolds shall be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except in the case of short duration work which can be done safely from ladders. When a ladder is used, it shall be of rigid construction made either of good quality wood or steel. The steps shall have a minimum width of 450 mm and a maximum rise of 300 mm. Suitable hand holds of good quality wood or steel shall be provided and the ladder shall be given an inclination not steeper than  $\frac{1}{4}$  to 1 ( $\frac{1}{4}$  horizontal to 1 vertical).

ii) Scaffolding or staging more than 4 m above the ground floor swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly bolted, braced or otherwise secured, at least one meter (1 m) above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be fastened to prevent it from swaying from the building or structure.

iii) Working platforms, gangways and stairway shall be so constructed that they do not sag unduly or unequally and if the height of the platform, gangway or stairway is more than four meter (4 m) above ground level or floor level, they shall be closely boarded and shall have adequate width and be suitably fenced as described in (ii) above.

iv) Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be one meter (1 m).

v) Wherever there are open excavations in ground, they shall be fenced off by suitable railing and danger signals installed at night so as to prevent persons slipping into excavations.

Safe means of access shall be provided to all working places. Every ladder shall be securely fixed. No portable single ladder shall be over nine meter (9 m) in length while the width between said rails in rung ladder shall in no case be less than 290 mm for ladder upto and including three meter (3 m) in length. For longer ladders this width shall be increased at least 20 mm for each additional meter length.

### OTHER SAFETY MEASURES:

vii) All personnel of the Contractor within the plant site shall be provided with safety helmets. All welders shall wear welding goggles while doing welding work and all metal workers shall be provided with safety gloves. Persons employed on metal cutting and grinding shall wear safety glasses.

viii) Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or the public.

#### **EXCAVATION AND TRENCHING :**

The Contractor shall take all measures on the site of the work to protect the public from accidents and shall be bound to bear the expenses of defense of every suit, action or other proceedings at law that may be brought by any persons for injury sustained owing to neglect of the above precautions and to pay any such persons which may be with the consent of the Contractor, be paid to compensate any claim by any such person.

#### **DEMOLITION :**

vii) 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 electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by the operator shall remain electrically charged.

c. All practical steps shall be taken to prevent danger to persons employed, from the risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.

#### **PERSONAL SAFETY EQUIPMENTS :**

xii) All necessary personal safety equipment as considered adequate by the Employer 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.

a) Workers employed on mixing asphaltic materials, cement and lime mortar shall be provided with protective footwear and protective goggles.

b) Those engaged in white washing and mixing or stacking of cement bags or any materials which is injurious to the eyes shall be provided with protective goggles.

c) Those engaged in welding works shall be provided with welder's protective eyesight lids.

d) Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.

e) When workers are employed in sewers and manholes which are in use, the Contractor shall ensure that the manhole covers are opened and are ventilated at least for an hour before the workers are allowed to get into manholes and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public.

f) The Contractor shall not employ men below the age of 18 years and women, on the work of painting with products containing lead in any form. Whenever men above the age of 18 are employed on the work of lead painting, the following precautions should be taken.

1) No paint containing lead or lead products shall be used except in the form of paste or ready-made paint.

2) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scraped.

3) Overalls shall be supplied by the Contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of the work.

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

#### **HOISTING MACHINES:**

xii) Use of hoisting machines and tackle including their attachments anchorage and supports shall conform to the following standards or conditions :

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

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

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

d) In case of every hoisting machine and of every chain ring hook, shackle, showel and pulley block used in hoisting or as means of suspension the safe working load shall be ascertained by adequate means. Every

hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.

e) Contractor shall ensure and follow all safety codes in the construction of such type of works being executed or intended for.

xiii)Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with such means as well as reduce to the minimum, the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energised, 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 material which are good conductors of electricity.

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

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

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

xvii)To ensure effective enforcement of the Rules and Regulations relating to safety precautions, the arrangements made by the Contractor shall be open to inspection by the Labour Officer, Engineers of the Department or their representatives.

xviii)Notwithstanding the above Clauses from (i) to (xix) there is nothing in these to exempt the Contractor from the operations of any other Act or Rules in force in the Republic of India.



### **SCHEDULE OF PROPOSED SITE ORGANISATION**

The tenderer is to indicate here the proposed site organisation he proposes to set up for execution of the work. It is understood that this will be augmented from time to time depending on the requirements for timely completion of work as directed by the Employer.

### **BIO-DATA OF SITE-IN-CHARGE AND KEY PERSONNELS**

Signature of Tenderer







## ANNEXURE - VI

### TECHNICAL SPECIFICATIONS

#### 1. EXTENT OF WORK:

The work of supply, installation, testing and commissioning of Generator Set shall cover the following, subject to requirements specified vide Bill of Quantities (BOQ) :

- (a) Diesel Generator Set of capacity as specified in BOQ, mounted on common bed plate complete with all accessories.
- (b) Piping required for lub oil system, engine cooling system and exhaust piping.
- (c) Flexible connections, if any, to be inserted in cooling system, lub oil, fuel oil and exhaust piping system.
- (d) Starting equipments.
- (e) Control panel and isolating facility as per BOQ.
- (f) Standard Panel
- (g) Necessary set of vibration isolation mounting as per BOQ.
- (h) Necessary cable work between control panel and the alternator both power and control as per BOQ between Standard panel and emergency / main panel in Substation, as the case may be.
- (i) Minor building work including cutting and making good the same for all clamps, supports, anchor bolts, trenching, groutings, etc.
- (j) Earthing comprising of electrode system and loop earthing, etc. as per BOQ.
- (k) Any other work as specified in BOQ such as provision of fire extinguishers, shock treat chart, rubber mats, danger notice board, liaisoning with concerned authority and getting approvals from these authorities, etc.

#### 2. LOCATION : Site for installation of DG Set -

BIRD Complex, Sector-H, LDA Colony, Kanpur Road, Lucknow - 226012

#### 3. PURCHASER :

Chief General Manager, UP Regional Office, National Bank for Agriculture and Rural Development, 11, Vipin Khand, Gomti Nagar, Lucknow.

#### **4. DESIGN CONDITIONS:**

- (a) Height above MSL : -----
- (b) Maximum Temperature : 50 degree C
- (c) Minimum Temperature : 1 degree C
- (d) Relative Humidity (RH) corresponding : As prevalent in the city of Lucknow at maximum temperature
- (e) Maximum Humidity : As prevalent in the city of Lucknow
- (f) Temperature corresponding to maximum humidity: do
- (g) Alternator, engine, auxiliaries to be designed to have 10% over load for one hour in any period of 12 hours continuous run : Yes

The rating of the Set shall be furnished both at NTP condition and site conditions with detailed derating calculations at site conditions for giving continuous output as specified at the load terminals of alternator exclusive of the power requirements of the auxiliaries. The engine shall have 10% overload capacity for any one hour during a 12 hours continuous run.

#### **5. STANDARDS :**

The entire installation shall be carried out by the Contractor to comply with the requirements of the currently applicable Regulations or Acts in force in the area together with particular reference to the following:

1. Indian Electricity Rules
2. Fire Insurance Regulations
3. Tariff Advisory Committee's Regulations
4. Statutory Regulations
5. Indian Standards Institution's Specifications with particular reference to :
  - (a) IS - 732 Electrical Wiring Installation (System wiring not exceeding 600 Volts)
  - (b) IS - 1554 - Part - I PVC insulated cables for working voltages upto 1100 Volts
  - (c) IS - 3043 Code of Practice for Earthing System
  - (d) IS - 3072 or relevant Code of Practice for Installation of Switchgear

(e) ISO-3046 or BS 5514 Code of Practice for Engine

Nothing in this Specification shall be construed to relieve the Contractor of his responsibility to make the installation comply with requirements of the above.

## **6. DETAILED SPECIFICATION**

### **6.1 ENGINE :**

#### **Engine Details :**

1	Type	:	Turbo charged Multicylinder Diesel, high speed 4 stroke engine
2	Method of Starting	:	Electrical Start, 24 V D.C.
3	Type of Cooling	:	Water filled in radiator air-cooled with forced (Fan) draft
4	Type of Governor	:	Mechanical
5	Type of Fuel	:	High speed diesel (HSD)
6	Type of Lubricating Oil	:	SAE 15W40 LUB oil with API,CH4 / or as recommended by the manufacture

The above engine shall be equipped with the following :

(a) Turbo Charger.

(b) Heavy duty dynamically balanced Flywheel of suitable diameter and weight.

(c) Radiator.

(d) Daily service fuel tank shall be of capacity suitable for 12 hours, continuous operation at full load with necessary M.S. piping upto the Engine and Fuel level gauge. A suitable hand pump with flexible pipe and accessories to fill diesel manually from oil drums to be included in supply.

(e) Fuel and Lubricating Oil Filters :

The fuel line shall be provided with Filters with mechanically operated valves.

(a) Fuel injection equipment.

(b) Residential silencer along with Exhaust air manifold and piping with lagging, expansion joints and necessary supports.

(c) Lubricating oil cooler - pressure lubrication with gear oil pump and accessories.

(d) Electrical starting, equipment such as starter, suitable battery set, battery charger for continuous charging battery.

(e) Speed controlling governor - Mechanical as per manufacture standard practice

- (f) Suitable coupling system to the Alternator
- (g) Tachometer and battery charging meters.
- (h) Water temperature gauge and lubricating oil pressure gauge.
- (i) Counter to indicate the number of hours of operation of the set.
- (j) Auto trip on too low oil pressure and too high water and lubricating oil temperature.
- (k) Overspeed alarm with trip.
- (l) Low oil pressure and high water temperature alarms.
- (m) Any other standard accessories necessary with equipment supplied.
- (n) Radiator cooler with fan, engine or electrical motor driven for 50 degree ambient temperature, with necessary piping, pumps and electrical work.
- (o) Set of maintenance tools
- (p) Engine Instrument Panel consisting of all gauges, meters, push buttons, key for starting and stopping the engine.

**6.2 ENGINE PERFORMANCE :**

1.	Output	Suitable (306) BHP AT 1500 rpm. rated to match the Alternator
2.	Rating	Continuous
3.	Rated Speed	1500 RPM
4.	Time required for starting from cold and taking full load	Between 0 - 20 Seconds
5.	<u>Overload capacity :</u>	10 %
	Overload for one hour at standard operating condition in any period of 12 hours	

**6.3 ALTERNATOR :**

**Alternator Details :**

1.	Type	Self excited and self regulated continuous running duty, brushless type.
2.	Rated output in kVA at 0.8 PF	250 kVA
3.	Voltage	415 V/240 V
4.	Frequency	50 Cycles
5.	No. of Phases	3 - Phase, 4 - Wire, Star connected
6.	Rated Speed	1500 RPM
7.	Method of Cooling	Air Cooled

**6.4 ALTERNATOR PERFORMANCE :**

1.	Overload Capacity	10% Overload 1 Hour 50% Overload 10 seconds
2.	Permissible temperature of winding after continuous run of full load	As per IS 4722 - 1968
3.	Type of excitation regulation	Self excited, self regulated brushless type with automatic voltage regulator
4.	Regulation from No Load to Full Load	Plus/Minus 1.5 %
5.	Frequency Variation	Plus/Minus 1 %
6.	Method of lubrication	Forced lubricated
7.	The Alternator should be able to wrok satisfactorily with unbalanced load without interruption	
8.	Class of Insulation	Suitable for tropical countries shall be Class 'F' or superior for stator / rotor windings
9.	Alternator shall be provided with cable termination box sufficiently large enough to terminate the specified cables. Space heaters can be added if felt necessary.	

## **7. BASE FRAME :**

1. M.S. Channel combination of suitable size and strength to form a common baseplatform to accommodate the Engine and Alternator, rigidly welded construction and complete with anti-vibration pads.

## **8. STANDARD CONTROL PANEL :**

### **Mode of Operation:**

(a) The Engine should start manually by pressing pushbutton at the first impulse, If not, it should start with two further impulses. After giving three impulses, the alarm shall be raised If this also fails to start the Engine, the set shall be locked.

(b) The Generator power and main power at Standard Panel are to be electrically interlocked and operation are controlled through a set of sensors and relays, mimic for faults / operation / test , mains / DGset 'ON' indications, other parameters,acknowledgement / reset. When mains is on DGset can not be started through the standard panel.

(c)Unhealthy Mains may be defined as follows :

(1) Failure of 1, 2 or 3 phases

(2) Undervoltage condition (15% below normal voltage of 415 volts A.C.)

(3) Standard Panel shall stop the DG set after 20 seconds (in 30 seconds increments) on resumption of stabilised healthy main supply.

(5) In the case of an Engine fault, the emergency breaker of the Standard Panel will trip, Engine will stop and respective fault light will indicate on the Panel. The Engine can be restarted only after rectifying the Engine fault and re-setting the fault relay.

Standard Control Panel shall incorporate the following :

All Meters shall be 96 mm x 96 mm size.

1 No. AC Square Voltmeter suitably scaled

1 No. Voltmeter Selector Switch

3 Nos. AC Square Ammeter suitably scaled to measure current in phases

1 No. Energy Meter (kW)

- 1 No. Test Switch for starting the set
- 3 Nos. Current Transformer of suitable ratio
- 1 No. Frequency Meter
- 2 Nos. Signal Lamp indicating Set Running and 'Failure to Start'
- 1 No. Triple Pole, IDMT Overcurrent and Earth fault relay
- 1 No. 400 A rating 4 pole MCCB having 35 kA breaking capacity with overload trip, short circuit trip, earth fault relays, under and over voltage relays, hand operating lever for front operations.
- 1 No. Automatic Voltage Regulator (415 Plus Minus 1.5%)
- 1 No. 24 Volt Shunt Trip
- 1 No. Intellocking Switches
- 1No. 4 pole,240V, contactor with 4NO +4NC contacts

Panel should be fabricated from 14 gauge (not less than 2 mm thick) sheet suitable for floor mounting with incoming and outgoing cable and terminals. Control circuit and outgoing breaker shall be mounted in separate compartment.

#### **9. BATTERY FACILITY :**

- 4. Electrically controlled trickle / boost charging set of 30 volt control supply battery. The charger shall be connected to main supply for continuous charging of the battery.

#### **10. DAY SERVICE TANK :**

Day service tank shall be MS fuel oil storage tank of capacity suitable for 12 hours continuous operation on full load with all accessories such as oil level indicator inlet pipe connection, outlet pipe connection with valve, drain pipe connection, trough to collect spilt oil, air vent pipe, manhole cover, low level and full level and interconnection between tanks and Engine with piping and valves, etc. The tank shall be fabricated from 3 mm thick sheets and duly primer coated and painted from outside only.

#### **11. NOISE LIMITS & AIR POLLUTION :**

Noise limits for D.G.Set revised by Government of India vide GSR 371(E), dated 17 May 2002 (and its amendments), notified under the Environment (Protection) Act, 1986 should be complied with. The noise limit should not exceed 75dB(A) at one metre and the DG Set should be provided with an integral acoustic

enclosure. Type approval certificate for integral acoustic enclosure from one of the five agencies, viz., Automotive Research Association of India, Pune; National Physical Laboratory, New Delhi; Naval Science & Technology Laboratory, Vishakhapatnam; Fluid Control Research Institute, Palghat; and National Physical Laboratory, Bangalore, should be made available:

D.G. Set provided should be acceptable to the Air Pollution Authorities to meet with the norms prescribed by them for ambient air quality and has to be run with HSD (High Speed Diesel) as fuel.

**12. 24 VOLTS D.C. BATTERIES FOR ENGINE STARTING :**

24 Volts Lead Acid Battery Bank comprising of standard lead acid batteries consisting of required cell of each 2 Volts to have 80 A.H. capacity at one hour rate of discharge to an end Voltage of 1.85 Volts per cell of 2 Volts, supplied complete with inner cell connectors and wooden stand. The battery cell shall conform to IS : 1651 as amended to date. The battery bank should be complete with PVC flexible copper wire as required with control solenoid switch. This battery set supply should not be used for any other controls. Suitable battery charger with trickle and boost charger shall be provided.

**13. TECHNICAL DATA REQUIRED WITH QUOTATION :**

1. Engine Cooling Requirements :

- (a) Cooling water flow rate entering the radiator
- (b) Temperature of cooling water entering and leaving radiator

2. General Noise Level :

- (a) Band Analysis of machine generated noise at 1 metre. from the machine.
- (b) *Maximum specified noise level at 1 meter shall be 75 dB.*

3. Noise at Fuel Outlet :

Band analysis of noise at fuel outlet at 1 meter and 5 meters from the fuel outlet using standard residential silencers.

4. Ventilation Requirements :

- (a) Air flow required for combustion
- (b) Recommendation for air changes / hour for Generator room ventilation.

5. Foundation details and special vibration isolators details for maximum vibration isolations.

6. Physical dimensions and service clearances

7. Fuel oil specifications and oil consumption per hour at full, half and quarter load

8. Lubricating oil specifications and oil consumption

9. First filling of lubricating oil and diesel oil to give 8 hours heat run test after installation of the set and including the arrangement of artificial roads with all necessary cables/ wires etc by its for the test, if the test is practically not possible at site it can be conducted at manufacturer works.

#### **14. SPECIFICATION OF MATERIALS :**

##### **i. Exhaust Silencer Piping :**

Supply and installation of diesel exhaust piping as required. MS pipe 'C' class of 150 dia. of best quality conforming to relevant Indian Standards be used for connecting Engine exhaust to silencer as required, 16 mm thick MS flanges shall be used for exhaust piping system. Flanges shall be welded to the pipe. MS readymade bends, elbows shall be used. Asbestos packing shall be provided between the flanged joints. Necessary pipe supports, shall be provided as required. Exhaust pipe inside the building shall be lagged with 25 mm dia. Asbestos rope and suitably bounded with Asbestos cloth/ glass work and clad with Aluminium sheets to give a neat appearance. Exhaust piping will meet UPPCB/CPCB rules and their requirement.

##### **ii. Water Piping and Oil Piping :**

Water piping from engine to radiator shall be of GI medium class pipes. Fuel oil piping from day tank to engine MS pipe and lubricating oil piping from engine to lub oil cooler shall be of copper.

##### **iii. Wiring :**

Providing conduits and drawing wire for the following :

(a) Control wiring between D.G. Set and the Main Distribution LT Panel with 4 x 2.5 sq.mm copper conductor or PVC insulated, armoured cable and engine to standard panel with 4 x 2.5 sq.mm cable of above specification.

(b) All wiring associated with D.G. Supply.

(c) All earthing conductors and earthing stations associated with this installation.

All wires and cables shall be PVC insulated copper conductor wires and cables suitable for 1100 volts, minimum size of wires for control wiring shall be of 2.5 sq.mm.

**iv. Cables :**

(a) Materials :

M.V. cables shall be PVC insulated Aluminium conductor armoured cable, laid in trenches. M.V. cables shall be as per list of approved makes.

(b) Joints in Cables :

The Contractor shall take care to see that all the cables received at site are apportioned to various locations in such a manner as to ensure maximum utilisation and avoidance of jointing cables. Straight joints are prohibited.

(c) Jointing Boxes for Cables :

Cable jointing boxes shall be of appropriate size, suitable for PVC insulated Aluminium conductor armoured / unarmoured cable of particular voltage rating and shall be as per list of approved makes.

(d) Jointing Cables :

All cable joints shall be made in suitable approved cable joint boxes. Jointing of cables in the joint boxes and the filling in compound, if required, shall be done in accordance with the best practice in trade, in accordance with manufacturer's instructions and in an approved manner. All the jointing accessories shall also be manufactured by Indian Cable Company / CCI.

All cables shall be joined colour to colour and tested for continuity and insulation resistance before jointing commences.

The seals of cables must not be removed until preparations of jointing are completed. Joints shall be finished on the same day and sufficient protection from weather shall be arranged. Joints shall be made by means of suitable crimping lugs. The conductors shall be efficiently insulated with high voltage insulating tape and use of spreaders of approved size and pattern.

(e) Cable Termination :

Cable termination shall be done in terminal cable box using cable glands and the cable needs duly crimped.

(f) Bending of Cables :

Where a cable enters any piece of apparatus, it shall be connected to the casing by means of an approved clamp and glands. The clamps must grip the armouring firmly to the glands or casing so that in the event of ground movement, no undue stress is passed into the cable conductors.

(g) Connections of Earthing Conductor:

Main earthing conductor shall be taken from the earth connections at the main control panels to an earth electrode with which the connections is to be made. Other earthing conductors shall run from the control panel to the individual equipment. Cable sheathing and armouring shall be earthed at the ends adjacent to control at which they originate or otherwise at the commencement of the run by an earthing conductor in effective electrical contact with cable sheathing. Where equipments is connected by flexible cord, all exposed metal parts of the equipment shall be earthed by means of an earthing conductor enclosed with the current carrying conductor within the flexible cord, switches, accessories, lighting, fitting, etc., which are rigidly secured in effective electrical contact with run of metallic conduit which shall not be considered as a part of earthing conductor for earthing purpose, even through the run of metallic conduit is earthed.

(h) Prohibited Connections :

Neutral conductor, sprinkler pipes or pipes conveying gas, water on inflammable liquid, structural steel work, metallic enclosures or cables and conductors, metallic conduits and lightning protection system conductors shall not be used as a means of earthing any installation or even as a link in an earthing system. The electrical resistance of metallic enclosures for cables and conductors measured between earth connection at the main switch board and any other point of the completed installation shall be enough to permit the passage of current necessary to operate fuse or circuit breakers and shall not exceed 1 ohm.

(i) Protection from Corrosion :

Connections between copper and galvanised equipment shall be made on a vertical face and given protection with paint and grease. Galvanised fixing clamps shall not be used for fixing earth conductors. Only copper fixing clamps shall be used for fixing earth conductors. When there is evidence that the soil is aggressive to copper, buried earthing conductors shall be protected by suitable serving sheathing.

(j) Earth Connections :

All metal clad switches and other equipment carrying single phase current, shall be connected to earth by single connections. All metal clad switches carrying three phase current shall be connected with earth by two separate and distinct connections. The earthing conductors inside the building wherever exposed shall be properly protected from mechanical injury by running the same in G.I. pipe of adequate size.

Earthing conductor outside the building shall be laid 600 mm below the finished ground level. The overlapping in copper strips at joints where required shall be minimum 75 mm. The joints shall be riveted with copper rivets or brazed in approved manner. Crimped socket of adequate capacity and size shall be

used for all termination of conductor wires above 6 sq.mm. Side ends shall be bolted to the equipment body to be earthed after the metal body is cleared of paint and other oil substance and property tinned.

(k) Artificial Treatment of Soil :

If the earth resistance is too high and the multiple electrode earthing does not give adequate low resistance to earth, then the soil resistivity immediately surrounding the earth electrodes shall be reduced by adding sodium chloride, calcium chloride, sodium carbonate, copper sulphate, salt and soft coke or charcoal in suitable proportions as directed by the Clients.

(l) Resistance to Earth :

The resistance of each earth system should not exceed 1.0 ohm.

**15. TESTING :**

The Contractor shall give notice well in advance to the Client of the commencement of any factory / site testing.

(a) Pre-despatch Testing :

The Contractor shall arrange to conduct load tests at various loads of Engine, Alternator, Standard panel etc. at manufacturer's works in presence of Employer.

The particulars of proposed tests and the procedure for the tests shall be submitted to the purchaser for approval before conducting test. Standard panel shall be tested for operation as per BIS specifications.

(b) Preliminary Trials :

After completion of erection of generating set, and before carrying out main trials, preliminary trials shall be conducted in the presence of Clients. Such trials shall include the checking and adjustments of all instruments, relays, timers, interlocks and meters (crank shaft alignment shall be checked when the engine is cold), insulation resistance of stators, rotor and exciter windings and the air gap between stators and rotor. A check shall be made for satisfactory operation of exciter, automatic voltage regulator, all auxiliary motors and their starting, automatic control equipment and all accessories supplied with the set shall be tested for its working.

(c) Main Trials :

The main trials shall include over 8 hours continuous run consisting of 4 hours run at full load and one hour run at 110% load followed by 3 hours run at 100%.

(d) Standard panel and engine control panel shall be tested for automatic operations, by injecting proper current and voltage by a separate source. The satisfactory working of operation shall be tested and necessary adjustment shall be done for relays and timers.

All trials shall be conducted in the presence of Client and the results shall be recorded in the Test Sheet at 30 minutes intervals. Alternator efficiencies as determined in works test shall be used as the basis of calculation for fuel consumption rate. A tolerance of 5% shall be allowed on the fuel oil consumption to cover possible errors of measurement. Tests providing the satisfactory performance of all safety and operating controls shall be carried out. Governor trials shall be carried as laid down in BSS 639. Alternator insulation resistance and insulation time interval to allow for cold start. On completion of tests, inspection doors shall be removed and running gears inspected and alignment has to be checked.

Any further reasonable trials suggested by Clients shall be carried out with no extra charges.

All instruments, materials and labour required for carrying out the trials shall be provided by the Contractor including fuel oil. Test sheets of trials shall be forwarded in quadruplicate.

The successful bidder has to submit a list of recommended spares to clients. A set of tools and tackle has to be supplied along with the set.

#### **16. SHOCK TREATMENT CHART :**

Shock Treatment Chart explaining the method of shock treatment in English, Hindi and local language shall be provided, duly framed in glass, in the Diesel Generating Station.

#### **17. MAINTENANCE & OPERATION MANUALS :**

The supplier shall supply in triplicate Maintenance and Operation Manuals, including detailed circuit diagrams of the Electrical work / Panels / Switchgear.

#### **18. TRAINING OF PERSONNEL :**

The supplier shall impart free training to Banks Engineering / other personnel for operation and maintenance of the system.

#### **19. SPECIFICATION FOR ACOUSTIC ENCLOSURE**

The Acoustic enclosure or Sound Proof canopy should be weather proof, suitable for outdoor installation, composite, bottom sealed, skid mounted type and suitable to house DG set + Fuel Tank + DG Control Panel + Battery etc. & confirming to following broad specifications as per latest norms of CPCB.

- The Acoustic Enclosure shall be of a high quality, based on modular or skid mounted type & shall be suitable for outdoor installation, corrosion resistant and weather proof.
- The structure shall be fabricated out of steel base and supporting channels. The outer walls and inner frames shall be made of 14 SWG CRCA sheets and incorporating ISMC of appropriate section.
- The louvers made out of 14 SWG CRCA sheet fix type shall be provided for suction and outlet of air but shall prevent the entry of rainwater. The louvers shall be designed and made to suit the Acoustic requirements.
- The Enclosure shall be provided with lockable type and air tight hinged type doors of required numbers with suitable gasket of neoprene or better quality and arrangement to suit the acoustic

requirements. The doors should be such located that there is ease of accessibility on both the sides of DG set from operation and maintenance point of view.

- The Acoustic Enclosure shall be provided with sealed glass window to monitor engines/ alternator parameters from outside.
- All the components of the Acoustic Enclosure shall undergo the various stages of surface treatments like degreasing, pickling, phosphating and passivation followed by the finish of special polyester powder coating of shade off-white/siemens gray which gives a pleasant finish and long life to the canopy.
- The Enclosure shall be provided with lockable fuel filling facility from outside the enclosure. Fuel level indicator shall be provided.
- Drain plug shall be provided on canopy for easy drainage of consumable waste in DG area.
- External Emergency push buttons shall be provided to stop the DG set without opening the doors.
- The Enclosure shall be designed so as to have sleek design with good aesthetic look and help in easy loading / unloading and shifting.

#### **Acoustic Insulation :-**

- The insulation material shall be as per IS : 8183, for maximum sound absorption, high density and shall be composed of fine, stable and uniformly textured organic rock wool fiber which is bound together by a non - water soluble fire retardant thermo setting resin which can withstand temperatures upto + 450 degree Celsius. The density wool/ mineral wool shall be minimum 64 kg per cubic meter. The wool shall be covered by fiberglass cloth of fiber tissue paper and should be supported inside the powder coated perforated steel sheets. The thickness of the insulation should not be less than 100 mm.

#### **Ventilation**

Provision shall be made for separate duct for direct heat Dissipation from the Engine. Separate blower with it's starter if required shall be provided for eliminating excessive heat within the Acoustic Enclosure and maintain the temperature rise inside the enclosure within a permissible limit (Less than 5 degree Celsius above ambient) as specified by the Engine/ Alternator manufacturer so as to get full output from the set allowing longer running of DG set on load.

#### **Illumination**

Illumination arrangement of the type specified herein shall be provided inside the canopy for carrying out maintenance during night hours. Two Nos. of 40 W lights of weather proof type operating on 230 V 1 Ph.AC, 50 Hz Switch/ Socket unit of metal clad type and one No. 12 V DC supply with separate bulb minimum 50 W. operating on 12 V DC supply with separate switch shall be provided with requisite wiring / switchgear complete inside the enclosure.

#### **Noise Level**

The noise level around the unit at a distance of 1 meter should be less than 75 dB.

#### **Drawings**

Drawings shall be submitted for approval before start of manufacture. Drawings shall incorporate all features specified above.

#### **Special Note**

All equipment under this schedule shall be necessarily manufactured by DG Manufacturer only.

Separate local manufacturers other than DG Manufacturers are not acceptable.

**20. QUANTITIES OF WORK :**

The tenderer shall work out his tender on the basis of the quantities given in Schedule. Payment shall, however, be made based on actual measurements of quantities executed.

**LIST OF APPROVED MAKES**

<b><u>Sl. No</u></b>	<b><u>Details of equipment/Materials</u></b>	<b><u>Manufacturer's Name</u></b>
1.	Diesel Engine	Kirloskar / Greaves / Cummins
2.	Alternator	Kirloskar / Greaves / Crompton/Stamford
3.	G.I.Pipes/ M.S.Pipes	TATA/ BST/ JINDAL
4.	Anti Vibration Pad	Dunlop/ Resistoflex/ Polybond
5.	Battery Charger Unit	Amara Raja/ Statcon/ AE
6.	Batteries	Exide/Standard/Prestolite
7.	M.V. Switchgears	Altom /L&T /Siemens/ABB
8.	Relays	Altom India/ CS
9.	Metering Instruments	Automatic Electric/ GEC/ IMP/ RISHAB/MECO
10.	Indicating Lamps	BCH/ L&T/ Essen
11.	CTs & PTs	Automatic Electric/Kappa/EE/Siemens
12.	Copper/ Aluminium lugs heavy duty	Dowells Crimping Type
13.	Multicore Control Cables	Finolex/ CCI/ National/ Ecko
14.	M.V. Cables	Finolex/ Polycab/ CCI/ Universal
15.	Cable Glands	Comet
16.	Change over switch/ Contactors	Altom / L&T/Siemens/
17.	Push Buttons	L&T/ Siemens/ BCH
18.	Selector switch	Kayee/ L&T/ AE
19.	Panel Fabricators	CPRI approved panel manufacturer

**SCHEDULES**

**SCHEDULE - A**

**LIST OF STANDARD TOOLS**

**(TO BE SUPPLIED FREE OF COST)**

S.No	Description

**SCHEDULE - B**

**SCHEDULE OF DEPARTURE FROM SPECIFICATION**

<b>SR. NO.</b>	<b>REFERENCE TO CLAUSE OF SPECIFICATION</b>	<b>DETAILS OF DEPARTURE</b>	<b>REASON FOR DEPARTURE</b>

Certified that barring the departure listed above our offer complies fully with the specification requirements.

**SEAL :**

**SIGNATURE OF TENDERER**

**DATE :**

**SCHEDULE - C**

**ANY OTHER DATA, INFORMATION TENDERER**

**MAY LIKE TO FURNISH**

SR. NO.	DESCRIPTION	QUANTITY

**SEAL :**

**SIGNATURE OF TENDERER**

**DATE :**

**SCHEDULE - D**

**SCHEDULE OF INSTALLATION PROGRAMME**

<b><u>SR. NO.</u></b>	<b><u>DETAILS OF ITEMS</u></b>	<b><u>INSTALLATION PROGRAMME</u></b>
a)	Moving units to position	
b)	Assembly	
c)	Electrical work	
d)	Earthing System	
e)	Pre-commissioning checks	
f)	Load and System trial	
g)	Acceptance tests	
h)	Handing over	

If work will be staged for different sets of programme, the same shall be furnished unit wise.

**SEAL :**

**SIGNATURE OF TENDERER**

**DATE :**

**SCHEDULE - E**

**SCHEDULE OF ADDRESS OF MANUFACTURERS**

**PREMISES AND PLACES OF INSPECTION**

SR. NO.	DETAILS OF ITEM	MANUFACTURER'S NAME	ADDRESS

SEAL :

SIGNATURE OF TENDERER

DATE :

**SCHEDULE - F**

**SCHEDULE OF PRICES**

<b>SR. NO.</b>	<b>DETAILS OF ITEMS</b>	<b>UNIT</b>	<b>QTY.</b>	<b>RATE</b>	<b>AMOUNT</b>

1. Adjustment rates to be indicated for variation in earthing items quantity.
2. In case of offers for more than one make or type of engine / alternator adjustment rates for alternative makes/types shall also be indicated in the Tender offer.
3. All taxes and duties and the rate at which these were assumed, etc., shall be clearly indicated in the Tender.

**SEAL :**  
**DATE :**

**SIGNATURER OF TENDERER**

## SCHEDULE - G

### DETAILS OF GUARANTEED TECHNICAL PARTICULARS

<b>SR. NO.</b>	<b>DETAILS OF PARTICULARS</b>	<b>GUARANTEED DATE</b>
<b>I.</b>	<b>ENGINE</b>	
1.	Make	
2.	Type	
3.	No. of cylinders	
4.	Arrangement of Cylinders	
5.	Bore and stroke	
6.	R P M	
7.	Method of starting	
8.	Compression ratio	
9.	Compression pressure	
10.	Maximum cylinder pressure	
11.	Piston speed	
12.	Fuel injection pressure	
13.	Aspiration method	
14.	Lub. oil system	
15.	Indicating oil pressure	
16.	Fly wheel      a) Dia b) Weight c) It is balanced dynamically (yes/no)	
17.	Cyclic variation	
18.	Time required for starting from cold	
19.	Type of governor	
20.	Guarantee performance of governor a)      Permanent variation with i)      Full load thrown OFF ii)     Full load thrown ON	
21.	High speed regulation limits	
22.	Fuel oil recommended	
23.	Lub. oil recommended	
24.	BHP at site output at shaft / coupling	
25.	Over load capacity	
26.	Consumption of fuel Full load Half load No load	
27.	Lub. oil consumption i)      at full load ii)     at half load	
28.	Mechanical efficiency	
29.	Standard mounting ...	
30.	Safety shutdown.....	
31.	Direction of rotation	

## II. ALTERNATOR

1. Type
2. Make
3. Governing specification
4. Full output in kVA
5. Full load output in kW
6. Enclosures
7. Speed / frequency
8. No. of phases
9. Neutral brought out
10. Voltage between phase / neutral
11. Regulated band of voltage
12. Current carrying capacity of winding
13. %age of imbalance permissible
  - Full load
  - Half load
14. Sanctioned over capacity at maximum ambient temp.
15. Short time over load
16. Efficiency
17. Temporary over load after full load for 12 hrs.
18. Insulation of stator
19. Insulator of rotor
20. Excitation method
21. Excitation amps at full load
22. Excitation voltage
23. Air gap between stator and rotor
24. Exciter type
25. Specification for exciter

## III. GENERAL

1. Length of set over all x width over all
2. Weight of set over all
3. Head room needed for lifting / servicing
4. Weight of alternator
5. Weight of engine
6. Weight of Heaviest piece
7. Direction of rotation
8. Standard accessories
9. Radiator make and type
10. Fan dia
11. CMM of fan and static pressure
12. RPM of fan / type of drive
13. kW absorbed by fan
14. HP of motor drive in each independent motor and its specification
15. Details of other major unit assembled onset
16. Capacity of daily service tank
17. Capacity / size of service tank

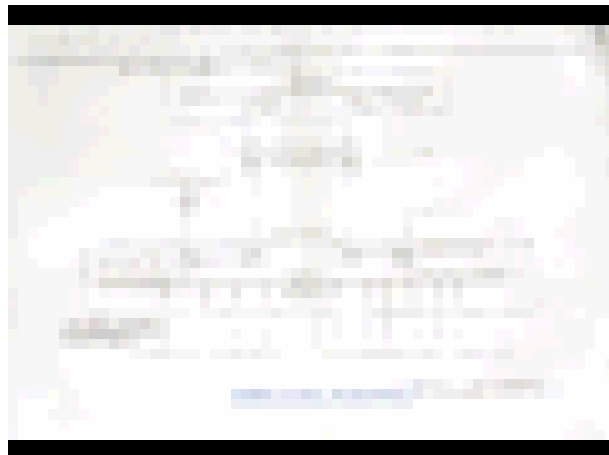
**IV. STANDARD CONTROL PANEL**

1. Make
2. Type
  
3. Make & Type of MCCB
4. Make & Type of instruments
5. Make & Type of fuse switch units
6. Other facilities incorporated

**ANY OTHER DATA TENDERER MAY LIKE TO FURNISH.**

**SEAL :**  
**DATE :**

**SIGNATURE OF CONTRACTOR**



SINGLE LINE DIGRAM

**PART - II**

**PREAMBLE AND SCHEDULE OF QUANTITIES**

## **PREAMBLE**

1. The scope of work is the supply, erection, testing and commissioning of 1 No. 250 KVA D.G. Set with standard panel. Tenderers are instructed to quote strictly according to the specifications. Any deviation in assumption should be specified separately in Envelope - I.
2. The scope of work will also include obtaining necessary approval / permission from the concerned government / statutory authorities for the complete D. G. Set installation and its operation.(Employer will sign all necessary and concernd documents/forms only, for getting such approvals).

**Schedule of Quantities**

Item No.	Description	Unit	Qty.	Rate	Amount (Rs.)
	DIESEL GENERATORS				
1.	Supply, erection, connecting, testing and commissioning of 250 kVA 1500 RPM Diesel Generating set by making necessary arrangement with the existing distribution system complete with M.S. Base frame, day service fuel oil storage tank of 600 ltrs. capacity, starting DC batteries with suitable battery charger, exhaust silencer, water cooled Radiator, Engine control panel, Anti Vibration Mountings, Acoustic enclosure complete as per specifications described separately.□	Set	1		
2.	Supply, installation, testing & commissioning of floor mounted totally enclosed, cubicle type, compartmentalized, dust & vermin proof (IP:42 protection) standard panel fabricated from 2 mm thick CRCA sheet with Aluminium bus bars complete with following switchgear / mountings, interconnections as required for 415V, 3 phase, 4 wire, 50 Hz AC supply complete as required as per specification. <ul style="list-style-type: none"> <li>i) 400A 4 P Contactor - 1 nos.</li> <li>ii) 400A 4P MCCB - 1 no.</li> <li>iii) Voltmeter, ammeter for alternator &amp; mains/phases complete with fuses, selector switches, CTs of suitable rating.</li> <li>iv) Frequency meter, power factor meter, kWh meter complete with fuses and CTs of suitable rating.</li> <li>v) Main supply &amp; alternator voltage monitor and engine control monitor.</li> <li>vi) IDMT relay, field failure relay, reverse power relay, under voltage relay, auxiliary relays, PTs &amp; CTs of required rating complete with fuses.</li> <li>vii) DC control relays, contactors &amp; timers.</li> <li>viii) Master engine control switch for OFF/Auto/Manual/Test.</li> <li>ix) Emergency stop push button.</li> <li>x) Engine protection system for low lubricating oil pressure, high water temperature and over speed with indication lamps.</li> <li>xi) Window type annunciator with static relays alarm/hooter and accept, test &amp; reset push buttons for all functions.</li> <li>xii) Engine hours run counter.</li> <li>xiii) R, Y, B indicating lights with control</li> </ul>	Set	1		

Item No.	Description	Unit	Qty.	Rate	Amount (Rs.)
	DIESEL GENERATORS				
	fuses for main & alternator voltage.  The panel shall be complete with necessary control fuses, CTs, auxiliary relays, internal wiring and control wiring between alternator and panel etc. complete as required and as per specification.□				
3.	Supplying, installation in position M.S. Exhaust piping including all necessary piping and fixing accessories including lagging with 25 mm dia. Asbestos rope and suitably bonded with Asbestos cloth and clad with Aluminium sheet complete as per specifications mentioned separately.□	RM	10		
4.	Providing generator neutral & body earthing stations at locations as called for including providing 600 mm x 600 mm x 3 mm thick tinned copper plate electrode Earth sets complete as per Indian Standards and Specifications□	Nos.	4		
6.	Providing and fixing in position the following bare copper strips including providing all fixing accessories and effecting proper connections. a. Copper Tape 25 mm x 5 mm on surface b. Copper Tape 25 mm x 5 mm in 40 mm dia GI pipe	RM RM	40 10		
7.	Providing and fixing in position the fire extinguishers Carbon dioxide type 2 litres capacity□	No.	2		
8.	Providing and fixing in position MV Danger Notice Plate of 200 mmx150 mm made of Mild Steel at least 2 mm thick and vitreous enamelled, white on both sides and with inscription in signal red colour on front side as required.□	Each	2		
9.	Providing and fixing in position approved shock treatment charts written in English, Hindi and local language. These charts shall be framed in wooden frame and covered with glass □	No.	1		
10.	Providing and fixing in position 900 mm wide, 15 mm thick rubber mat rated for 15 kV of approved make as per specifications in front of panels□	RM	2		
11.	Supply, laying testing and commissioning of 3.5C x 240 sq. mm 1100 V armoured Aluminium LT/ XLPE cable from DG Set to STANDARD panel and existing distribution panel.	RM □	40□		
12.	Supplying and making cable end terminations with single compression brass glands and heavy duty aluminium lugs for 3.5C x 240 sq. mm 1100 V armoured Aluminium LT/ XLPE cable	Set □	8□		
	GRAND TOTAL				

Date :  
Place :

Signature, Name and Seal  
of the Contractor