



**INDIAN BANK,
CORPORATE OFFICE,
No.254 - 260, Avvai Shanmugam Salai,
Royapettah, Chennai - 600 014.
Ph: 044-28134306, Fax: 044-28134021**

PART I: TECHNO COMMERCIAL BID

Tender Document for the work of Supply, installation, testing and commissioning of 2 Nos. DG Sets in the place of existing old DG sets at Indian Bank, Head Office Building No. 66, Rajaji Salai, Chennai – 600 001.

ISSUED TO

M/s. _____

**S. CHANDRASEKARAN,
Electrical Engineer & Consultant,
Mylapore, Chennai – 600 004.
Phone: 24982772
Mobile: 94441 – 26196**

This document contains 58 pages



CORPORATE OFFICE, CHENNAI-14

TECHNO-COMMERICAL BID – PART I

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**NOTICE INVITING TENDER FOR SUPPLY AND INSTALLATION OF DIESEL GENERATOR SETS**

Sealed tender on item rate basis under 2 bid system are invited from the Tenderers who qualifies the minimum eligibility criteria subsequent to press advertisement for the work of Supply, Installation, Testing & Commissioning of Two Nos. DG Sets in the place of existing old DG sets at Indian Bank, Head Office Building No. 66, Rajaji Salai, Chennai – 600 001 at an Estimated to cost Rs. 80.00 lakhs (apprx.) .

The tender documents(both Technical and Price Bid) can be down loaded from Bank's web site www.indianbank.co.in-tenders from 15.10.2012 to 09.11.2012.

The tender shall be of two cover system / two bid system.

Part 1: Techno – Commercial Bid document containing Technical specifications, qualifications, general conditions of contract etc.

Part 2: Price Bid

The cost of tender document Rs. 500/- (Rupees Five Hundred Only) (non – refundable) shall be enclosed in the form of DD favouring “ Indian Bank ,Head Office, Expenditure Department, Chennai “ **along with Techno- Commercial Bid Documents.**

The EMD for Rs 1,60,000/- in the form of D.D favouring “ Indian Bank ,Head Office, Expenditure Department, Chennai “ / Bank guarantee from any scheduled Bank in favor of Indian Bank, Corporate Office, Chennai shall be enclosed **along with Techno- Commercial Bid Documents.** Tenders submitted without EMD and Tender Cost will be rejected.

The tenders in **DUPLICATE along with enclosures** should be submitted in two separate sealed covers each with the superscription giving the Name of the work.

The first cover superscribed as “**Techno-Commercial Bid**” should contain Techno-Commercial Bid document (in duplicate) along with cost of Tender for Rs 500/- and EMD for Rs.1,60,000/- in the form of Demand Draft /BG .

Also the cover should contain all the technical pamphlets, literatures of the diesel engine ,alternator and other features of the DG Sets and such other details / data required for the technical evaluation of the entire system offered. (It is essential that any technical information considered useful should be furnished at the first instance itself in this envelope and at latter date any additional or supplementary information shall not be entertained unless it is found necessary and sought by the Employer / Consultant in form of written clarification to clear any pertinent doubts).

The second Cover superscribed as **“Price Bid”** should contain Price Bid (in duplicate) and should be submitted on the same given date and time simultaneously along with Techno-Commercial Bid. Non submission of the same along with Part I shall automatically render the entire tender being rejected. This envelope should contain duly filled in Bill of quantities (enclosed in the tender document) with values written in words and figures, and as detailed elsewhere in the tender documents.

Both the above sealed covers (First & Second) shall be submitted together in a common sealed cover with the superscription giving the Name of the work.

Sailent Features of Contract :

Estimated Cost of Work(approx)	Rs.80.00 lakhs (Rupees Eighty Lakhs only)
Earnest Money Deposit	Rs. 1,60,000/- (refundable) by crossed demand draft Payable at Chennai and drawn in favor of Indian Bank, Head Office, Expenditure Department, Chennai or Bank Guarantee from any scheduled bank in favour of Indian Bank, Corporate office, Chennai
Retention Amount	5% of the each Bill Amount
Security Deposit	7% of the total contract price (2% EMD + 5% RMD)
Defects Liability Period	24 Months from the date of virtual completion
Date of Commencement	14 days from the date of issue of Work Order/letter of intent or date of which the site is handed over whichever is later
Date of Completion	120 days from the date of issue of Work Order/letter of intent or date of which the site is handed over whichever is later.

Liquidated Damages for Delay	1 % per week of the Contract Value for intermediate and final deadlines subject to maximum total of 10% of Contract value
Frequency of Interim Certificate	Monthly
Minimum Value of work for the issue of Interim Certificates	Rs.25,00,000/-
Period of honouring certificate for interim payment against each running bill by Employer	21 days from the date of receipt of Bill payment recommendations received from the Electrical Consultant.
Period of honouring Final Bill	Six weeks from the date of receipt of Bill payment recommendations from the Electrical consultant.
Dates for down loading the Tender	15.10.2012 to 09.11.2012
Date of Pre Bid Meeting	At 3.00 PM on 31.10.2012
Last date and Time of Submission of tenders	Before 2.00 PM on 19.11 .2012
Opening of Technical Bid with EMD	3.00 PM on 19.11.2012
Opening of Price Bid	Will be informed later

- ❖ Validity of offer shall be 90 days from the date of opening of tender (Techno Commercial Bid).
- ❖ A pre-bid meeting will be held at **3.00 PM on 31.10.2012** at the Corporate Office Premises to give clarifications and decisions in connection with any issues or doubts raised by the tenderers. The tenderers should send a list, in duplicate, of any clarifications or decisions they need, so as to reach the Employers' offices not later than **3.00 PM on 26.10.12**. **The purpose of the pre-bid meeting is to ensure that the bids will be submitted without any conditions and to clarify all issues raised by the Tenderers.** The rates quoted by the tenderer shall be based only on the specifications and conditions of the tender documents. Any conditional tender will be rejected by Bank.
- ❖ The tenderers are advised to inspect the site before quoting for the job. The site will be available for inspection on all working days between 10.00 am & 5.00 pm. **The Tenderer shall ensure that the proposed DG Sets shall be installed at the existing site conditions.** Hence, the tenderers are advised to inspect the site carefully in this regard before quoting for the job.

Note :

- 1) The tender with out complete information and certified photocopies of documents in support of fulfilling the Pre –qualification criteria will not be entered.
- 2) If any information furnished by the applicant is found incorrect at a later stage, he shall be liable to be debarred from tendering/taking up the work in Indian Bank.
- 3) The Bank reserves the right to verify the particulars furnished by the applicant independently.
- 4) Short- listing of Tenderers will be finalized after inspection of works and obtaining confidential reports from previous employers for only those firms who fulfill the aforesaid Pre – qualification criteria and that specified in Technical bid.
- 5) The tenderer shall take care to price his tender rationally. Extreme under pricing or overpricing in item-rates total amount will be considered adversely in the assessment of tenders. The tenderer shall on demand submit analysis of rates of some items of work if so required by the Employer.
- 6) The Employer is not bound to accept the lowest tender and reserves the right to accept or reject any or all tenders, either in whole or in part, without assigning any reason for doing so.

Eligibility criteria

1. The Tenderers shall be themselves manufactures / authorized dealers of manufacturers who have executed the work of supply, installation, testing and commissioning of generator work at Government, Public Sector Undertakings / PSBs and reputed business organizations. The authorized dealer shall produce authorization letter from the manufacturer for participation in the tender.
2. The tenderers shall produce the following documents duly attested along with tender documents.

Audited financial statement consisting of financial turnover and profit & loss account for the past 5 years. Those tenderers who have achieved annual turnover of atleast Rs.80 lakh each in all the past 3 years(April 2009 to March 2012) are only eligible to tender for the work. The tenderer should not have incurred loss during the last 3 years out of 5 years in the past.

3. The tenderer shall have minimum of 7 years experience in supply, installation, testing and commissioning of generator work. The tenderer shall produce the details of work done and enclose work orders / agreements and satisfactory work completion certificate in each one of the last 7 years.
4. The tenderer should have a solvency of the amount of Rs 32.00 lakhs duly certified by any Scheduled bank obtained on or after 01.04.12 and enclose copy of the same.
5. The tenderer should have after sales service unit at Chennai. The contact details should be given.
6. Should have executed three similar works i.e. (supply, installation, testing and commissioning of generator work) of Rs.32 Lakhs each (OR) two works of Rs.40 Lakhs each (OR) one work of Rs.64 Lakhs each and above, under single agreement during the last 3 years along with performance certificate indicating the functioning of systems installed by them and each work should involve DG sets of capacity not less than 400 KVA.
7. **The tenderer should have supplied & installed DG Sets of capacity minimum 400 KVA and above for Data centre of any IT/PSB/PSU.**
8. The tenderer shall produce the TDS certificate for the work claimed under eligibility criteria as a proof of having completed the job.

Assistant General Manager (P&E)

Indian, Bank, Corporate Office,
Premises, Estate & Expenditure Dept,
No. 254-260, Avvai Shanmugam Salai,
Royapettah, Chennai – 600 014.
Ph: 044 -28134300 (ext. 4501, 4401, 4306)
Fax – 044-28134021
Emailed : hoestate @indianbank.co.in

TENDER DECLARATION

I/We have read and examined the notice inviting tender, Schedules, applicable specifications, drawings, Conditions of contract and other documents and rules referred to in the conditions of contract and all other contents in the tender documents for the work.

I/We hereby submit tender for the execution of the work specified for Indian Bank, Corporate Office, Chennai-14 with in the time frame specified in the tender and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in General conditions of contract .

We agree to keep the tender open for 90 days from the due date of opening of Tender (Techno Commercial Bid) thereof and not to make any modifications in its terms and conditions.

A sum of Rs 1,60,000/- is enclosed in the form of demand draft/Bank Guarantee towards EMD.

I/We here by declare that I/we shall treat the tender documents, drawings and other records connected with the work as secret/confidential documents and shall not communicate the information derived there from to any person other than a person to whom I/we am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the state.

Dated :

Signature of the tenderer

Witness Signature

Name :

Postal Address :

Occupation.

DECLARATION

**(TO BE GIVEN BY THE APPLICANT WHO HAVE DOWNLOADED THE
TENDER DOCUMENT FROM THE WEB)**

It is to certify that

- 1) I / We have submitted the Tender document in the proforma as down-loaded directly from the web site & there is no change in formatting, number of pages etc.**
- 2) I / We have submitted Tender document which are same / identical as available in the website.**
- 3.) I / We have not made any modification / corrections / additions etc in the Tender documents downloaded from web by me / us.**
- 4) I / We have checked that no page is missing and all pages as per the index are available & that all pages of Tender document submitted by us are clear & legible.**
- 5) I / We have signed (with stamp) all the pages of the Tender document before submitting the same.**
- 6) I / We have sealed the Tender documents properly before submitting the same.**
- 7) I / We have submitted the cost of Tender document.**
- 8) I / We have read carefully & understood the instructions to all the applicants & to the applicants who have down-loaded the Tender document from the web.**
- 9) In case at any stage later, it is found that there is difference in our downloaded Tender documents from the original, BANK shall have the absolute right to take any action as deemed fit without any prior intimation to me / us.**

Dated:

Signature(s) of applicant(s)

SPECIAL CONDITIONS OF CONTRACT

1. Scope of Work:

The scope of work for the purpose of this tender constitutes Supply, Installation, Testing and commissioning of 2 numbers of DG sets in the place of existing DG sets at Indian Bank, Head Office Buildings at no 66, Rajaji Salai ,Chennai -600 001. The works should be carried out in accordance with the “Drawings and Schedule of quantities”.

2. Price Basis:

- a. The unit rates mentioned in schedule of rates shall remain firm and shall not be subjected to any escalation throughout the currency of the contract.
- b. The quoted rates shall be inclusive of supply of all materials required for completing the item works.
- c. Payment shall be made on the actual quantum of work executed, duly certified by Engineer-in-Charge / Consultant.
- d. The rates quoted shall be based on laws, levies, taxes and duties applicable on the date of LOI. Any Statutory Variations thereto and / or new levies due to an act or enactment, after the date, shall be to the Employer's account against documentary evidence within the contractual completion date. Any such variation/imposition of new taxes and levies beyond the contractual completion date shall be to the Tenderer's account.
- e. The Tenderer shall clearly indicate every element of taxes,duties,levies and cess considered in the quoted price.**
- f. Tenderer shall satisfy himself on the applicability of various taxes, duties, levies, octroi, including sales tax, works - contract tax, turnover tax, VAT, etc. as applicable for such work and quoted prices shall be inclusive of all such liabilities. Employer / Consultant shall not be liable to any liability of the Tenderer on this account. Tenderer shall periodically produce documentary proof for having fulfilled the above obligations in time, including proof of payment, proof of filing of returns, etc. failing which Employer / Consultant reserve the right to take appropriate action at the cost and consequence of the Tenderer. Service Tax, Education Cess and Secondary & Higher Education Cess, as applicable at the prevailing rates, shall be shown separately in Tenderer's Bills.
- g. Income Tax, at applicable rates, shall be deducted from the Tenderer's Bills, as per Income Tax Act and TDS Certificate issued thereof.

3. Terms of Payment:**Progress Payment:**

70% of value of Contract /Interim bill value on receipt of materials at site and against submission of invoice, duly certified by Indian Bank / Consultant. , subject to deduction of 5% towards retention money,

10% of the contract value upon the completion of erection subject to deduction of 5% towards retention money,

Balance Amount (20%) shall be released on submission of successful completion of installation, testing and commissioning, submission of all final technical documents in the required number of sets and as also on statutory approval from relevant statutory Authorities & submission of invoice duly certified by Indian Bank / Consultant subject to deduction of 5% towards retention money,.

50% of both retention money deducted, as stated above and EMD shall be released on successful commissioning of the DIESEL GENERATOR SETS, receipt of all final technical documents and all relevant statutory approvals against submission of the following :

- a) Invoice duly certified by Indian Bank/Consultant
- b) “NO CLAIM” certificate

The Employer / Consultant will entertain only one running bill per month and for a minimum gross amount of Rs. 25, 00, 000/- (Rupees Twenty Five Lakhs only).

Employer may withhold payment on account of any defect/deficiency in the work already executed and payment released, based on subsequently discovered evidence, failure to make payments to Sub-Tenderers, damage caused by the Tenderer to Employer's property, properties of other agencies within the premises, unfulfilled statutory obligations, etc.

The “Completion Certificate “ shall be issued by Electrical Consultant / Engineer- in – Charge only after total job completion and fulfillment of all contractual obligations by the Tenderer.

4. Effective date, Time schedule and Liquidated damages for delay:

a)The date of issue of Work Order/letter of intent or date of which the site is handed over whichever is later shall be deemed as the “Effective Date” of contract.

b)The entire work covered under the contract shall be completed in all respects within 120 days from the Effective Date.

c)Time is the essence of this project and hence completion schedule of 120 days should be strictly adhered to.

5. Measurement:

The Quantities set out in the schedule of items and rates are estimated quantities of work. The final quantities of work executed by the Tenderer in fulfillment of his obligations under the contract shall be jointly measured by the Tenderer and the Employer / Consultants. The Employer / Consultants will be final authority for the measurement relating to bills.

The intending tenderers are also required to make their own assessment of adequacy and correctness of the quantities before submitting their tenders.

6. Responsibility:

Employer / Consultant reserve the right to inspect the Diesel Generator Set etc. at the Manufacturer's /Tenderer's Works as per the technical specifications and the equipment shall be dispatched only after receipt of a Release Order issued by the Engineer-in-Charge / Consultant.

However, such inspection/Release order shall not absolve the Tenderer of his responsibility to supply the materials in the required quantities and carry out the work as per technical specifications.

Unless otherwise specified in the contract / Work order / Purchase Order, the completion of work shall not be deemed to have been achieved until all the works required to be carried out under the contract have been completed to the entire satisfaction of the Engineer-in-Charge / Consultant, in all respects and Completion Certificate is issued.

It is the responsibility of the Tenderer to obtain all statutory approval from statutory authority related to scope of work in the tender and handover to the Employer through the Consultant.

7. Progress Report:

The Tenderer shall submit to the Employer / Consultant once in two weeks progress report for the previous period showing up-to-date cumulative progress and progress during the preceding period alone on all progress items of each section or portion of the works in the proforma prescribed by the Employer / Consultant.

8. Tenderer's Engineer:

The Tenderer shall keep qualified and experienced Engineers for full time during execution of work for entire Contract.

9. Equipment:

The Tenderer shall make his own arrangement to procure all constructional plant and equipment for his work. He shall also submit with the tender, the type and number of different equipments with their capacities in good working conditions, which he will use on the site to ensure completion of the work in specified time. All materials, construction plant and equipment etc., once brought by the TENDERER on the site are not to be removed from there without the written approval from the Employer / Consultant.

10. Extra Items:

Extra items, if any, shall be paid on the basis of analysis of rate of cost of materials and labour produced by TENDERER, and the item-rates agreed upon with the Employer / Consultant.

The execution of extra item is compulsory in order to complete the project work. In case the Tenderer fails to execute extra item, Employer / Consultant will have the right to execute these items through other agency / agencies at the risk and cost of the Tenderer.

While arriving at the agreed rate of extra items, the Plant & Machinery / Overheads / profit shall be considered to the tune of 15% of cost of materials and labour.

Employer / Consultant reserves the right to verify the price of material through market survey.

11. Guarantees / Liabilities:

The Installation including all components and accessories shall be guaranteed for a period of 2 years from the date of virtual Completion of the same against defective material, shortfall in performance and faulty workmanship. The Tenderer shall immediately make free replacement of any of the parts or components that might go out of order within this period and Indian Bank / Consultant's decision in this regard will be final and binding on the Tenderer. Free maintenance shall be provided during the guarantee period.

The work shall be carried out in a workmanlike manner.

12. Work Front:

Work front for the Tenderer may / may not be guaranteed throughout the pendency of the contract, especially during monsoon. No compensation will be paid for idle labour hours and other incidental charges. Tenderer may suitably arrange requisite labour / manpower / equipment to meet the requirement of lean period, if any.

The Tenderer have to execute the work in such place and condition where other agencies will also be engaged for other works, such as mechanical, electrical, instrumentation work, etc. No claim shall be entertained due to work being executed in the above circumstances. The Tenderer should ensure that there is no interference with the work of other agencies at Site.

13. INCOME TAX CLEARANCE (I.T.C) CERTIFICATE

Attested copy of the latest Income Tax Clearance Certificate in the proforma prescribed by the Government of India should be attached with the bid document. The I.T.C. Certificate should be in the name of the firm/individual who has quoted for the tender. In the absence of the above clearance certificate, Tenderer may not be awarded the work tendered for, in the light of government directives/instructions in this regard.

14. INSURANCE

Tenderer shall obtain and maintain any and all necessary insurance cover for the entire work up to Virtual completion date , that may be required under any law or regulations applicable, including but not limited to the following:

- Tenderer's All Risk Policy, for Tenderer's Scope of Work.
- All materials and Tenderer's own machinery, equipment, tools & tackles, vehicles, etc.
- Third Party liability.
- Workmen Compensation
- ESIC
- Employer's Liability

The quoted price shall be inclusive of all costs for such insurance coverage. In all such policies, Employer shall be made 'Co-insured'. Also other Tenderers, working at the Site, be covered under the policy. The Third party insurance shall be for a sum of Rs 5.00 lakhs per accident.

15. GENERAL

These Special Conditions of Contract (SCC) shall be read in conjunction with the terms and conditions stipulated in the General Conditions of Contract (GCC). However, if there is any contradiction between the terms and conditions mentioned in this SCC and those in the GCC, stipulations of SCC shall prevail to that extent.

=====XXXXXX=====XXXXX=====

ARTICALS OF AGREEMENT

THIS AGREEMENT is made on this day of 2012 between Indian Bank having its Corporate Office at 254-260, Avvai Shanmugam Salai, Royapettah, Chennai- 600014 .(hereinafter referred to as the "Employer") which expression shall include its successors, legal representatives and assigns of the one part.

AND

* Shri _____ S/D/o _____
resident of _____ the sole proprietor of
M/s _____ having office at the following address

* M/s. _____ the partnership firm having an administrative/principal office
at _____ represented by its Managing/duly authorised partner.

* M/s. _____ company/body corporate incorporated under the provisions of the
Companies Act 1956 having its registered office at the following address
_____, duly represented at _____ duly represented by its
constituted and authorised Managing Director, Shri _____

(hereinafter referred to as the "Tenderer") which expression shall include its successors, legal representatives and assigns of the second part.

WHEREAS THE Employer intends to replace the existing 2 no DG sets with 2 Nos. New Diesel Generator sets (625 KVA & 400 KVA) for their office at INDIAN BANK, Head Office at No.66, Rajaji Salai, Chennai – 600 001.

WHEREAS the Employer has caused drawings and tender documents to be prepared by his Electrical consultant Mr S Chandrasekaran, Chennai (hereinafter referred to as “Consultant”) .

AND whereas the Tenderer has agreed to execute the work as per drawings, specifications, conditions of contract of the tender and Work Order for the Employer’s project of “ Supply, Installation, Testing & Commissioning of Two Nos. DG Sets in the place of existing old DG sets at Indian Bank, Head Office Building No. 66, Rajaji Salai, Chennai – 600 001”.

AND whereas the Employer has called for tenders for the Diesel Generator Set as per Employer’s NIT dated -----and whereas the tender dt. ----- submitted by the Tenderer has been accepted for such sum as may be ascertained to be payable in terms of the Bill of Quantities and which sum is estimated to be Rs. (Rupees) hereinafter referred to as the said "Contract Sum".

AND whereas parties herein desirous of reducing the agreed terms into writing as under:

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:-

- 1) In consideration of the said Contract Sum to be paid at the times and in the manner set forth in the said Conditions the Contract shall carry out and complete all the Civil, electrical Works as per terms and conditions herein contained and according to the

general conditions of the contract, notice inviting tender, special conditions of contract, general scope of work, technical specifications, schedule of rates and instructions to be given by Electrical Consultant and to the entire satisfaction of the Employer.

2) Contract Price, Taxes and Payment Terms:

Total contract price is Rs..... which is inclusive of cost of materials, equipment, installation charges and tools and tackles required for execution of the job. Above price is inclusive of all taxes & duties including excise duty, sales tax, works contract tax, income tax, octroi etc. in respect of this contract. No claim in this respect will be entertained. Sales tax on works contract & Income tax on payments will be deducted and deposited by Employer in accordance with the sales tax law of the state and the provisions of tax deductions at source under Income Tax Act 1961.

However, interim payment will be made as per the site measurements on Item Rate basis and certification of the Consultant :

3) Completion Period:

Time is the essence of the Contract. The work is to be completed in all respects within **120 days** from the date of receipt of the Work Order /letter of intent by the Tenderer or handing over of site whichever is later. If the Tenderer fails to complete the job within the agreed time period the Tenderer will have to bear liquidated damages as per the relevant clause mentioned in the Tender Documents.

4) Earnest Money:

The Tenderer has deposited Bank Guarantee for an amount of Rs. 1,60,000/- (Rupees one lakh and Sixty thousand only) as earnest money.

5) Inspection of Site:

The Tenderer has inspected the site before submitting his tender and has satisfied himself as to the nature of the work to be executed on the site. Any difficulties which the Tenderer may come across in the course of the work shall in no way entitle the Tenderer to claim or receive extra payment unless the Employer is of the opinion that such difficulties could not have been foreseen and the Employer consents in writing.

6) Supply of Material and Labour:

The Tenderer shall arrange all labour, materials, equipments, tools, tackles and everything necessary for the completion of the work. The Tenderer will assume all responsibility for the safety, protection and accounting of all material and equipment and the work during construction. All materials used by the Tenderer shall be of the best quality conforming to the required specification mentioned in the tender document and will be subject to the approval of the Electrical Consultant / Employer. All such materials not approved by Electrical Consultant / Employer shall be removed at once by the Tenderer at his own expense. The Tenderer shall also at his own expense arrange for carrying out any test of materials which the Electrical Consultant / Employer may from time to time require or if so desired by the employer.

7) Defective Work / Materials:

If any part of the work done by the Tenderer is found defective in workmanship or if bad or inferior materials have been used the Tenderer shall at his own risk and cost demolish all such defective work and rebuild the same and / or replace the bad or inferior materials used within a time frame mentioned to the satisfaction of the 'Electrical Consultant / Employer'. The decision of the Employer / Electrical Consultant in this regard shall be final and binding on the Tenderer. In case of default of the Tenderer to remove the defective work and rebuild the same or replace bad or inferior materials as directed by the Employer, the Employer shall be entitled to employ anyone else to carry out the same at risk and cost of the Tenderer and recover all expenses incurred in this regard from the Tenderer.

8) Inspection of Work:

During progress of the work the site engineer of the Employer and Electrical consultant/ Employer shall be entitled at all times to have access to and inspect the work. If the work is inspected by the any Government/ Bank's authorized persons, the Tenderer will fully co- operate and extend all help to meet the observations.

9) Supervision:

The Tenderer shall provide one or more competent and technically qualified engineers duly and fully authorized to act on his behalf in all matters relating to the works to be carried out under or any other matter concerning this agreement and who shall at all times be present at the works while any work is in progress as per directions, explanations & instructions of Employer / Electrical Consultant.

10) Compliance with Statutory Regulations & Work Rules:

The Tenderer shall be responsible for complying with the applicable laws / bye laws / Regulations in force from time to time and shall have to bear all statutory liabilities to the workers / personnel engaged for the job. Nothing will be paid extra in this regard. If any amount is paid by the Employer in this regard the same amount shall be deducted from the Tenderer's dues. The Tenderer shall have to arrange insurance cover for the workers / personnel engaged by him for the job.

11) Determination of Contract:

In the event of Tenderer failing to keep / adhere to agreed schedule of work, or in the event of the Tenderer failing to comply with the provisions of this contract by default and / or negligence and / or suspension of work or in the event of Tenderer failing to complete the work within the stipulated period, the Employer may terminate this Agreement forthwith and employ, at the Tenderer's risk and cost, another Tenderer or sufficient number of workmen to complete the work.

12) Force Majeure:

In case any Force Majeure condition herein mentioned occurs and continues for a period exceeding 15 days the parties hereto undertake to sit together and devise ways for expeditious and proper performance of the obligations of the parties under this order.

This clause will be operative only if the work is delayed by

- a) Acts of God
- b) Earthquake or floods or similar natural calamities.
- c) Serious loss or damage by fire or lightning.

13) Arbitration:

“In the event of any dispute or difference relating to interpretation and application of provisions of the contract and all disputes/claims whatsoever which shall either during the continuance of the contract or afterwards either between the parties to the contract or the respective representatives touching the construction/application of any provision/clause mentioned in the contract or any account or liability between the parties to the contract or as to any act or deed or omission of any party to the contract, in any way relating to these presents, shall be first at the discretion of the Bank attempted to be resolved in good faith by mutual discussion within 30 days of the dispute or question being raised failing which the same shall be settled by arbitration in accordance with provisions of Indian arbitration and Conciliation act 1996.

The Parties concerned shall designate an arbitrator on mutual consent/consensus. In the event of no consensus being arrived, an Arbitral Tribunal shall be constituted comprising three Arbitrators, each party appointing one arbitrator and a third arbitrator to be appointed by the two arbitrators so appointed by the parties. The venue of the arbitration shall be exclusively at Chennai and any award passed by arbitrator or the arbitral Tribunal shall be final, conclusive and binding upon the parties and shall be deemed to have been made between parties themselves. The parties to the dispute shall share equally the cost of arbitration as intimated by the arbitrator”.

14) Electrical Consultant:

The term Electrical Consultant in the said conditions shall mean the said Mr S Chandrasekaran or in the event of it being ordered to be wound up or in ceasing to be the Consultant for the purpose of this Contract, such other person as shall be nominated for that purpose by the Employer, not being a person to whom the Tenderer shall object for reasons considered to be sufficient by the Employer mentioned in the said Conditions provided always that no person subsequently appointed to be Consultants under this Contract shall be entitled to disregard or overrule any provision, decision or approval or direction given or expressed by the Consultants for the time being.

IN WITNESS whereof the said contracting parties have set their hands and seals on the day and year first hereinabove witness.

Witness Address

Employer

Witness Address

Tenderer

GENERAL CONDITIONS OF CONTRACT

1. DEFINITIONS / 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:

(a) The 'Contract' means the documents forming the tender and acceptance thereof and the agreement duly executed between the Employer and the Tenderer, together with the documents referred to therein including those conditions, the specifications, schedule of quantities, tender agreement, designs, drawings and instructions issued from time to time by the Engineer-in-Charge. All these documents taken together, shall be deemed to form one contract and shall be complementary to one another.

(b) The 'Tenderer' or 'Supplier' or 'DG set Manufacturer' shall mean the individual Kartha, or Manager of HUF, firm or Company, whether incorporated or not, undertaking the works and shall include the legal heirs/representatives of such individual or the partners composing firm and their legal heirs and successors, or company's authorised and constituted attorneys/agents and permitted assignees of such firm or company.

© The 'Employer' shall mean 'Indian Bank' with their office at Indian Bank, corporate office, Estate department, 254-260, Avvai Shanmugam Salai, Royapettah, Chennai-600 014 and shall include their heirs, legal representatives, assignees and successors.

(d) Engineer – in- Charge shall mean the persons nominated by the Employer/ Electrical Consultant and shall include those who are expressly authorized by him to act for and on his behalf for operation of the contract and co- ordination of different works.

(e) The **Electrical consultant** shall mean **Mr. S Chandrasekaran**, having his Office at Mylapore Chennai 600 004, appointed by Employer for the said works.

(f) Contract Price shall mean the final accepted rates in the Price Bid hereto.

(g) Date of Contract means the 'Calendar date on which the Employer and DG set Manufacturer / Supplier have signed the Agreement on the Stamp Paper.

(h) Accepting Authority shall mean the Indian Bank (the Employer).

(i) Approval' wherever used in the specifications or schedule of Quantities shall mean, respectively, approved by or approval of the 'Accepting Authority' in writing.

(j) Appellant Authority' shall mean the Indian Bank (the Employer). Who shall also be the authority to consider any extension of time or compensation as defined in clause hereunder.

(k) Notice in writing' or 'written notice' shall mean a notice in writing typed or printed characters delivered to or sent by registered post to the last known address private or business address or registered office address, and shall be deemed to have been received when in

ordinary course of post it would have been delivered, and/or delivered personally, or otherwise proved to have been received.

(l) 'Virtual completion' shall mean that the work/installation is complete in all respects in the opinion of the Employer and for which the completion/clearance certificate has been issued by the Engineer -in-charge / Consultant and the installation is fit for usage.

(m) 'Drawings' shall mean all drawings and/or design drawings furnished by the Tenderer/ sketches duly signed by the authorised Engineer-in-charge or the Consultant on behalf of the Employer before commencement or during the progress of the work.

(n) Letter of Acceptance' shall mean an intimation by a letter issued by the Accepting Authority of the Employer to tenderer that his tender has been accepted in accordance with the provisions in the said letter.

(o) "Defect Liability Period" shall mean a period of TWENTY FOUR months from the certified date of virtual completion issued by the Consultant / Engineer-in-charge and accepted by the Employer.

(P) Schedule of quantities" shall mean the schedule of quantities as specified and forming part of this contract.

(q) "Priced Schedule of Quantities" shall mean the schedule of quantities duly priced with the accepted quoted rates of the tenderer.

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

(s) "Act of Insolvency" shall mean any act defined by the Presidency Towns Insolvency Act or in Provincial insolvency Act or any amending statutes.

2. SCOPE OF WORKS TO BE CARRIED OUT: Supply, Installation, Testing & Commissioning of Two Nos. DG Sets in the place of existing old DG sets at Indian Bank, Head Office Building No. 66, Rajaji Salai, Chennai – 600 001. **The works should be carried out in accordance with the "drawings" and "schedule of quantities".** It includes providing all the materials, wastage of material, labour, transport, tools & equipments and management necessary for and incidental to the completion of the work. All work during its progress and upon completion shall conform to the lines, elevations and grades as shown on the drawings furnished by the Employer. Should any detail essential for efficient completion of the work be omitted from the drawings and specifications it shall be the responsibility of the Tenderer to inform the employer so that upon completion of the work the same will be acceptable and ready for use.

If there are varying or conflicting provisions made in any one or more document(s) forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on tenderer.

Any error in description or quantity or rate in Schedule of Quantities or any omission there from shall not vitiate the Contract or release the Tenderer from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the Contract.

Employer or their authorized representative may in their absolute discretion issue further drawings and/or written instructions, details, directions & explanations which are, hereafter collectively referred to as "The employer's instructions" in regard to:

- a) The variation or modification of the design quality or quantity of works or the addition or omission or substitution of any work.
- b) Any discrepancy in drawings or between the schedule of quantities and/or drawings and/or specifications.
- c) The removal from the site of any defective material brought thereon by the Tenderer and substitution of any other material thereof.
- d) The demolition, removal and re-execution of any work executed by the tenderer/s.
- e) The dismissal from the work of any persons employed thereupon.
- f) The opening up for inspection of any work covered up.
- g) The rectification and making good of any defects under clauses hereinafter mentioned and those arising during the defect liability period(retention period).

The Tenderer shall forthwith comply with and duly execute any work comprised in such Employer's or his agent/Engineers instructions, provided always that verbal instructions, directions and explanations given to the Tenderer or his representative upon the works by the employer or his agent shall, if involving a variation, be confirmed in writing to the Tenderer/s within seven days. No works for which rates are not specifically mentioned in the priced schedule of quantities, shall be taken up without written permission of the employer or his agent. Rates of items not mentioned in the priced schedule of quantities shall be fixed by the employer as provided in clause "variation".

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

Materials of approved makes as prescribed in tender shall only be used and also colours to be as advised by the employer.

3. TENDERER SHALL VISIT THE SITE: The tenderers are advised to have a free inspection of the site before tendering to ensure that the DG set shall be installed in the proposed location with required clearances around the set as per norms prescribed by CEIG / CEA. The noise level may be maintained at levels prescribed by CPCB. Also it may be ensured that there is no noticeable vibration in the upper floors due to the operation of the DG set.

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

4. DRAWINGS AND SPECIFICATIONS : The Work shall be carried out to the entire satisfaction of the Employer and the Electrical consultant and in accordance with the signed drawings, specifications and other Contract documents and such further drawings and details as may be provided by the Electrical Consultant and in accordance with such written instructions, directions and explanations as may from time to time be given by the Employer / Electrical Consultant.

No drawing shall be taken as in itself an order for execution unless, in addition to the Electrical Consultant's signature, it is marked "VALID FOR CONSTRUCTION". No claim for payment for extra work shall be allowed unless the said work shall have been executed under the provisions of Clause 10 (Authorities, Notices, Patent Rights and Royalties), or by the authority, directions in writing of the Electrical consultant as herein mentioned.

On receipt of work order, the Tenderer shall submit the following Drawings with in 10 days for approval of Bank/Consultant.

- 1) Layout of DG set and accessories
- 2) Exhaust Piping arrangement
- 3) Fuel oil tank and piping
- 4) Electrical single line diagram, control wiring single line diagram, cable layout, panel GA drawing etc. even if part may have been provided by the owner.
- 5) Location of earth pits and details of earthing even though these may have been provided by owners.

5. SCHEDULE OF QUANTITIES : The Schedule of the Quantities unless otherwise stated shall be deemed to have been prepared in accordance with the standard procedure of quantity measurement, and shall be considered to be approximate and no liability shall attach Employer for any error that may be discovered therein.

6. SUFFICIENCY OF SCHEDULE OF QUANTITIES : The Tenderer 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. The Tenderer's Rates and Prices shall cover all his obligations under the Contract, and all matters and things necessary for the proper completion of the works.

7. ERRORS IN SCHEDULE OF QUANTITIES : Should any error appear in the Schedule of Quantities, other than in the Tenderer'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 authorized extra or deduction.

8. NOTICES : The Tenderer shall give all notices and pay all fees and royalties in connection with his constructional activities and shall comply with all Acts and Regulations for the successful completion of the Contract Works.

9. TENDERS: The entire set of tender paper issued to the tenderer should be submitted fully priced and also signed on the last page together with initials on every page. Initials/signature will indicate the acceptance of the tender papers by the tenderer (Also see General Rules and instructions for the guidance of Tenderer).

The schedule of quantities shall be filled as follows

- a) The "Rate" column to be legibly filled in ink in both English figures and English words.
- b) Amount column to be filled in for each item and the amount for each subhead as detailed in the schedule of quantities.
- c) All corrections to be initialed.
- d) The "Rate" column for alternative items shall be filled up.
- e) The "Amount" column for alternative items of which the quantities are not mentioned shall not be filled up.
- f) In case of any errors/omissions in the quoted rates, the rates given in the tender marked "Original shall be taken as correct Rates.

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

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

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

The works will be paid for as "measured work" on the basis of actual work done and not as "lump sum" contract, unless otherwise specified.

All items of work described in the schedule of quantities are to be deemed and paid as complete works in all respects and details including preparatory and finishing works involved, directly, related to and reasonably detectable from the drawings, specifications schedule of quantities and no further extra charges will be allowed in this connection. In the case of lump-sum charges in the tender in respect of any item of works, the payment such items of work will be made for the actual work done on the basis of lump-sum charges as will be assessed to be payable by the Employer/Consultant.

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

The tenderer shall note that his tender shall remain open for consideration for a period of **90 days** from the date of opening of the price bid of the tender.

- 10. **AGREEMENT:** The successful tenderer, shall be required to sign the contract agreement, the proforma of which is enclosed and shall pay for all stamps and legal expenses, incidental thereto.
- 11. **PERMITS AND LICENSES:** Permits and licenses for release of materials or its purchases which are under Government control will be arranged by the tenderer. The employer will render necessary assistance, Sign any forms or applications that may be necessary.

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

The tenderer may, however, be eligible to a proportionate extension of time on this account that in the opinion of the Employer is reasonable.

12. **GOVERNMENT AND LOCAL RULES:** The tenderer shall conform to the provisions of all local bye-laws and acts relating to the work and to the regulations etc. of the Government and Local Authorities. The tenderer shall give all notices required by the said Act, Rules, Regulations and bye-laws etc and shall indemnify the Employer against such liabilities and shall defend all actions arising from such claims or liabilities.
13. **TAXES AND DUTIES:** The tenderer must include in their tender prices quoted for all duties royalties, cess and sales tax, value added tax or any other taxes or local charges if applicable. No extra claim on this account will in any case be entertained.

The tenderer shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorised representative of the Employer and / or the Engineer-in-charge and further shall furnish such other information / document as the Employer may require from time to time.

14. **QUANTITY OF WORK TO BE EXECUTED:** The quantities shown in the schedule of quantities are intended to cover the entire works as per the drawings / scope of work, and therefore the Tenderer is bound to complete the works at the same quoted rates in the event of quantity exceeding the specified bill of quantity, but the Employer reserves the right to execute only a part or the whole or any excess thereof without assigning any reason therefore.
15. **OTHER PERSONS OR AGENCIES ENGAGED BY THE EMPLOYER:** The Employer reserves the right to execute any part of the work included in this contract by other agency or persons and Tenderer shall allow reasonable facilities and use of his facilities for the execution of such work. The main Tenderer shall extend all co-operation in this regard.
16. **EARNEST MONEY, INITIAL SECURITY DEPOSIT, RETENTION MONEY & TOTAL SECURITY DEPOSIT :** The Tenderer will have to deposit the specified amount in the form of Demand Draft drawn in favour of Indian Bank, Head Office, Expenditure department, Chennai (or) Bank Guarantee in the approved format from any Scheduled Bank in favour of Indian Bank, corporate office, Chennai at the time of submission of tender as Earnest Money. No interest shall be paid on the earnest money. The earnest money of unsuccessful tenderer will be refunded without any interest soon after the acceptance of the selected Tenderer or after the expiry of the validity period of the tender.

The successful tenderer to whom the contract is awarded will have to deposit as Initial Security Deposit 2% (two percent) of the value of the accepted tender including the Earnest Money. The Initial Security Deposit will have to be made within 14 days from the date acceptance of tender failing which the employer at his discretion may revoke the letter of acceptance and forfeit the Earnest Money Deposit furnished along with the tender. The security deposit may be furnished in the form of Demand Draft / Bank Guarantee payable in favour of Indian Bank (or) BG drawn on any Scheduled Bank for the duration of the contract period plus defect liability period of 24 months.

The Initial security Deposit(2%) made above together with retention money deducted from the progressive running bills @ 5% (five percent) of the Gross value of each running bill will constitute **Total Security Deposit** i.e. The initial Security Deposit plus retention money equals to; 7.0 % of the contract value. On virtual completion of work, the employer shall refund 50% of the total Security Deposit. The Balance Security Deposit of 50% will be refunded after completion of the Defect Liability Period. Further the balance Security Deposit held by the employer shall be returned against submission of Bank Guarantee in the approved format from any Scheduled Bank. No interest is allowed on Total security Deposit.

17. **TENDERER TO PROVIDE EVERYTHING NECESSARY:** The Tenderer shall provide everything necessary for the proper execution of the work according to the intent and meaning of the drawings, technical 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 reasonably inferred there from, and if the Tenderer finds any discrepancies therein, he shall immediately and in writing, refer the same to the employer / consultant whose decision shall be final and binding.

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

The Tenderer shall supply, fix and maintain at his own cost, for the execution of the work, all tools, tackles, machineries and equipments and other required facilities for execution of work including the safety aspects.

The Employer on no account shall be responsible for storage of materials or loss or pilferage or theft either in respect of the material stored or material already built and paid for by the Employer.

The Tenderer shall at all times give access to workers employed by the Employer.

Any facilities available at site shall be utilized only with prior permission of the Employer or the in-charge of the site / building Employer and cannot be taken as granted and for such services utilized the Employer is entitled to charge. No extra charges shall be paid over and above what has been quoted for any of the above or for similar such services.

18. **TIME OF COMPLETION, EXTENSION OF TIME & PROGRESS CHART ::**

i). **Time of Completion :** The entire work is to be completed in all respects within stipulated period (120 days). The work shall be deemed to be commenced within 14 days from the date of acceptance letter or date of handing over site whichever is later. Time is the essence of the contract and shall strictly observed by the Tenderer .

The work shall not be considered as complete until the Employer/ Consultant have certified in writing that the work has been virtually completed and defect liability period shall commence from the date such certificate.

ii). **Extension of Time :** If in the opinion of the Employer a) by reason of any exceptionally inclement weather, or b) by reason of instructions from the employer in consequence of proceedings taken or threatened by or disputes with adjoining or neighbouring Employers or c) by the works, or delay, of other Tenderers or trades men engaged or nominated by the employer and not referred to in the specification or d) by reason of authorised extra and additions or e) by reason of any combination of workmen or strikes or lockout affecting any of the building trades or f) from other causes which the employer may consider being beyond control of the Tenderer , the employer at the completion of the time allowed for the contract shall make fair and reasonable extension of time for completion in respect thereof. In the event of employer failing to give possession of site upon the day specified above the time of completion shall be extended suitably.

In case of such strikes or lock-outs, as are referred to above, the Tenderer shall, immediately give the employer, written notice thereof. Nevertheless the Tenderer shall use his best endeavors all that to prevent delay and shall do all that may be reasonably required to the satisfaction of

the employer to proceed with the works and on his doing so that it will be ground of consideration by the employer for an extension of time as above provided.

The decision of the Employer as to the period to be allowed for an extension of time for completion hereunder (which decision shall be final and binding on the Tenderer) shall be promulgated on completion of the work or at the conclusion of such events based on which the extension of time was sought by the Tenderer , and the Employer shall then, in the event of an extension being granted, determine and declare the final completion date. The provision in clause 14 with respect to payment of liquidated damages shall in such case, be read and construed as if the extended date fixed by the employer were substituted for and the damage shall be deducted accordingly.

iii). **Progress of Work** : During the period of work, the Tenderer shall maintain proportionate progress on the basis of a **program chart submitted by the Tenderer before the commencement of work**. Tenderer should also include planning for procurement of scarce materials well in advance and reflect the same in a program chart so that there is no delay on the part of the Tenderer in completion of the project.

19. **LIQUIDATED DAMAGES : Time is the essence of the contract**. Hence the Tenderer shall be aware that non completion of the work will affect the Bank's committed programs and thus the loss by way of delayed services / completion of related works etc, are valuable and cannot be easily quantified. Therefore, it is part of the agreed terms that in the event of any delay in completion of the work, the Bank is liable to charge the Tenderer without the necessity of providing for any details of such losses suffered by the Bank.

Hence if the work is not completed as per the contract terms or to the satisfaction of the employer within the stipulated period , the Tenderer shall be bound to pay to the employer a sum of amount calculated **at 1% of the contract sum per week of delay subject to a ceiling of 10% of the contract sum** by way of liquidated damages and not as penalty during which the work remains un-commenced or unfinished after the expiry of the completion date.

For this purpose the term 'Contract sum' shall be value at the tender rates of the work as ordered / accepted.

Therefore the Tenderer is required to maintain progress in terms of the contract to complete the work within the stipulated period.

20. **TOOLS, STORAGE OF MATERIALS, PROTECTIVE WORKS AND SITE OFFICE REQUIREMENTS::** The Tenderer shall provide, fix up and maintain his establishment in an approved position at site and clear away on completion of the works and make good all works disturbed.

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

Tools : The odolite level, prismatic compass, steel tape ,threads and all other instruments found necessary on the works shall be provided by the Tenderer for the due performance of the contract as instructed by the employer.

All suitable scaffolding, ladders and stools that may be required for safe taking of the measurements shall be supplied by the Tenderer .

Storage of materials : The Tenderers shall provide and maintain proper enclosures for the storage and adequate protection of materials , tools at the space allocated for the purpose including their watch & ward arrangements shall be the responsibility of the Tenderer. Any materials taken out of the premises shall get the "out pass" from the employer.

Protective Measures : The Tenderer shall make suitable arrangements for watching and protecting the works and materials. The Tenderer shall indemnify the employer against any possible damage to the building , roads and members of public in course of the execution of the work.

The Tenderer should cover in his rates for making provisions for all the above and reasonable facilities for the use of his scaffolding, tools and plant etc., for their work.

- 21..**NOTICE AND PATENTS OF APPROPRIATE AUTHORITY AND EMPLOYERS:** The Tenderer shall conform to the provisions of any Acts of the Legislature relating to the work, and to the regulations and bye-laws of any authorities, and or other Companies (Indian or International) and / or Statutory Authorities, with whose system and design or technical know how are/were proposed to have connection with this work.

So also the Tenderer shall before making any variations from the drawings or specification that may be associated to so conform, give the Employer / Consultant written notices specifying the variations proposed to be made and the reasons for making them and apply for instruction thereon. The Employer / Consultant on receipt of such intimation, shall give a decision within a reasonable time.

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

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

- 22..**CLEARING SITE AND SETTING OUT WORKS :** The site shall be cleared of all obstructions, waste materials, rubbish of all kinds. All material damages at the site like on the walls, ceiling or flooring or on any other connected place/ equipments, materials or installations shall be re-done to maintain originality and shall be leveled at Tenderers own cost.

The Tenderer s shall set out the works and shall be responsible for the true and perfect setting out the works and for the correctness of the positions, levels, dimensions and alignment of all parts thereof. If at any time, any error shall appear during the progress of any part of the work, the Tenderer shall at his own expenses rectify such error, if called upon to the satisfaction of the Employer.

The Tenderer shall further set out the works to the alternative positions at the site until one is finally approved and the rates quoted in his tender should include for this and no extra on this account will be entertained.

23. **TENDERER IMMEDIATELY TO REMOVE ALL OFFENSIVE MATTERS:** All waste materials and other matters of any offensive nature shall be taken out once the works are completed. The Tenderer shall keep the site free from dangerous materials like industrial gases, welding machines and any such devices or material of toxic and poisonous nature & shall not carry within the site or building any material which are explosive in nature. Any such offensive materials which are essentially required in course of work shall be undertaken with due written permission of the Employer provided such materials are permissible under Law.

- 24.. **ACCESS** : Any authorized representatives of the Employer shall at all reasonable times have free access to the works and / or to the workshops factories or other places where materials , or equipments are being fabricated or constructed for the work and also to any place where materials are lying or from where they are being obtained, and the Tenderer shall extend necessary facility to the Employer or their representatives for inspection examination and testing of the materials and workmanship.

Except the representatives of the Employer no person shall be allowed at any time without the written permission of the Employer.

The work shall be offered for inspection at every stage of the work and more specifically before painting, polishing and lamination.

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

If required by the Employer the Tenderer shall have to carry out tests on materials and workmanship in approved material testing laboratories or as prescribed by the Employer at his own cost to prove that the materials etc. under test conform to relevant I.S. standards or as specified in the specifications. The necessary charges for sample material, transporting, testing etc. shall have to be borne by the Tenderer . No extra payment on this account should in any case be entertained.

All materials required for the full performance of the work under the contract must be provided through proper channels and must include duties ,taxes octries and other charges if any and must be best of their kind available and the Tenderer must be entirely be responsible for proper and efficient carrying out of the works. Samples of all the materials to be used must be submitted / displayed to the Employer / Consultant when so directed by the Employer.

Should the work be suspended by any reason, the Tenderer shall take all precautions necessary for the protection of work and at his own expenses shall make good any damages arising from any of these causes.

26. **REMOVAL OF IMPROPER WORK** : The Employer shall during the progress of the work have power to order in writing from time to time the removal, from the work site within such reasonable time or times as may be specified in the order, of any materials which in the opinion of the Employer are not in accordance with specification or instructions, the substitution or proper re-execution of any work executed with materials or workmanship not in accordance with drawings and specifications or instructions.

In case the Tenderer refuses to comply with the order the Employer shall have the power to employ and pay other agencies to carry out the work and all expenses consequent thereon or incidental thereto as certified by the Employer shall be borne by the Tenderer or may be deducted from any money due to or that may become due to the Tenderer .

No certificate which may be given by the Architects / Consultants / Bank shall relieve the Tenderer from his liability in respect of unsound work or bad materials.

27. **SAFETY PRECAUTIONS :** The Tenderer shall follow all necessary safety precautions with respect to the work. All necessary safety equipments / gadgets shall be used by the workmen. The Tenderer shall comply and ensure the enforcement of rules and regulations relating to the safety precautions. The arrangements be made by the Tenderer shall be open for inspection by any statutory authorities.
28. **TENDERER 'S EMPLOYEES :** The Tenderer shall employ technically qualified and competent supervisors for the work who shall be available (By turn) throughout the work and shall participate during site meetings and be available to take and comply with instructions of the Employer. The Tenderer shall employ in connection with the work persons having the appropriate skill or ability to perform their job efficiently. Any laborers supplied by the Tenderer to be engaged on the work on day work basis either wholly or partly under the direct order or control of the Employer or his representative shall be deemed to be a person employed by the Tenderer .

CHILD LABOUR: No Labourer below the age of sixteen years and who is not an Indian national shall be employed on the work.

LABOUR LEGISLATION: The Tenderer shall comply with the provisions of the payment of all legislation including the requirement of The payment of Wages Act, 1936, Minimum Wages Act, 1948, Employer's Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, and the Contract Labor (Regulation and Abolition) Act 1970, Apprentices act 1961, or the modifications thereof or any other laws relating thereto and the rules made there under from time to time. Report on PF & ESI paid to the employees on monthly basis has to be submitted to the employer.

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

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

The Tenderer shall indemnify and keep indemnified the Employer against payments to be made under and for the observance of the laws aforesaid and the Tenderers' Labor Regulations. The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.

Compliance of Labour Regulations: The Tenderer shall at his own expense arrange for all the safety provisions for the safety of all workers and employees directly or indirectly employed on the work by the Tenderer .

The Tenderer shall be fully responsible for compliance at his own expense all the labor regulations and rules to be observed by him. The Tenderer shall fully indemnify the Employer against any action by the state and/or Central Government for any default or alleged default by the Tenderer , sub Tenderer or Employer of any of such rules and regulations. If, due to any default of the Tenderer or his sub-Tenderer s, the Employer has to incur any expenditure for compliance of the rules and regulations or for any other reason connected with such default, the Employer shall be entitled to recover from the Tenderer all such expenditure in full from any payment due to the Tenderer .

29. **DISMISSAL OF WORKMEN :** The Tenderer shall on request of the Employer immediately dismiss from works any person employed thereon by him, who may in the opinion of the Employer be unsuitable or incompetent or who may misconduct himself. Such discharge shall not be the

basis of any claim for compensation or damages against the Employer or any of their officer or employee.

30. **ASSIGNMENT** :: The whole of the works included in the contract shall be executed by the Tenderer and the Tenderer shall not directly or indirectly transfer, assign or underlet the contract or any part, share or interest therein nor, change in constitution and no subletting shall relieve the Tenderer from the full and entire responsibility of the contract or from active superintendence of the work during their progress.

31. **INJURY TO PERSONS AND DAMAGE TO PROPERTY - INSURANCE** ::

The Tenderer shall be responsible for all injury to the work or workmen to persons, animals or things and for all damages to the structural and/or decorative part of property which may arise from the operations or neglect of himself or his employees, whether such injury or damage arise from carelessness, accident or any other cause whatsoever in any way connected with the carrying out of this contract.

The clause shall be held to include interalia, any damages to buildings whether immediately adjacent or otherwise, and any damage to roads, streets, footpaths or ways as well as damages caused to the buildings and the works forming the subject of this contract by rain, wind or other inclemency of the weather.

The Tenderer shall indemnify the employer and hold harmless in respect of all and any expenses arising from such injury or damages to persons or property as aforesaid and also in respect of any claim made in respect of injury or damage under any acts of compensation or damage consequent upon such claim.

The Tenderer shall reinstate all damage of every sort mentioned in this clause, so as to deliver the whole of the contract works complete and perfect in every respect and so as to make good or otherwise satisfy all claims for damages to the property or third parties.

The Tenderer shall effect the insurance necessary and indemnify the employer entirely from all responsibility in this respect. The insurance must be placed with a company approved by the employer and must be effected jointly in the name of the Tenderer and the employer and the policy lodged with the latter. The scope of insurance is to include loss or damage to the work and workmen due to carelessness, accident including fire, earthquake, floods, etc., damage or loss to the contract itself till this is made over a complete state. Insurance is compulsory and must be effected from the very initial stage. The Tenderer shall also be responsible for anything which may be excluded from damage to any property arising out of incidents, negligence or defective carrying out of this contract.

The employer shall be at liberty and is hereby empowered to deduct the amount of any damages, compensations, costs, charges and expenses arising or occurring from or in respect of any such claim or damages from any sums due or to become due to the Tenderer.

Unless otherwise instructed the Tenderer shall insure the works and keep them insured until the virtual completion of the contract against loss or damage by fire and/or earthquake, flood. The insurance must be placed with a company approved by the Employer, in the joint names of the Employer and the Tenderer for such amount and for any further sum if called to do so by the employer and lodge receipts of premiums paid with the employer within 21 days from the date of issue of letter of acceptance unless otherwise instructed.

In default of the Tenderer insuring as provided above, the Employer on his behalf may so insure and may deduct the premiums paid from any money due, or which may become due to the Tenderer. The Tenderer shall as soon as the claim under the policy is settled or the work reinstated by the Insurance Company should they elect to do so, proceed with due diligence with the completion of the works in

the same manner as though the fire has not occurred and in all respects under the conditions of the contract. The Tenderer in case of rebinding or reinstatement after fire shall be entitled to extension of time for completion as the Employer may deem fit.

32. **ACCOUNTS RECEIPTS & VOUCHERS :** The Tenderer shall, upon the request of the Employer furnish them with all the invoices, accounts, receipts and other vouchers that they may require in connection with the works under this contract. If the Tenderer shall use materials less than what is required under the contract, the value of the difference in the quantity of the materials that was required to use and that actually used shall be deducted from his dues. The decision of the Employer shall be final and binding on the Tenderer as to the amount of materials the Tenderer is required to use for any work under this contract.

33. **MEASUREMENT:** Measurements of completed works shall be as per Bureau of Indian Standards code IS-1200 & its relevant parts.

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

The measurements particularly concealable in nature shall be jointly taken and recorded and such statement of measurement shall be enclosed along the bill or running bills.

The works will be paid for as "measured work" on item rate basis i.e. on actual work done. All items of work described in the schedule of quantities are to be deemed and paid as complete works in all respects and details including preparatory and finishing works involved, directly, related to and reasonably detectable from the drawings, specifications and schedule of quantities and no further extra charges will be allowed in this connection. The work shall be strictly according to the design / dimensions given in the drawings. The payment will be restricted to the design dimensions and no payment will be made due to increase in thickness/ depth/width. All the dismantling items shall be PREMEASURED and APPROVAL of the employer shall be sought before dismantling.

34. **PAYMENTS:** All bills shall be prepared by the Tenderer in the form agreed or furnished by the Employer based on the accepted measurements. A maximum of three bills are allowed during the currency of contract which includes the final bill. The minimum bill value shall be Rs.25 Lakhs. The interim bills shall be in proper forms must be duly accompanied by detailed measurements in support of the quantities of the work done and must show deductions for all previous payments.

The Employer shall issue a certificate after due scrutiny of the Tenderer s' bill stating the amount due to the Tenderer from the Employer and the Tenderer shall be entitled to payment thereof, within the 21 days from the date of the receipt of the recommendations of the consultants on the interim bill. In case of delay due to some reasons in the processing of such bills for payment, an adhoc advance of 75% of the billed amount may be paid on the request of the Tenderer for the smooth progress of the work.

The amount stated in an interim certificate shall be the total value of work properly executed and 75% of invoiced value of material brought to site for permanent incorporation into the work up to the date of the bill less the amount to be retained by the Employer as retention money vide clause 16 of these conditions and less installments previously paid under these conditions, provided that such certificate shall only include the value of said material and goods as and from such time as they are reasonably, properly and not prematurely brought to or placed adjacent to the work and then only if adequately protected against weather or other casualties.

The Employer will deduct retention money as described in clause 16 of these conditions. The refund of retention money will be made as specified in the said clause.

All interim payments accepted by the Tenderer shall be regarded as payments by way of advances against final payment only. These shall not preclude requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected or be considered as an admission of the due performance of the contract or any part thereof in any respect or approving of any claim nor shall conclude, determined or affect in any way the power of the employer under these conditions for any of them as to the final settlement and adjustment of the accounts or otherwise or in any other way vary or affect the contract.

All payments are subject to statutory deductions of Income Tax & its Surcharge, Sales tax deductions or any other statutory deductions as notified by respective State/Central Government/Authority and any such instructions conveyed from time to time. From the interim bills, the retention money as detailed elsewhere in this tender shall also be deducted.

The final bill shall be submitted by the Tenderer within 1 (one) month from the date of completion of work or from the date of certification of virtual completion certified by the employer. No further claims shall be made by the Tenderer after submission of the final bill.

The final bill shall be accompanied by no claim certificate by consultant and a certificate of completion from the Employer. Payments of final bill shall be made after deduction of all previous payments and Retention Money as specified in clause 16 of these conditions, which sum shall be refunded after the completion of the Defects Liability Period after receiving the Employer certificate that the Tenderer has rectified all defects to the satisfaction of the Employer. The acceptance of payment of the final bill by the Tenderer would indicate that he will have no further claim in respect of the work executed.

35. VARIATION / DEVIATION : The Employer shall have power to make alteration in, omissions from, additions to or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and the Tenderer shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the employer. Such alterations, omissions, additions or substitution shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the Tenderer may be directed to do in the manner specified above as part of the works, shall be carried out by the Tenderer on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.

(a) No work which radically changes the original nature of the contract shall be ordered by the employer as a deviation.

(b) The price of all such additional items / non tendered items will be worked out on the basis of rates quoted for similar items in the contract wherever existing or on engineering rate analysis based on prevalent fair price of labour, material and other components as required.

The tendered rates, shall hold good for any increase or decrease in the tendered quantities up to variation of 25% and as stipulated elsewhere for legitimate completion of works as per original design or scope of work and on account of any modification or alteration suggested and where the variation is for the respective item is beyond 25%, the rate for the respective item may be reviewed on mutually agreed terms.

In the event of any deviation being ordered which in the opinion of the Tenderer changes the original nature of the Contract, he shall within fifteen days of having been so ordered bring this to the notice

of the Employer with the reasons but nevertheless carry it out and the disagreement as to the nature of work and the rate to be paid therefore shall be resolved in accordance with Clause under caption "SETTLEMENT OF DISPUTES AND ARBITRATION".

36. **SUBSTITUTION:** Should the Tenderer desire to substitute any materials and workmanship, he must obtain the approval of the Employer in writing for any such substitution well in advance. In respect of Materials whose makes are not specified in the tender, specific approval of the Employer has to be obtained in writing before their usage.

37. **PREPARATORY WORK FOR UTILIZATION OF THE FACILITY AFTER COMPLETION:** The whole of the work shall be thoroughly inspected by the Tenderer and deficiencies & defects, if any shall be set right. On completion of such inspection, the Tenderer shall inform the Employer that they have completed the work and it is ready for inspection.

On completion the Tenderer shall clean all the area and its surroundings, equipments etc. and will leave the entire area clean and ready for immediate usage to the satisfaction of the Employer.

38. **CLEARING SITE ON COMPLETION ::** On completion of the works the Tenderer shall clear away and remove from the site all construction materials, plant & equipments, tools, surplus materials, scraps, rubbish and temporary works of every kind and leave the whole of the site and the works clean and in a workmanlike condition to the satisfaction of the Employer.

39. **DEFECT AFTER COMPLETION (defect liability period):** The DG Sets should be guaranteed against faulty design, materials manufacture and workmanship at least for a period of 24 months from the date of handing over of the system to the organization in perfect working condition. The guarantee should cover free replacement of defective parts, accessories, etc., and of whatever necessitated during the guarantee period. Items found defective during the guarantee period will be replaced by new one or repaired free of cost to the full satisfaction of the client. All parts supplied / replaced / fitted during the guarantee period shall not attract transport charges etc. If at any time during the guarantee period the DG is out of order for more than Seven days at a time, then the guarantee period will be extended by the period of break down.

The Tenderer shall make good at his own cost and to the satisfaction of the Employer all defects, or other faults which may appear within **24 months** after completion of the work(defect liability period). In default, the Employer may employ and pay other agency or persons to amend and make good such damages, losses and expenses consequent thereon or incidental thereto such expenses shall be made good and borne by the Tenderer and such damages, loss and expenses shall be recoverable from the payment due to the Tenderer and in the event of amount retained being insufficient, recover the balance from the Tenderer from the amount retained under clause No 16. together with any expenses the Employer may have incurred in connection therewith.

During the defect Liability period (DLP) , the Tenderer has to supply the materials required to carry out AMC at periodical intervals as prescribed by the manufacture. AMC includes supply of consumables like supply of lubricating oil, Air filters, Oil filters etc.. This is in addition to regular and preventive maintenance works during DL period. The AMC charges during Defect Liability Period shall be deemed to have been included in the rates quoted by the Tenderer in the BOQ.

40. **CONCEALED WORKS ::** The Tenderer shall give due notice to the Employer wherever any work is to be buried or concealed in the building in the earth, flooring, walls or otherwise becoming inaccessible later on, in order that the work may be inspected and correct dimensions or measurements taken before such burial. In default whereof the same shall, in the opinion of the Employer / Consultant be either opened up for measurement at the Tenderer s expenses or no

payment may be made for such materials. Should any dispute or difference arise after the execution of any work as to measurements etc. or other matter which cannot be conveniently tested or checked, the notes of the employer shall be accepted as correct and binding on the Tenderer.

- 41. ESCALATION ::** The rate quoted shall be firm throughout the tenure of the contract (including extension of time, if any granted) and will not be subject to any fluctuation due to increase in cost of materials, labor, sales tax, Octroi or any other reason.
- 42. IDLE LABOUR::** Whatever the reasons may be, no claim for idle labor, additional establishment cost of hire and labor charges of tools and plants would be entertained under any circumstances.
- 43. SUSPENSION OF WORKS ::** If the Tenderer except on account of any legal restraint upon the Employer preventing the continuance of the work or in the opinion of the Employer shall neglect or fail to proceed with due diligence in the performance of his part of the contract or if he shall more than once make default, the Employer shall have the power to give notice in writing to the Tenderer requiring the work to be proceeded within a reasonable manner and with reasonable dispatch, such notice purport to be a notice under this clause.

After such notice shall have been given the Tenderer shall not be at liberty to remove from the site of the works or from any ground contiguous thereto any plant or materials to subsist from the date of such notice being given until the notice shall have been complied with. If the Tenderer fails to start the work within seven days after such notice has been given to proceed with the works as therein prescribed, the Employer may proceed as provided in **clause 44** (Termination of Contract by Employer).

- 44. TERMINATION OF CONTRACT BY EMPLOYER ::** If the Tenderer being a company go into liquidation whether voluntary or compulsory or being a firm shall be dissolved or being an individual shall be adjudicated insolvent or shall make an assignment or a composition for the benefit of the greater part, in number of amount of his creditors or shall enter into a Deed or arrangement with his creditors, or if the Official Assignee in insolvency, or the Receiver of the Tenderer in insolvency, shall repudiate the contract, or if a Receiver of the Tenderer's firm appointed by the court shall be unable, within fourteen days after notice to him requiring him to do so, to show to the reasonable satisfaction of the employer that he is able to carry out and fulfill the contract, and if so required by the employer to give reasonable security therefore, or if the Tenderer shall suffer execution to be issued, or shall suffer any payment under this contract to be attached by or on behalf of and of the creditors of the Tenderer, or shall assign, charge or encumber this contract or any payments due or which may become due to the Tenderer, there under, or shall neglect or fail to observe and perform all or any of the acts matters of things by this contract, to be observed and performed by the Tenderer within three clear days after the notice shall have been given to the Tenderer in manner hereinafter mentioned requiring the Tenderer to observe or perform the same or shall use improper materials or workmanship in carrying on the works, or shall in the opinion of the employer not exercise such due diligence and make such due progress as would enable the work to be completed within due time agreed upon, and shall fail to proceed to the satisfaction of the employer after three clear days notice requiring the Tenderer so to do shall have been given to the Tenderer as hereinafter mentioned, or shall abandon the contract, then and in any of the said cases, the Union may notwithstanding previous waiver determine the contract by a notice in writing to the effect as hereinafter mentioned, but without thereby effecting the powers of the employer of the obligations and liabilities of the Tenderer the whole of which shall continue in force as fully as if the contract, had not been so determined and as if the works subsequently executed had been executed by or on behalf of the Tenderer (without thereby creating any trust in favour of the Tenderer) further the employer or his agent, or servants, may enter upon and take possession of the work and all plants, tools, scaffolding, sheds, machinery, steam and other power, utensils and materials lying upon premises or the adjoining lands or roads and sell the same as his own property or may employ the same by means of his own servants and workmen in carrying on and completing the works or by employing any other

Tenderers or other persons or person to complete the works, and the Tenderer shall not in any way interrupt or do any act, matter of thing to prevent or hinder such other Tenderers or other persons or person employed from completing and finishing or using the materials and plants for the works when the works shall be completed, or as soon thereafter as conveniently may be, the employer shall give notice in writing to the Tenderer to remove his surplus materials and plants and should the Tenderer fail to do so within a period of 14 days after receipt by him the employer may sell the same by Public Auction and shall give credit to the Tenderer for the amount so realized. Any expenses or losses incurred by the employer in getting the works carried out by other Tenderers shall be adjusted against the amount payable to the Tenderer by way of selling his tools and plants or due on account of work carried out by the Tenderer prior to engaging other Tenderers or against the Security Deposit.

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

For the purpose of appointing the sole arbitrator referred to above, the employer will send within thirty days of receipt of the notice, to the Tenderer a panel of three names of persons who shall be presently unconnected with the organization for which the work is executed.

The Tenderer shall on receipt of the names as aforesaid, select any one of the persons name to be appointed as a sole Arbitrator and communicate his name to the employer within thirty days of receipt of the names. The employer shall thereupon without any delay appoint the said person as the sole Arbitrator. If the Tenderer fails to communicate such selection as provided above within the period specified, the competent authority shall make the selection and appoint the selected person as the Sole Arbitrator.

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

If the Arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever another Sole Arbitrator shall be appointed as aforesaid.

The work under the contract shall, however, continue during the arbitration proceedings and no payment due or payable to the Tenderer shall be withheld on account of such proceedings.

The arbitrator shall be deemed to have entered on the reference on the date he issued notice to both the parties fixing the date of the first hearing.

The arbitrator may from time to time with the consent of the parties enlarge the time for making and publishing the award.

The arbitrator shall give a separate award in respect of each dispute or differences referred to him. The arbitrator shall decide each dispute in accordance with the terms of the contract and give a reasoned award. The venue of arbitration shall be such place as may be fixed by the arbitrator in his sole discretion or in Chennai only.

The fees, if any, of the arbitrator shall if required to be paid before the award is made and published be paid half and half by each of the parties. The cost of the reference and of the award including the fees, if any, of the Arbitrator who may direct to and by whom and in what manner, such costs or any part thereof shall be paid and may fix or settle and amount of costs to be so paid.

The award of the arbitrator shall be final and binding on both the parties.

Subject to aforesaid the provisions of the Indian Arbitration Act, 1992 or any statutory modification or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.

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

46.CO -ORDINATION OF WORKS: The Tenderer shall execute the works in co-ordination with the other agencies like air-conditioning, electrical etc., involved in the works. The work site shall be neatly cleaned as and when necessary so that the works of other agencies can be carried out. Failure on part of the Tenderer to clean the work site will empower the employer to engage other agencies and recover the cost from the Tenderer.

47. ELECTRICAL POWER, WATER AND TOILET FACILITIES: The Tenderer have to make his own arrangements towards the electrical power required for the works in view of the power restrictions imposed by TNEB. The Tenderer shall engage a licensed electrician to carryout and maintain his electrical system. The work shall not be stopped on account of power failure.

The tenderer has to make their own arrangements for procurement of water for construction purposes.

Common toilet facility is available at the work site. A portion of the same can be used by the tenderer and they shall always maintain the same hygienically clean condition.

48.TENDERED VALUE: The lowest tendered value shall be the total of all the items including the buyback items.

49.The work should be carried out with full co-ordination / co-operation of occupants in the Office without damaging any permanent structures or furniture belonging to them. If any damage occurs, the cost of same will have to be reimbursed by the Tenderer

50.The tenderer shall quote under Part B – Price Bid towards annual non-comprehensive maintenance contract for a period of three years for both DG Sets after the defect liability period of Two years. This amount under Part B shall be taken into consideration for tender evaluation purposes. The tenderer should also produce Bank guarantee for a value of 10% of the charges quoted under Annual maintenance contract before submission final bill for the capital work.

51. TESTING, MANUFACTURER'S TESTS, PRE-COMMISSIONING TESTS AND COMPLETE COMMISSIONING

The General intent of this specification is to mention the relevant tests to be done and finished to the employer by the Tenderer. These are guide lines. However the Tenderer shall carry out such tests and complete all formalities as per relevant **Indian standard specifications**, Tariff Advisory Committee's rules and Fire insurance requirements and/or Electricity rules and Regulations as per Government Gazette and publications.

51.1 Testing of equipment:

The DG sets shall be subjected to the tests as per BS or IS requirements at the factory before dispatching the same. These tests shall be witnessed by representative of the client and consultant. The cost of this shall be indicated as a separate item and shall be considered in the tender evaluation process. The book let published by BS or IS (as the case may be) on these tests shall be made available in advance before the tests are carried out to the owner and consultant.

All equipment before installing at the site shall be tested and all such results produced to the employer. Nothing shall absolve the Tenderer from re-performing any tests that Tenderer may be called upon specifically by consultant/ employer/supply company or Electrical inspector. All equipments shall be tested jointly with the consultants/ employer as required by various sections of specifications and test data shall be furnished as required.

51.2 Pre- commissioning tests:

All rules, regulations and requirements of Electrical inspector/ government or local authorities and of Indian standard specifications and/ or rules and regulations stated in the Indian Electricity acts shall be strictly complied.

On completion of erection, the Tenderer shall clean all the equipments thoroughly and inspect the entire installation for correctness and shall furnish a report of completion to the consultant/ Employer. Pre commissioning tests shall commence only on approval of this report by the consultant/Employer.

All tests and certification there of shall only be carried out by those authorized, skilled, experienced and certified permit holders of the supervisor category of State/ central electrical licensing authority.

The following tests shall be conducted on alternator and Engine (DG set)

At the Factory test bed :

1) The Generator offered by the Tenderer should be tested for 24 hours at the factory at different load conditions which includes 100% load and 110% load for one hour in every 12 hours of test run as per BS 5514 standard.

At the Employers Site :

Testing the adequacy, suitability and the efficiency of the newly erected DG set has to be ascertained only by during operation of this set. Hence, it shall be essential on part of the Tenderer who has supplied and erected the DG set to operate the DG set in conjunction with the existing the load system before presentation of the final bill for the entire satisfaction of the Indian Bank / Consultant. **The operation shall be done for 8 hours per day for a week.**

Fuel charges for Factory and site test shall be deemed to have been included in the rates quoted by the Tenderer in the BOQ

Mechanical Operational Test:

Mechanical Operational Tests for all movable parts of switchgears, breakers, tripping devices etc.

Phase Sequence Test:

Phase Sequence Tests at all the relevant points for connecting correct R, Y and B as per the supply utility sequence, interlocks and tripping.

- All panels should be tested for interlocks, control tripping and all breakers to be tested for sequential tripping.
- Continuity Test
- Continuity tests shall be done for noting any short circuits and / or earthing of phases.
- Earthing Test
Earthing tests for continuity of Earth by earth Megger, on L.V. side. The earth resistance values shall not exceed 5 ohm.

51.3 Commissioning:

The tenderer shall prepare necessary drawings/tests and test reports for approval by CEIG / CEA, and obtain approval from them. On receipt of approval from CEA / CEIG, the tenderer shall submit necessary completion report to CEA, arrange for their inspection at site and obtain Safety Certificate for commissioning DG set and connected installations. Any expenditure payable to CEA / CEIG in obtaining approval / Safety Certificate etc. shall be borne by the tenderer. .

Prior to commencement of installation work, the Tenderer shall obtain the approval of layout of new equipments from CEA.

51.4 Operation of the DG set after Installation :

The Tenderer shall arrange to depute a senior operator to the site of works to operate the DG sets for a minimum period of 2 weeks after successful installation and approval of the installation by the local authorities. The operator shall impart training to the owners operators/Technicians in proper up –keep of the DG sets. The cost of these activities shall be deemed to have been included in the rates quoted by the Tenderer in the BOQ.

SAFETY CODE

Scaffolds

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

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

- v) Safe means of access shall be provided to all working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 m in length while the width between side rails in rung ladder shall in no case, be less than 290 mm for ladder up to and including 3 m in length. For longer ladders this width shall be increased at least 20 mm for each additional meter of length.
- vi) A sketch of the ladders and scaffolds proposed to be used shall be prepared and approval of the Engineer obtained prior to construction.

Other Safety Measures

- vii) All personnel of the Tenderer working within the plant site shall be provided with safety helmets, belts etc. 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 & Trenching

- ix) All trenches, 1.25 m or more in depth shall at all times be supplied with at least one ladder for each 30 m in length or fraction thereof. The ladder shall be extended from bottoms of the trench to at least 1 m above the surface of the ground. Sides of trenches which are 1.5 m or more in depth shall be stepped back to give suitable slope or securely held by timber bracing so as to avoid the danger

of sides collapsing. The excavated materials shall not be placed within 1.5 m of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.

- x) The Tenderer 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 or which may with the consent of the Tenderer, be paid to compromise any claim by any such person.

Demolition

- xi) Before any demolition work is commenced and also during the process of the work:
- All roads and open areas adjacent to the work site shall either be closed or suitably protected.
 - No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by the operator shall remain electrically charged.
 - All practical steps shall be taken to prevent danger to persons employed from the risk of fire or explosion or 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 Engineer should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the Tenderer should take adequate steps to ensure proper use of equipment by those concerned.
- Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
 - Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes shall be provided with protective goggles.
 - Those engaged in welding works shall be provided with welder's protective eyesight lids.
 - Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
 - When workers are employed in sewers and manholes, which are in use, the Tenderer 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 accidents to the public.
 - The Tenderer shall not employ men below the age of 18 years and women on the work of painting with products containing lead or any toxic material in any form. Wherever men above the age of 18 are employed on the work of such painting the following precautions should be taken:
 - No paint containing lead or lead products shall be used except in the form of paste or ready made paint. Paints like vinyl and epoxies having toxic fumes should be applied after following all precautions laid down by manufactures.

- ii. Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scrapped.
 - iii. Overalls shall be supplied by the Tenderer to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.
- xiii) When the work is done near any public place where there is risk of drownings all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

Hoisting Machines

- xiv) 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 defect and shall be kept in good repair and the good working order.
- 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.
- b. Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years shall be incharge of any hoisting machine including any scaffolding winch or give signals to operator.
 - c. In case of every hoisting machine and of every chain ring hook, shackle shovel and pulley block used in hoisting or as means of suspension the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be 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.
 - d. In case of departmental machines, the safe working load shall be notified by the Engineer. As regards Tenderer's machines, the Tenderer shall notify the safe working load of the machine to the Engineer whenever he brings any machinery to site of work and get it verified by the Engineer concerned.
- xv) Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum of the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary, should be provided. The workers should not wear any rings, watches and carry keys or other materials which are good conductors of electricity.
- xvi) All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use.

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

- xvii) 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 Tenderer.
- xviii) To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the Tenderer shall be open to inspection by the Labour Officer, Engineers of the Department or their representatives.
- xix) Notwithstanding the above clause from (i) to (xviii), there is nothing in these to exempt the Tenderer from the operations of any other Act or Rule in force in the Republic of India.

GENERAL INSTRUCTIONS

1. Canvassing in connection with tenders is strictly prohibited and the tenders submitted by the Tenderers who resort to canvassing will be liable to rejection.
2. All rates shall be quoted on the proper form of the tender alone.
3. An item rate tender containing percentage below / above will be summarily rejected. However, where a tenderer voluntarily offers a rebate for payment within a stipulated period, this may be considered.
4. On acceptance of the tender, the name of the accredited representative(s) of the Tenderer who would be responsible for taking instructions from the Employer / Architects shall be communicated to the Employer.
5. Special care should be taken to write the rates in figures as well as in words and the amounts in figures only, in such a way that interpolation is not possible. The total amount should be written both in figures and in words. In case of figures, the words "Rs." should be written before the figure of rupees and words "P" after the decimal figures, e.g. Rs.2.15p. and in case of words, the word "Rupees" should precede and the word "Paise" should be written at the end, unless the rate is in whole rupees and followed by the words "only", it should invariably be up to two decimal places. While quoting the rate in schedule of quantities, the word "only" should be written closely following the amount and it should not be written in the next line.
6. The Tenderer shall give a list of his relatives working with the Indian Bank along with their designations and addresses.
7. No employee of the Indian Bank is allowed to work as a Tenderer for a period of two years of his retirement from Indian Bank service, without the previous permission of the Indian Bank. The contract is liable to be cancelled if either the Tenderer or any of his employees is found at any time to be such a person who had not obtained the permission of the Indian Bank as aforesaid before submission of the tender or engagement in the Tenderer's service.
8. The tender for works shall remain open for acceptance for a period of 90 days from the date of opening of Techno Commercial Bid . If any tenderer withdraws his tender before the said period, then the Indian Bank shall be at liberty to forfeit Earnest Money paid along with the tender.
9. The tender for the work shall not be witnessed by a Tenderer or Tenderers who himself / themselves has / have tendered or who may and had / have tendered for the same work. Failure to observe this condition would render tenders of the Tenderers tendering as well as witnessing the tender liable to summary rejection.
10. It will be obligatory on the part of the tenderer to tender and sign and tender documents for all the component parts and that, after the work is awarded, he will have to enter into an agreement for each component with the Competent Authority in the Indian Bank.
11. ***The tenderer shall submit a blank copy of price bid indicating quoted / not quoted in the relevant column. This is to enable that the tenderer has quoted against all relevant items in order .***
12. The Tenderer, whose tender is accepted will be required to furnish by way of security deposit for the due fulfillment of his contract, such sum as will amount to two percent of the contract value within 14 days from the date of placement of order.

13. The EMD of the Tenderer whose tender is accepted, shall be forfeited in full in case he does not remit the Initial Security Deposit within the stipulated period or start the work by the stipulated date mentioned in the award letter. The successful tenderer to whom the contract is awarded will have to deposit as initial security deposit of 2% of the value of accepted tender cost including the Earnest Money as detailed in clause No.16 of the General Conditions of the Contract.

The acceptance of a tender will rest with the Employer which does not bind itself to accept the lowest tender, and reserves to itself the authority to reject any or all of the tenders received without assigning any reason. All tenders in which any of the prescribed conditions are not fulfilled or are incomplete in any respect are liable to be rejected. The employer reserves the right to accept the tender in full or in part and the tenderer shall have no claim for revision of rates/other conditions if his tender is accepted in part.

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

15.

Quoted rates and units different from prescribed in the tender schedule will be liable for rejection.

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

All taxes including Sales tax, work contract tax, or any other tax , any royalties, duties, levies, cess, entry tax, Octroi, profession tax, Sales Tax, purchase tax, turnover tax, or any other tax on material or finished work in respect of this contract shall be payable by the tenderer and the Employer will not entertain any claim whatsoever in respect of the same, and nothing extra shall be paid/reimbursed for the same subsequently.

16. Further the tenderer shall agree that until a formal agreement on stamp paper is prepared and signed, this tender shall constitute a binding contract between the tenderer and the Employer.
17. The tenderer, apart from being a competent Tenderer must associate himself with agencies of appropriate class who are eligible to tender for other related works connected directly or indirectly with the contract and employed by the employer.

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

Tenderer are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the site and dimensions, the means of access to the site, and obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. The Tender shall ensure that the proposed DG Sets shall be installed at the existing site conditions. Hence, the tenderers are advised to inspect the site carefully in this regard before quoting for the job.

A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. Submission of a tender by a tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and local site conditions and other factors bearing on the execution of the work.

18. All the competitive tenders will be received on the specified date and time. On the same day or on specified date & time in event of any compelling circumstances, the tenders will be opened in the presence of the available tenderer.

19. Both the envelope superscribed as “Techno-Commercial Bid” and “Price Bid” will be simultaneously accepted, but the envelope superscribed as “Techno-Commercial Bid “ alone will be opened and details of EMD etc., shall be recorded, while the Price Bid shall be maintained in the safe custody of the Employer.
20. After the technical evaluation, if necessary after discussions with the tenderer, such of those tenderer found technically acceptable will be short listed and their envelope containing “Price Bid” shall be opened on a given date and time in presence of the short listed tenderers with prior notice to them. The tenderers are expected to attend the tender opening and their inability in participating will not in any way prevent the employer undertaking the opening of the bids.
21. During the course of technical evaluation if found necessary the Employer / Consultant may seek supplementary price bids to bring the evaluation at par and any such price bids shall be prepared as stated in the tender and submitted in sealed envelopes superscribing “Supplementary Price Bid for the project of”. Such supplementary price bid shall be opened simultaneously with the original price bid on the prescribed date and taken into consideration in its evaluation. Voluntary submission of the supplementary price bid by the Tenderer / tenderer shall not be accepted and supplementary bids shall be limited to the details sought for by the Employer / consultant only. Any other un-related price variations furnished in supplementary price bids shall not be recognised and might be liable for rejections if undue information are furnished.
22. In case of other un-successful tenderers, EMD shall be returned treating it individually. The Employer reserves the right to accept or reject any of the offer's without assigning any reason and no dispute or negotiation will be entertained in this regard. The Employer's decision will be final in the matter.
23. The notice inviting tender, general rules & instructions for the guidance of tenderers shall form a part of the contract document. The successful tenderer/Tenderer, on acceptance of his tender by the Accepting Authority, shall, within 14 days from the stipulated date of start of the work sign on a stamp paper the contract consisting of:-
 - a) Standard form of Agreement on stamp paper.
 - b) Notice inviting tender, all the documents including tender, drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto. General conditions, Schedules leading to Technical Specification, Special Conditions, Technical Brochures in schedules submitted by the tenderer etc., Price Bid / Schedule Bill of Quantities.
24. The Tenderer shall take the measurement with Indian Bank's representatives / consultant and furnish all particulars and assistance in taking such measurement and calculations.
25. Final payment of the bill of the Tenderer will be made after the necessary completion certificate is issued by the consultants.
26. The rates quoted in the tender shall include all charges of any tools and plants, railway freight, labour conditions and fluctuations in the rates, VAT, sales tax, excise duty and other taxes and shall be firm for the duration of the contract. No escalation in the rates will be allowed under any circumstance, time should be considered as the essence of the contract.
27. Income tax as well as work contract tax as applicable shall be detected from the bills.

28. In case of any dispute, the matter will be referred to the Assistant General Manager, (P&E), Indian Bank, Corporate Office, Chennai - 600014.
29. For litigations, if any arising thereof, the competent court at Chennai alone will have jurisdiction.
30. For any item of work not covered above or any unforeseen items of work, payment will be made according to the rates as approved for similar nature of work and costing done by the Engineer or as per the current PWD / CPWD schedule or as per the analysis of materials costs including labour and 15% of profit to be supplied by the Tenderer.
31. All the items required for erection and commissioning of the DG Sets / materials shall be obtained from reputed dealers / stockist. The Tenderer shall produce to Indian Bank copy of the original bills of material purchased for verification.
32. The work should be done in coordination with the officials working at site. Preferably if necessary, the work can be undertaken during weekly holidays

TECHNICAL SPECIFICATIONS FOR DG SETS WITH STANDARD CONTROL PANEL

The capacity of DG Sets shall be of 1 No. 625 KVA, 1 No. 400 KVA with engine and alternator with suitable coupling. It shall be mounted on a common base frame as per the recommendations of engine manufacturer. The base frame shall be mounted with antivibration mounts / friction pads. The antivibration level of the Generator set shall be well within permissible limit fixed by the competent authority. Suitable foundation for installation of these DG sets have to be ascertained by the tenderer before quoting the tender itself and executed according to the instruction to the employer / consultants at their cost.

The DG set shall comprise of the following systems to make it complete in all respects.

1. Fuel oil system
2. Cooling water system
3. Starting system
4. Lub oil system
5. Exhaust system
6. Acoustic enclosure

The equipment shall be capable of delivering continuously at the generator terminals a net output not less than 625 KVA (500 KW at 0.8 PF) & 400 KVA (320 KW at 0.8 PF) when operating under the site and ambient parameters and conditions.

The design parameters of the generator and excitation system shall be so chosen, that the set is stable while running at any load between no load and full load and also during starting of motors / load.

Fuel Oil System

The fuel oil system shall comprise of fuel tank of capacity 1 No. 900 litres, filters, pipes, valves, etc. The inflow to the tank from the barrels shall be by a motor operated pump. The fuel oil tank shall be manufactured from MS sheet of standard thickness (14 SWG) with adequate stiffeners. The motor operated pump has to be supplied by the tenderer.

The service tank shall be provided with inlet, outlet, excess fuel return, overflow, air vent and drain connections, oil level gauge, etc.

Cooling Water System

The cooling water system shall be of radiator cooling type as per bill of quantities. The radiator shall be mounted along with DG set over the common base frame. This system shall be provided with temperature switch so that when the temperature of jacket water goes above the permissible limit, the engine shall stop and give an audio visual alarm.

Starting System

The starting system shall consist of DC motor energized by 24V batteries. The capacity of batteries shall be of 150 AH each to cater for minimum 4-5 consecutive starts.

The battery charger for charging the starting batteries shall be in-built with the engine and panel with suitable electrical interlocks. While running it has to charge from engine & during idling the battery to be charged from the panel / EB mains.

Lub Oil System

Lub oil system shall consist of an in-built sump provided in the engine, the engine driven gear pump, duplex filters and lub oil cooler etc.

A pressure regulator shall be mounted in the lub oil pump to control lub oil pressure. Filters and screens shall be provided in the L.O. system to remove foreign particles from circulation and prevent damage to bearing or mating surfaces. The L.O. system shall include L.O. pressure sensing device which shall cut off fuel supply to the engine as soon as the pressure falls below a preset value and shall give audio visual alarm. L.O. system shall be provided with pressure gauges and temperature gauges at inlet and outlet of L.O. Cooler.

Exhaust System

The exhaust gas from the engine manifold shall be connected to the turbo charger through a flexible joint. Outlet from the turbo charger shall be connected to a residential silencer through another set of expansion joints. The exhaust pipe (with suitable supporting structure) inside the DG plant shall be thermally insulated by means of lagging with 50 mm thick glass wool, covered with chicken mesh and cladding with 24 gauge aluminium sheet.

The intake air shall always be routed through a dry air filter by an air intake fan mounted suitably and the filter shall be mounted on engine. The turbo charger shall consist of a turbine wheel and a centrifugal compressor, separately encased but mounted on and rotating with a common shaft. The power to drive the turbine wheel shall be obtained from energy of engine exhaust gases. The charger shall be lubricated and cooled by engine lubricating oil. The diesel genset shall be in compliance with Bharat III/IV Euro III Emission standards (latest norms).

The constituents of exhaust gas should be well within permissible limit as per the local authorities like corporation, traffic police, state pollution board etc

Governing System

The governing shall be Electronic type with adjustable droop mechanism.

An over speed trip mechanism shall be provided to automatically shut off the fuel and to stop the engine in case the set speed reaches about 110% of the rated speed with audio alarm indication.

Diesel Engine

The diesel engine shall be 4 stroke, suitable hp (continuous moving) single action with multi cylinders. The engine shall be coupled to 625KVA & 400KVA alternator and delivering the rated output.

The engine shall be turbo charged after cooled with radiator for cooling and electrical starting arrangement with battery to start the engine.

The direction of rotation of engine shall be clearly marked on the set.

The engine shall also have accessories and gauges like indicators, filters and protection devices for the following faults or abnormalities.

- a. Cooling water temperature high
- b. Lub oil pressure low
- c. RPM meter
- d. Battery charging ammeter

The engine shall conform as specification BS:5514

Alternator

The generator shall be capable of delivering 625 KVA output (500 KW at 0.8 PF) and 400 KVA output (320 KW at 0.8 PF) with the terminal voltage differing from the rated value of not more than $\pm 1\%$ and the frequency not more than $\pm 1\%$.

The generator stator and rotor windings shall have class H insulation meeting the temperature limitations set forth in IS: 4722.

The excitation system shall be provided with high speed, solid state automatic voltage regulator.

Generator Standard Control Panel

The generator panel shall be of CRCA sheet steel of not less than 14 & 16 SWG thick, floor mounting, free standing, dust and water proof, sheet metal enclosed cubicle type. The panel shall be powder coated with bank approved colour.

The panels shall be complete with fuse switch / circuit breaker, protective relays, instruments, switches, fuses, indicating lamps, annunciation windows etc. as specified. A gland plate shall be provided at the bottom / top of the panel for termination of incoming and outgoing cables.

All equipments shall be so connected that the removal and replacement may be accomplished individually without disturbing other equipments.

Control and meter selection switches shall have integral name plates. Name plate for all other devices shall be located below the respective devices and shall be in English language only.

Instruments and devices mounted on the face of the control panel shall also be identified on the rear with instrument or device number.

Fuse links shall be provided for isolation of individual circuit from the bus distributing other circuits.

The terminal blocks shall be grouped as per circuit functions.

A continuous 25 x 3 mm copper earthing bus shall be provided throughout the length of the panel and shall have terminal lugs at each side for connecting to the station grounding bus. Space heaters of adequate capacity shall be provided to prevent moisture condensation and shall be provided with a thermostat and ON / OFF switch.

The panel shall be provided with door-operated incandescent lamp. It shall also be provided with switched socket of 5A rating.

The indicating meters shall be of Digital flush mounted type.

Generator incoming panel shall be provided with the following meters and relays.

1000 amps incoming ACB (near Genset output) and at Standard Control Panel,

- Earth fault relay
- 1 No. (0-600V) Digital AC Voltmeter
- 1 No. (0-1000A) Digital AC Ammeter
- 1 No. (0-500KW) Digital type meter
- 1 No. 0.5 lag – 1-0.5 lead digital p.f. meter
- 1 No. Digital KWH meter flush type
- 1 No. 16A DC ON/OFF double pole switch

- Battery charging arrangement consist of transformer, rectifier, resistance, D.C. ammeter, voltmeter, selector switch off / trickle / boost.
- 1 No. Auto/Manual/ Test selector switch
- 1 No. 45-55Hz Digital type frequency meter
- 3 Nos. push button for ACCEPT, RESET & Lampset
- 1 set of indication lamps for breaker ON/OFF indication
- Fuses,
- 3 Nos. twin core resin cast CTs ratio 1000/5-5A, 15VA Clause 1 for metering and 15VA, IP10 for protection

Annunciation shall be given for the following:

- Lub oil low pressure
- Engine over speed
- High water temperature
- Control source failure
- Fuel level low
- Engine starting failure
- Battery charge low
- Earth leakage trip

Acoustic Enclosure

Acoustic hood for housing the DG set to be mounted on a concrete/ platform. The acoustic enclosure shall be of suitable size as per norms prescribed by Central Pollution Control Board (CPCB). The guaranteed noise level shall be of 75 decibels at 1 mtr. distance or lesser value stipulated by CPCB.

The enclosure shall be of totally weather, vermin and dust proof to enable the generator to operate at an ambient temperature of 48°C. The outer casing of the container shall be of sheet steel of suitable thickness. The total container shall be of powder coated.

The overall dimensions of the acoustic enclosure (l x b x h) may please be indicated.

Earthing System

The complete D.G set has to be earthed with 25 x 3 mm copper flat as per BOQ with duplicate earth connection separately for alternator and control panel.

2 Nos. of earth electrodes for body earth and 2 Nos. earth electrode for neutral earth shall be provided as per IS-3043 with GI pipe ('B' Class) earth electrode. Interconnection of earth electrode, earthing of fuel oil tank, base frame etc. shall also be carried out as per relevant standards.

Approvals

It is the responsibility of the Tenderer to get the approval from relevant authorities like CEIG, other statutory authorities TNEB / CEA.

The Tenderer shall prepare necessary drawings for approval by Chief Electrical Inspector to Government, obtain approval for the same, arrange for the inspection by the Electrical Inspectorate Officials and obtain safety certificate from them for commissioning the installation (This building is fed by HT power supply).

The fees payable to CEA/ CEIG shall be borne by the Tenderer.

Cabling & Terminations

Power cable from alternator to control panel viz 3 x 3.5 core 400 Sq.mm. PVC insulated armoured aluminium cable shall be provided as per BOQ. All control cables between DG set and control panel are also in the scope of the DG set supplier. All end terminations to be carried out by crimping type aluminium / copper sockets.

Quantities

Payment will be made for the actual quantity of work executed viz cabling, earthing, fuel line, annunciation line, etc. Tenderers are instructed to quote rates for all measurable items like various size of cables, end terminations, piping valves, etc. which will be measured as per the finished installations as per pricing sheet enclosed.

Drawings and Manuals

The successful Tenderer shall submit the following GA drawings in three copies for approval by client.

- a. General arrangement of each equipment showing fixing dimensions, static weight
- b. Foundation drawing for DG set, if required
- c. Schematic control diagram for DG control panel
- d. TB wiring diagram
- e. After approval of above drawings and after completing of erection, the Tenderer shall submit 'As-Built' drawings in two copies with one set of reproducible to Employer
- f. One sets of operation and maintenance manuals for the each of the DG sets and auxiliaries shall be submitted to Employer.
- g. One set of operating tool kits shall be submitted to the Employer for each of the DG sets

INDIAN BANK, CORPORATE OFFICE,
No.254 - 260, Avvai Shanmugam Salai, Royapettah, Chennai - 600 014.
Ph: 044-28134306, Fax: 044-28134021

TECHNICAL SPECIFICATION FOR 625 KVA GENERATOR SET
(Details to be furnished by the tenderer)

Sl. No.	Description	Specification
1.	Generator KVA Rating / Model No.	625 KVA /
<u>Engine</u>		
2.	Make	
3.	Model No.	
4.	BHP Output	
5.	Cooling	
6.	Aspiration	
7.	No. of Cylinders	
8.	RPM	
9.	Compression ratio	
10.	Displacement (ltrs.)	
11.	Fuel oil	
12.	Fuel consumption at no load	
13.	Fuel consumption at 25% load	
14.	Fuel consumption at 50% load	
15.	Fuel consumption at 75% load	
16.	Fuel consumption at full load	
17.	Fuel consumption at 110% load	
18.	Capacity of fuel tank (litres)	
19.	Governor	
20.	Starting system	
21.	Lub oil specification	
22.	Lub oil sump capacity	
23.	Lub oil consumption (ltrs. per hour)	
24.	Coolant capacity (Engine + Radiator)	
25.	Lub oil change period (hrs.)	
26.	Emission compliance	
27.	Battery rating	

Sl. No.	Description	Specification
<u>Alternator</u>		
28.	Make and Model No.	
29.	Type	
30.	Voltage	
31.	Frequency	
32.	Phase	
33.	Rated current	
34.	Power factor	
35.	Enclosure	
36.	Voltage regulation	
37.	Class of Insulation	
<u>Control Panel</u>		
38.	Make	
39.	Type	
40.	Overall dimensions (L x B x H)	
41.	Finish	
42.	Sheet metal size	
43.	Make and type of contactors / circuit breakers	
44.	Make and type of instruments	
45.	Make and type of switch fuse units	
46.	Other facilities incorporated	
<u>Generator set</u>		
47.	Noise level	
48.	Overall dimensions of the DG set	
49.	Overall canopy dimension	
50.	Approx. Total weight (Dry)	
51.	Type of coupling/bearing details	

1.	TEST ON ENGINE: <ol style="list-style-type: none"> Engine starting time 12 hour running at full load followed by 1 hour running at 110% of load Fuel consumption test 1 hour running at full load 1 hour running at $\frac{3}{4}$ load 	
2.	Over Speed Test	
3.	TEST ON CONTROL PANEL <ol style="list-style-type: none"> Insulation resistance test High voltage withstand test Functional and operation test Secondary injection test on meters & relays Mechanical test on components 	
4.	TEST ON ALTERNATOR TCs to be furnished <ol style="list-style-type: none"> Insulation measurement High voltage test on rotor and stator windings Temperature rise test (test cert. review) Mechanical Balance Stator Voltage balance Over speed Stator phase sequence check Vibration & noise level Stator & rotor winding resistance measurement Overload Capability test 	
5.	TEST ON EXCITATION SYSTEM TCs to be furnished: <ol style="list-style-type: none"> High voltage test on windings Measurement of stator & rotor resistance Response test Open Circuit magnetisation test 	
6.	TEST ON VOLTAGE REGULATOR: <ol style="list-style-type: none"> Sensitivity test Response time test 	
7.	GENERAL <ol style="list-style-type: none"> Dimensional Check Bill of Material Checking of Assembly as per GA 	
8.	TEST ON ASSEMBLED SET: <ol style="list-style-type: none"> No load Test Load Tests at different loads for Specific Fuel Consumption Sound and Vibration measurement Test at different loads AVT / Governor response Test Overspeed Test Load Throw-off Test 	

TECHNICAL SPECIFICATION FOR 400 KVA GENERATOR SET**(Details to be furnished by the tenderer)**

Sl. No.	Description	Specification
52.	Generator KVA Rating / Model No.	400 KVA /
<u>Engine</u>		
53.	Make	
54.	Model No.	
55.	BHP Output	
56.	Cooling	
57.	Aspiration	
58.	No. of Cylinders	
59.	RPM	
60.	Compression ratio	
61.	Displacement (ltrs.)	
62.	Fuel oil	
63.	Fuel consumption at no load	
64.	Fuel consumption at 25% load	
65.	Fuel consumption at 50% load	
66.	Fuel consumption at 75% load	
67.	Fuel consumption at full load	
68.	Fuel consumption at 110% load	
69.	Capacity of fuel tank (litres)	
70.	Governor	
71.	Starting system	
72.	Lub oil specification	
73.	Lub oil sump capacity	
74.	Lub oil consumption (ltrs. per hour)	
75.	Coolant capacity (Engine + Radiator)	
76.	Lub oil change period (hrs.)	
77.	Emission compliance	
78.	Battery rating	

Sl. No.	Description	Specification
<u>Alternator</u>		
79.	Make and Model No.	
80.	Type	
81.	Voltage	
82.	Frequency	
83.	Phase	
84.	Rated current	
85.	Power factor	
86.	Enclosure	
87.	Voltage regulation	
88.	Class of Insulation	
<u>Control Panel</u>		
89.	Make	
90.	Type	
91.	Overall dimensions (L x B x H)	
92.	Finish	
93.	Sheet metal size	
94.	Make and type of contactors / circuit breakers	
95.	Make and type of instruments	
96.	Make and type of switch fuse units	
97.	Other facilities incorporated	
<u>Generator set</u>		
98.	Noise level	
99.	Overall dimensions of the DG set	
100.	Overall canopy dimension	
101.	Approx. Total weight (Dry)	
102.	Type of coupling/bearing details	

1.	TEST ON ENGINE: f. Engine starting time g. 12 hour running at full load followed by 1 hour running at 110% of load h. Fuel consumption test i. 1 hour running at full load j. 1 hour running at $\frac{3}{4}$ load	
2.	Over Speed Test	
3.	TEST ON CONTROL PANEL f. Insulation resistance test g. High voltage withstand test h. Functional and operation test i. Secondary injection test on meters & relays j. Mechanical test on components	
4.	TEST ON ALTERNATOR TCs to be furnished k. Insulation measurement l. High voltage test on rotor and stator windings m. Temperature rise test (test cert. review) n. Mechanical Balance o. Stator Voltage balance p. Over speed q. Stator phase sequence check r. Vibration & noise level s. Stator & rotor winding resistance measurement t. Overload Capability test	
5.	TEST ON EXCITATION SYSTEM TCs to be furnished: e. High voltage test on windings f. Measurement of stator & rotor resistance g. Response test h. Open Circuit magnetisation test	
6.	TEST ON VOLTAGE REGULATOR: c. Sensitivity test d. Response time test	
7.	GENERAL d. Dimensional Check e. Bill of Material f. Checking of Assembly as per GA	
8.	TEST ON ASSEMBLED SET: g. No load Test h. Load Tests at different loads for Specific Fuel Consumption i. Sound and Vibration measurement Test at different loads j. AVT / Governor response Test k. Overspeed Test l. Load Throw-off Test	

LIST OF APPROVED MAKE OF MATERIALS

- | | | | |
|----|---------------------------------|---|--|
| 1. | Alternator | : | Kirloskar / Stamford / Leroy Somer |
| 2. | Engine | : | Cummins / Catterpillar / Kirloskar -
Greens / MTU |
| 3. | ACB | : | Siemens / Merlin Gerin / L & T |
| 4. | Contactors & Relays | : | Siemens / Merlin Gerin/L & T |
| 5. | Control Wires, etc. | : | ATLAS / Finolex / Powerflux / Polycab
RR Cables |
| 6. | Meters | : | Cadal / Rishiba / AE |
| 7. | Push Button / Selector Switches | : | Essen / Vaishnav |
| 8. | Armoured Cables | : | CCI / Finolex / Universal / Polycab |
| 9. | Batteries | : | Exide / Amron |