



TENDER DOCUMENT

FOR

Supply & installation of silent type DG Sets for vertical expansion (2nd to 6th floors) of IWAI office cum R & D complex at A-13, Sector-1, Noida.

TENDER NO. : IWAI/PR/Bldg./42/2011 (Vol. - III)

INLAND WATERWAYS AUTHORITY OF INDIA

(MINISTRY OF SHIPPING, GOVT. OF INDIA)

A - 13, SECTOR - 1

NOIDA - 201301 (U.P.)

Phone : 0120-2521704, 2521744, Fax : 0120- 2543973,

Website : www.iwai.nic.in ; E-mail : iwainoi@nic.in



INLAND WATERWAYS AUTHORITY OF INDIA
(Ministry of Shipping, Government of India)
A-13, SECTOR-1
NOIDA – 201 301 (U.P)

Phone : 0120-2521704, 2521744, Fax : 0120- 2543973,
Website: www.iwai.nic.in ; E mail : iwainoi@hub.nic.in

Tender No : IWAI/PR/Bldg./42/2011 (Vol. - III)

Issued to : M/s

Date :

Sub: Supply & installation of silent type DG Sets for vertical expansion (2nd to 6th floors) of IWAI office cum R & D complex at A-13, Sector - 1, Noida.

Ref : Your letter no.

Dated :

Sir,

With reference to your letter cited on the above mentioned subject, please find enclosed herewith one set of tender document for the subject work. You are requested to go through the terms and conditions carefully and also visit/inspect the site to familiarize and submit your tender as per procedure explained in the tender document.

The last date for receipt of tender is 19.01.2013 upto 3:00 PM at IWAI, Noida and tender (Part-1 only) will be opened on 19.01.2013 at 3:30 PM at IWAI, Noida.

Issuance of tender document will not construe that such bidders are automatically considered qualified.

Dy. Director
IWAI, Noida



Supply & installation of silent type DG Sets for vertical expansion (2nd to 6th floors) of IWAI office cum R & D complex at A-13, Sector - 1, Noida.

PART – I

TECHNICAL BID



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INLAND WATERWAYS AUTHORITY OF INDIA
(Ministry of Shipping, Govt. of India)
A-13, SECTOR-1
NOIDA – 201301 (U.P)

NOTICE INVITING TENDER
Tender no. IWAI/PR/Bldg./42/2011 (Vol. - III)

IWAI invites sealed tenders in two cover system from the eligible firm for following work:

Name of work	Estimated cost (Rs.)	EMD (Rs.)	Time for completion	Last Date of sale of Tender Document	Last date and time of receipt & opening of tender.
Supply & installation of silent type DG Sets for vertical expansion (2 nd to 6 th floors) of IWAI office cum R & D complex at A-13, Sector - 1, Noida. (SH. : Supply and installation of 500 KVA and 380 KVA DG Sets, re-setting of 160 KVA DG Sets and dismantling and taking away of 125 KVA DG Set)	89.77 lakhs	1.80 lakhs	2 Months	17.01.2013	19.01.2013 3:00 PM 19.01.2013 3:30 PM

ELIGIBILITY CRITERIA:-

- (i) Manufacturers or authorised dealer of silent type DG Sets shall have valid registration in appropriate class with CPWD, MES, Railways or any Central/State Govt. Organization and satisfactory completion of at least three similar works each of value not less than Rs. 36.00 lakhs or two similar works each of value not less than Rs. 45.00 lakhs or one work of value not less than Rs. 72.00 lakhs in last 7 years (year ending March, 2012). Similar work shall mean works of Supply & installation of silent type DG Sets of 500 KVA and 380 KVA capacities.

OR

satisfactory completion of at least three similar works each of value not less than Rs. 36.00 lakhs or two similar works each of value not less than Rs. 45.00 lakhs or one work of value not less than Rs. 72.00 lakhs of CPWD, MES, Railways or any Central/State Govt. Organization in last 7 years (year ending March, 2012). Similar work shall mean works of Supply & installation of silent type DG Sets of 500 KVA and 380 KVA capacities.

- (ii) The firm should have average annual financial turnover of Rs. 27.00 lakhs of supply, installation, testing and commissioning of silent type DG Sets.
- (iii) The firm should not have incurred loss for more than 2 years during preceding five years ending 31st March, 2012.

- (iv) The firm shall be working in the field of supply, installation, testing and commissioning of silent type DG Sets work for the past 3 years consistently.
- (v) The firm should have valid registration for service tax VAT and should have Permanent Account Number (PAN).

Parties fulfilling the above indicative eligibility criteria can purchase tender document from office of the Dy. Director IWAI, A - 13, Sector - 1, Noida - 201301 by paying Rs. 500/- (Rupees five hundred only) in the form of non-refundable demand draft in favour of 'IWAI Fund' payable at Noida/New Delhi at any nationalized/scheduled bank on any working day from Monday to Friday during office hours between 9:30 to 18:00 hours up to the last date of issue of tender as indicated above. The tender document can also be downloaded from the IWAI's website "www.iwai.nic.in" & "www.eprocure.gov.in". Site can be inspected on all the working days during office hours. IWAI reserves the right to reject any or all the tender without assigning any reason thereof.

Sd/-
Dy. Director



INLAND WATERWAYS AUTHORITY OF INDIA
(Ministry of Shipping, Govt. of India)
A-13, SECTOR-1 NOIDA – 201301 (U.P)

No. IWAI/PR/Bldg./42/2011(Vol.-III)

NOTICE INVITING TENDER

IWAI invites sealed tenders in two cover system from the firm having valid registration in appropriate Class with CPWD, MES, Railways or any Central / State Govt. Organization for the following work:-

Name of work	Estimated cost (Rs.)	EMD (Rs.)	Time for completion	Last Date of sale of Tender Document	Last date and time of receipt & opening of tender.
Supply & installation of silent type DG Sets for vertical expansion (2 nd to 6 th floors) of IWAI office cum R & D complex at A-13, Sector - 1, Noida. (SH. : Supply and installation of 500 KVA and 380 KVA DG Sets, re-setting of 160 KVA DG Sets and dismantling and taking away of 125 KVA DG Set)	89.77 lakhs	1.80 lakhs	2 Months	17.01.2013	19.01.2013 3:00 PM 19.01.2013 3:30 PM

Detailed NIT eligibility criteria and tender document alongwith Instruction to the Bidders can be seen at IWAI's website i.e. www.iwai.nic.in and www.eprocure.gov.in

Dy. Director



FORM OF TENDER

To,

The Dy. Director,
Inland Waterways Authority of India,
A-13, Sector-1,
Noida – 201301 (U.P.)

Name of Work: Supply & installation of silent type DG Sets for vertical expansion (2nd to 6th floors) of IWAI office cum R & D complex at A-13, Sector - 1, Noida.

Sir,

1. Having visited the site and examined the General, Special and other Conditions of contracts, General specifications and Detailed specifications, Schedules and Bill of Quantities alongwith all appendix and annexure for the above work, I/We offer to execute the above said work in conformity with the said Conditions of Contract, Specifications, Schedule of quantities for the sum as stated in Bill of quantities of this tender Document or such other sum as may be ascertained in accordance with the said conditions of contract.
2. I/We undertake to complete and deliver the whole of the work comprised in the tender within the time as stated in the tender and also in accordance with the specifications, conditions and instructions as mentioned in the tender documents.
3. I/We have independently considered the amount of Liquidated Damages shown in the tender hereto and agree that it represents a fair estimate of the loss likely to be suffered by IWAI in the event of works not being completed in time.
4. I/We agree to abide by this tender. I/We agree to keep the tender open for a period of 90 days from the date of opening of price bids or extension thereto as required by the IWAI and not to make any modifications in its terms and conditions.
5. A sum or Rs.....(Rupees)
is hereby forwarded in the form of Demand Draft no..... dated issued by (name & branch of bank)
payable at as earnest Money. I/We agree, if I/We fail to keep the validity of the tender open as aforesaid or I/we make the modifications in the terms and conditions of my/our tender or I/we fail to commence the execution of the works as above than I/We shall become liable for forfeiture of my/our Earnest money, as aforesaid and IWAI shall without any prejudice to another right or remedy, be at the liberty to forfeit the said Earnest Money absolutely otherwise the said earnest money shall be retained by IWAI towards part of security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered. Should this tender be accepted, I/We agree to abide by and fulfill all the terms and conditions and provisions of this tender. No interest is payable on earnest money deposit and/or security deposit.

6. If this tender is accepted, I/We undertake to enter into, at my/our cost when called upon by the employer to do so, a contract agreement in the prescribed form. Unless and until a formal agreement is prepared and extended this tender together with your acceptance thereto shall constitute a binding contract.

7. I/We agree that if my/our tender is accepted, I/We am/are to be jointly and severally responsible for the due performance of the contract.

8. I/We understand that you are not bound to accept the lowest or any tender you may receive and may reject all or any tender without assigning any reason.

9. I/We are enclosing herewith "Time Activity Schedule" so as to complete the work within stipulated time.

10. I/We confirm that all statements documents, information submitted/given with this tender or in support of tender is/are true, genuine, authentic, legitimate and valid. I agree that at any time before award of work or after award to selected/successful bidder in case any of these statement document, information is/are found incorrect, false, willful misrepresentation or omission of facts or submission of false/forged documents, the EMD/Security deposit submitted by me/us shall be forfeited by IWAI.

11. I/We certify that the tender submitted by me/us is strictly in accordance with the terms, conditions, specifications etc. as contained in the tender document, and it is further certified that it does not contain any deviation to the aforesaid documents.

Date

Signature
Name
Designation

duly authorized to sign & submit tender for an on behalf of

(Name and address of firm)

M/s
.....
.....

Telephone Nos.

FAX No.

Witness:

Signature:

Name :

Occupation:

Address:

.....

Telephone nos.:

INSTRUCTION FOR SUBMISSION OF BID

1. All covering letters and information to be included in the bid shall be submitted along with the bid itself.
2. Tender should be submitted in two covers viz. separate sealed Envelope-1 (containing technical bid) and Envelope-2 (containing price bid) and both of these covers should be placed in an envelope duly super scribing clearly the name of the work “**BID FOR SUPPLY & INSTALLATION OF SILENT TYPE DG SETS FOR VERTICAL EXPANSION (2nd TO 6th FLOORS) OF IWAI OFFICE CUM R & D COMPLEX AT A-13, SECTOR - 1, NOIDA.**” and “**TO BE OPENED BY THE ADDRESSEE ONLY**” written prominently. The full name, postal address and Telex/telegraphic address of the Bidder shall be written on the bottom left hand corner of the sealed envelope. Further envelope containing each part shall be superscripted as under:
3. The first cover/envelope containing Part-1 shall be submitted along with the following documents and the cover should be super scribed with “**ENVELOPE-1 : TECHNICAL BID FOR SUPPLY & INSTALLATION OF SILENT TYPE DG SETS FOR VERTICAL EXPANSION (2nd TO 6th FLOORS) OF IWAI OFFICE CUM R & D COMPLEX AT A-13, SECTOR - 1, NOIDA.**”
 - a) Original bid document duly filled in and completed in all respects except prices, signed with rubber seal on each page as a proof of acceptance.
 - b) Earnest Money Deposit (Demand Draft).
 - c) Memorandum of Association & Article of Association/Partnership deeds, as applicable.
 - d) Copy of document in proof of registration as air-conditioning contractor in appropriate Class with CPWD, MES, Railways or any Central / State Govt. Organization. Description of the bidders works experience of similar nature during last seven years along with documentary proof (ending March, 2012).
 - e) Balance Sheet and the Profit & Loss Account together with Tax Audit Report duly certified by a firm of Chartered Accountant for the last 3 financial years.
 - f) Bidder shall furnish list of the supervisory persons and other technical persons he wish to deploy in this job along with their experience details.
 - g) Letter of Authority for signing and negotiation of bid.
 - h) Document in the respect of PAN, service tax, VAT number/registration.
 - i) Solvency certificate from any nationalized /scheduled bank.
 - j) Receipted copy of the return of Income filed with Income Tax Authority for last 3 years.
 - k) Receipted copy of Return of Employees Provident Fund (EPF) for last three years.
 - l) Any additional relevant information to be furnished by the bidder.

The Second cover containing Part-2 shall be submitted along with the following documents and the cover should be super scribed with “**ENVELOPE-2:PRICE BID FOR SUPPLY & INSTALLATION OF SILENT TYPE DG SETS FOR VERTICAL EXPANSION (2nd TO 6th FLOORS) OF IWAI OFFICE CUM R&D COMPLEX AT A-13, SECTOR-1, NOIDA.**”

- a) Schedule of prices duly filled in.

It may please be noted that:-

- (a) The price bid part shall not contain any terms and conditions whatsoever. These, if any, must be brought out in Part- I only. Any condition given in the price bid will not be taken into account and it will be sufficient cause for rejection of bid.
 - (b) Price bids of only those bidders whose technical and commercial proposals are complete and found acceptable, shall be opened in the presence of bidders or their authorized representatives who may like to be present, on a suitable date to be intimated to such tenderers separately.
4. Bidders are advised to submit their offers strictly based upon the detail terms and conditions contained in “INSTRUCTION TO BIDDERS” being a part of this tender document and not to stipulate any deviations. Should it, however, become unavoidable, deviations should be stipulated in part – I of the tender. IWAI reserves the right to evaluate bids containing such deviations and accept or reject any part or whole of the same without showing any reason whatsoever.
 5. IWAI reserves the right to reject any or all bids without assigning any reasons.
 6. Bids received late at IWAI’s office after the stipulated last date and time for receipt of bids due to any reason whatsoever, will not be considered. Bids shall be adjudged as non-responsive due to any of the following reasons:
 - (a) Bids submitted after the due date and time.
 - (b) Bids submitted without Earnest money,
 - (c) Bids submitted without certificate(s) in respect of the financial and technical qualification criteria.
 - (d) Bids submitted without documents to establish the eligibility criteria.
 - (e) Bids submitted without photocopies of the receipted copies of VAT, IT and PF Returns from the respective Competent Authority.
 - (f) Qualified Price Bid.
 - (g) Any other reason as applicable.
 7. The bid can only be submitted in the name of the bidder in whose name the bid documents are issued by IWAI.
 8. Any annotation or accompanying documentation in the bid shall be in Hindi or English language only and in metric system. Bid filled in any other language will be summarily rejected.
 9. The firms interested in the work must have a good track record and must not have been black-listed by any Government Organization/ PSUs / Statutory Body / Major Ports in course of last 5 years. Bids of such black listed firms will not be considered by the Authority. The intending tenderers must have positive net worth as on 31.03.2012. This fact should be certified by a Chartered Accountant. The tenderer must also submit banker’s certificate along with the offer regarding the financial credibility/solvency of the firm.

10. Bidder shall sign their proposal with the exact name of the firm to whom the bid document has been issued. The bid shall be duly signed and sealed by an authorized person of the bidders' organization as following:
 - (a) If the Tender is submitted by an individual, it shall be signed by the proprietor above his full name and full name of his firm with its current business address.
 - (b) If the Tender is submitted by the proprietary firm, it shall be signed by the proprietor above his full name and full name of his firm with its name and current business address.
 - (c) If the Tender is submitted by a firm in partnership, it shall be signed by all the partners of the firm above, their full names and current business address, or by a partner holding the power of attorney for the firm for signing the Tender in which cases a certified copy of the power of attorney shall accompany the Tender. A certified copy of the partnership deed and current business address of all the partners of the firm shall also accompany the Tender.
 - (d) If the Tender is submitted by a limited company, or a limited Corporation, it shall be signed by a duly authorized person holding the power of attorney for signing the tender in which case a certified copy of the power of attorney shall accompany the Tender. Such limited company or corporation may be required to furnish satisfactory evidence of its existence before the contract is awarded. 'Satisfactory evidence' means the certificate of incorporation of the limited company or corporation under Indian Companies Act, 1956.
 - (e) Two or more firms interested in work may also submit joint bid. In such case, all the firms have to submit a memorandum of understanding alongwith the joint bid. In that case, the lead partner will sign all tender documents. The sponsoring firm/lead partner shall submit complete information pertaining to each firm in the group and state along with the bid as to which of the firm shall have the responsibility for tendering and for completion of the contract document and furnish evidence admissible in law in respect of the authority assigned to such firm on behalf of the group of firms for tendering and for completion of the contract document. The full information and satisfactory evidence pertaining to the participation of each member of the group of firm in the firm in the Tender shall be furnished alongwith the Tender.
11. Bidders shall clearly indicate their legal constitution and the person signing the bid shall state his capacity and also the source of his ability to bind the bidder. The power of attorney or authorization or any other document constituting adequate proof of the ability of the signatory to bind the bidder shall be annexed to the bid. The owner may reject outright any bid unsupported by inadequate proof of the signatory's authority.
12. The bid document shall be completed in all respects and shall be submitted together with the requisite information and appendices. They shall be completed and free from ambiguity, change or inter-lineation.

13. If the space in the bid form or in the Appendices thereto is insufficient, additional pages shall be separately added. These pages shall be page numbered & signed by the Bidder.
14. Bidder shall set their quotation in firm figures and without qualification. Each figure stated should also be repeated in words and in the event of any discrepancy between the amounts stated in figures and words, the amount quoted in words shall be deemed the correct amount. Bid containing qualifying expressions such as “subject to minimum acceptance” of “subject to availability of material / equipment” etc. is liable to be rejected.
15. IWAI shall have a unqualified option under the said bid bond to forfeit the EMD in the event of Bidder failing to keep the bid valid upto the date specified or refusing to accept work or carry it out in accordance with the bid if the IWAI decides to award the work to the Bidder.
16. The EMD shall be retained with the IWAI until finalization of tenders. If any statements documents/information submitted by tenderer is found false/incorrect, willful misrepresented or omission of facts or fake/forged documents, the EMD shall be forfeited.
17. IWAI shall, however, release the EMD in respect of unsuccessful bidders within 30 (thirty) days of placement of order to successful bidder. EMD of successful bidder will be converted into security refundable deposit. In case of any breach of contract, EMD will be forfeited.
18. The EMD shall be retained with the IWAI until finalization of tenders. Further, security deposit as per the clause of Security shall be payable by the successful bidder. If the tenderer fails to furnish the security deposit or performance guarantee in accordance with tender conditions, EMD shall be forfeited. In the event of the Bidder becoming the successful Contractor. The amount of EMD would be adjusted against the Security deposit.
19. IWAI shall, however, arrange to release the EMD in respect of unsuccessful bidders within 30 (thirty) days of placement of order to successful bidder. No interest shall be payable on EMD by IWAI.

DEFINITIONS

1. The contract means the documents forming the tender and acceptance thereof and the format agreement executed between the Competent Authority on behalf of the Chairman, Inland Waterways Authority of India and the contractor, together within the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-charge and all these documents taken together shall be deemed to form one contract and shall be complementary to one another.
2. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them;
 - (i) The expression work or works shall unless there be something either in the subject or context repugnant to such constructions be construed and taken to mean the works by or by virtue of the contract to be executed whether temporary or permanent, and whether original offered substituted or additional.
 - (ii) The 'Contractor' shall mean the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company.
 - (iii) The 'Employer' means the Chairman, Inland Waterways Authority of India and his successors.
 - (iv) The 'Engineer/ Engineer-in-charge' means the Engineer officer who shall supervise and be in charge of the work and who shall sign the contract on behalf of the Employer.
 - (v) 'Engineer-in-charge representative' shall mean any officer of the Authority nominated by the Engineer to work on his behalf for supervision, checking, taking measurement, checking bills ensuring quality control, inspecting works, issue instructions and other related works for completion of the project.
 - (vi) 'IWAI/Authority/Department/Owner' shall mean the Inland Waterways Authority of India, which invites tenders on behalf of the Chairman, IWAI.
 - (vii) The 'Site' shall mean premises no. A-13, Sector – 1, Noida of owner on which the works are to be executed under this contract.
 - (viii) The term 'Day' shall mean a calendar day beginning and ending at midnight.
 - (ix) The term 'Week' shall mean seven consecutive calendar days.
 - (x) The term 'Month' shall mean the English calendar month.

- (xi) Excepted Risk are risks due to riots (other than those on account of contractors employees) war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion, revolution, insurrection, military or usurped power, any act of Govt. damages, acts of God, such as earthquake, lightning and unprecedented flood, and other causes over which the contractor has no control and accepted as such by the Accepting Authority or causes solely due to use or occupation by Govt. of the part the works in respect of which a certificate of completion has been issued or a cause solely due to Govt., faulty design of works.
- (xii) Market rate shall be as decided by the Engineer-in-charge on the basis of the cost of materials and labour at the site where the work is to be executed plus and percentage mentioned in tender to cover all overheads and profits.
- (xiii) Schedules referred to in these conditions shall mean the relevant schedules annexed to the tender papers or the standard schedule of rates of the Govt. mentioned with the amendments thereto issued up to the date of receipt of the tender.
- (xiv) District specifications mean specifications followed by the State Government in the area where the work is to be executed.
- (xv) Tendered value means the value of the entire work as stipulated in the letter of award.

Interpretation Clause

- The 'Chairman' means the Chairman of Inland Waterways Authority of India.
- Word Importing the singular number only includes the plural number and vice versa.



Integrity Pact

To,

M/s
.....
.....
.....
.....
.....

Sub:- NIT No. IWAI/PR/Bldg./42/2011 (Vol.-III) for the work of Supply & installation of DG Sets for vertical expansion (2nd to 6th floors) of IWAI office cum R & D complex at A-13, Sector - 1, Noida.

Dear Sir,

It is hereby declare that IWAI is committed to follow the principle of transparency, equity and competitiveness in public procurement.

The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender/bid documents, failing which the tenderer/bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected.

This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of the IWAI.

Yours faithfully

Dy. Director

To,

The Dy. Director,
Inland Waterways Authority of India,
A-13, Sector-1,
Noida – 201301 (U.P.)

Sub: Submission of Tender for the Work for Supply & installation of DG Sets for vertical expansion (2nd to 6th floors) of IWAI office cum R & D complex at A-13, Sector - 1, Noida.

Dear Sir,

I/We acknowledge that IWAI is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process.

I/We acknowledge that the making of the bid shall be regarded as an unconditional and absolute acceptance of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by IWAI. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, IWAI shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid in accordance with terms and conditions of the tender/bid.

Yours faithfully

(Duly authorized signatory of the Bidder(s))

To be signed by the bidders' and same signatory competent/authorised to sign the relevant contract on behalf of IWAI.

INTEGRITY AGREEMENT

This Integrity Agreement is made at on this Day of..... 20.....

BETWEEN

Chairman, Inland Waterways Authority of India represented through Chief Engineer, Inland Waterways Authority of India, A - 13, Sec. – 1, Noida.

IWAI, (Hereinafter referred as the 'Principal/ Owner', which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

.....
(Name and Address of the Individual/Firm/Company)
through(Hereinafter referred to as the
(Details of duly authorized signatory)
"Bidder/Contractor" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

Preamble

WHEREAS the Principal / Owner has floated the Tender [NIT No. IWAI /PR /Bldg. / 42 / 2011 (Vol.-III)] (hereinafter referred to as "Tender/Bid") and intends to award, under laid down organizational procedure, contract for "Supply & installation of DG Sets for vertical expansion (2nd to 6th floors) of IWAI office cum R & D complex at A-13, Sector - 1, Noida".

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as "Integrity Pact" or "Pact"), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:

Article 1: Commitment of the Principal/Owner

- 1) The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
 - (a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - (b) The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
 - (c) The Principal/Owner shall endeavour to exclude from the Tender process any person, whose conduct in the past has been of biased nature.
- 2) If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

Article 2: Commitment of the Bidder(s)/Contractor(s)

1. It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the IWAI all suspected acts of fraud or corruption or Coercion or Collusion of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
2. The Bidder(s)/Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:
 - a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the tender process or execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the contract.
 - b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
 - c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

- d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/representatives in India, if any. Similarly Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participate in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.
 - e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.
3. The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
 4. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.
 5. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/ her reputation or property to influence their participation in the tendering process).

Article 3: Consequences of Breach

Without prejudice to any rights that may be available to the Principal/Owner under law or the Contract or its established policies and laid down procedures, the Principal/Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the bidder/contractor accepts and undertakes to respect and uphold the Principal/Owner's absolute right:

1. If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days' notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. Such exclusion may be forever or for a limited period as decided by the Principal/Owner.
2. Forfeiture of EMD/Performance Guarantee/Security Deposit: If the Principal/Owner has disqualified the Bidder(s) from the tender process prior to the award of the contract or terminated/determined the contract or has accrued the right to terminate/determine the contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/Contractor.

3. Criminal Liability: If the Principal/Owner obtains knowledge of conduct of a bidder or Contractor, or of an employee or a representative or an associate of a bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

Article 4: Previous Transgression

- 1) The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
- 2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Principal/ Owner.
- 3) If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

Article 5: Equal Treatment of all Bidders/Contractors/Subcontractors

- 1) The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Subcontractors/ sub-vendors.
- 2) The Principal/Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
- 3) The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

Article 6- Duration of the Pact

This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 12 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.

If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority, IWAI.

Article 7- Other Provisions

- 1) This Pact is subject to Indian Law, place of performance and jurisdiction is the Headquarters of the Division of the Principal/Owner, who has floated the Tender.
- 2) Changes and supplements need to be made in writing. Side agreements have not been made.

- 3) If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
- 4) Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intensions.
- 5) It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Owner/Principal in accordance with this Integrity Agreement/ Pact or interpretation thereof shall not be subject to arbitration.

Article 8- LEGAL AND PRIOR RIGHTS

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

.....
 (For and on behalf of Principal/Owner)

.....
 (For and on behalf of Bidder/Contractor)

WITNESSES:

1.
 (Signature, name and address)

2.
 (Signature, name and address)

Place:

Date:

GENERAL CONDITIONS

1. All supplies proposed to be obtained on contract are as notified in Notice Inviting Tender published in newspapers.

This form will state the supplies to be made as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of the earnest money to be deposited with the tender and the amount of the security deposit to be deposited by the successful tender and the percentages, to be deducted from bills, copies of the specifications and any other documents required in connection with the work, signed for the purpose of identification by the Engineer-in-charge. These documents shall also be open for inspection by the contractor at the office of the Inland Waterways Authority of India during office hours.

2. In the event of the tender being submitted by a firm, it must be signed separately by each member thereof, in the event of the absence of any partner, it must be signed on his behalf by a person holding a valid power of attorney authorizing him to do so, such power of attorney shall be produced with the tender and it must disclose that the firm is duly registered under the Indian Partnership Act.
3. Receipts for payment made to a firm must also be signed by the several partners except where the contractor as described in their tender is a firm, in which case the receipt must be signed in the name of firm by one of the partners, or by some other person having authority to give effectual receipts for the firm.
4. Any person who submits a tender shall fill up the supplied form stating at what rate he is willing to undertake each item of the work. Tenderers who propose alteration in the work specified in the said form of invitation to tender or in the time allowed for carrying out the work or which contain any other conditions of any sort will be liable for rejection. No single tender shall include more than one work, but contractors wish to tender for two or more works shall submit a separate tender for each. Tenders shall have the name and number of the work to which they refer written outside the envelope.
5. The Engineer-in-charge or his duly authorized representative will open tenders in the presence of any intending bidders who may be present at the time, and will enter the amounts of the several tenders in a Comparative Statement in a suitable form. In the event of a tender being accepted a receipt for the earnest money forwarded therewith shall thereupon be given to the contractor who shall thereupon for the purpose of identification sign, copies of the specification and other documents mentioned in rule 1. In the event of a tender being rejected the earnest money forwarded with such unaccepted tender shall thereupon be returned to the respective bidder.
6. The officer inviting tenders shall have the right of rejecting any or all of the tenders without assigning any reason and will not be bound to accept the lowest tender.
7. The receipt of the Finance Department for any money paid by the contractor will be considered as payment to the Engineer-in-charge and the contractor shall be responsible for seeing that he produces a receipt signed by the Engineer-in-charge or the authorized signatory of Finance Department of Inland Waterways Authority of India (IWAI), Noida.

8. The person/persons, whose tender(s) may be accepted (herein after called the contractor) shall permit IWAI/Govt. at the time of making any payment to him for work done under the contract to deduct such sum as long with the sum already deposited as earnest money will amount to 5% of the total cost of the work. Such deduction to be held by Govt. by way of security deposit provided always that the Govt. for this purpose should be entitled to recover the amount from each running bill unit the balance of the amount of security deposit is realized. All compensation or other sums of money payable by the contractor under the terms of this contract may be deducted from or paid by the sale of a sufficient part of his security deposit. In case security deposit is reduced by reasons of any deductions or sale as aforesaid the contractor shall within 10 days make good in cash or demand draft in favour of the Inland Waterways Authority of India. The security deposit shall be collected from the running bills of that contractor at the rates mentioned above and the earnest money if deposited at the time of tender will be treated as part of security deposit. No interest shall be payable on security deposit or Earnest Money Deposit.
9. The Security Deposit of Contractor shall not be refunded before the expiry of guarantee period stipulated in the contract.

CLAUSES:

1. The contractor is to complete his work under this contract on or-before the date mentioned in the tender failing which he shall be subject to pay or allow deduction of one percent on the total amount of the contract for every day of delay subject to a total deduction of 10% of the tender value/agreement amount or the value of final bill whichever is more as liquidated damages to the IWAI.
2. In every case in which the payment or allowance mentioned in clause 1 shall have incurred for ten consecutive days, the Engineer-in-charge shall have the power to annul the contract and or have the supply completed at the contractors risk and expenses without any further notice to him and the contractor shall have no claim to compensation for any loss that may incur in any case.
3. If the contractor shall be hindered in the supply of the materials so as to necessitate an extension of the time allowed in this tender, he shall apply in writing to the Engineer-in-charge who shall grant it in writing if there are reasonable ground for it, and without such Authority in writing by the Engineer-in-charge, the contractor shall not claim exempted from the fine livable under Clause 2. For the completion of the rest of the works the contractor shall be entitled such extension of time as may be determined by the Engineer-in-charge.
4. The contractor shall inform the Engineer-in-charge of his intention of making delivery of materials and on the materials being approved the Engineer-in-charge or his authorized representative shall grant a receipt to him no material will be considered as delivered until so approved.
5. On the completion of the delivery of material the contractor shall be furnished with a certificate to that effect by the Engineer-in-charge but the delivery will not be considered complete until the contractor shall have removed all rejected materials and shall have the approved materials stocked or placed in such positions as be pointed out to him.

6. If at any time after the commencement of the supplies the Chairman, IWAI/Government shall for any reason whatsoever not require the whole or part thereof as specified in the tender to be supplied, the Engineer-in-charge shall in addition to his power to annul the contract in case of default on the part of the contractor, have power to terminate all liability of the IWAI/Govt. there under at any time after giving due notice in writing to the contractor of his desire to do so. In the event of such a notice being given:
 - (a) The Engineer-in-charge shall be entitled to direct the contractor to complete the supply of the material which are ready for delivery up to the expiry of the notice and thereafter to cease their supply, all the articles or supplies received and accepted up to that date shall be paid for at the tender rate, and.
 - (b) The contractor shall have no claim to any payment or compensation what-so-ever on account of any profit or advantage which he might have derived in consequence of the full execution of the contract but which he did not obtain owing to its premature termination or for any loss which he might have sustained on this account.
7. No payment should be made for a work estimated to cost rupees five thousand or less till the whole of the work shall have been completed and certificate of completion given. But in the case of work estimated to cost more than rupees five thousand and contractor shall on submitting the bill be entitled to receive a monthly payment proportionate to the part thereof then executed to the satisfaction of the Engineer-in-charge, whose certificate of the sum of payable shall be final and conclusive against the contractor.
8. Payment due to the contractor may, if so desired by him, be made to his bank instead direct to him, provided that the contractor furnishes to the Engineer-in-charge (1) an authorization in the form of a legally valid documents such as a power of attorney containing authority on the bank to receive payment and (2) his own acceptance of the correctness of the account made out as being due to him by Government or his signature on the bill or other claim preferred against Govt. before settlement by the Engineer-in-charge of the account of claim by payment to the bank while the receipt by such bank shall constitute a full and sufficient discharge for the payment, the contractor should, wherever possible present his bills duly receipted and discharge through his bankers.
9. Nothing herein contained shall separate to create in favour of the bank any rights or equities vis-à-vis the IWAI.
10. The materials shall be of the best description and in strict accordance with the specification and the contractor shall receive payment for such materials only as are approved and passed by the Engineer-in-charge.
11. In the event of the material being considered by the Engineer-in-charge to be inferior to that described in the specifications, the contractor shall on demand in writing forthwith remove the same at his own charge and cost and in the event of his neglecting to do so within such period as may be named by the Engineer-in-charge that office may have such rejected materials removed at the contractor's risk and the expenses incurred being liable to be deducted from any sums due or which may become due to the contractor:
 - (a) Contractor/supplier hereby declares that the goods, stores, articles sold or to be sold to the IWAI/ Govt. under this contract shall be of the best quality and

workmanship and shall be strictly in accordance with the specifications and particulars contained in the tender document and the contractor/seller hereby guarantees that the said goods/stores articles shall continue to confirm to the description and quality aforesaid for a period of 12 months from the date of delivery of the said goods/stores/article to the Engineer-in-charge and that notwithstanding the fact that the Engineer-in-charge may have inspected and on approved the said good articles be discovered not be conforming to the description and quality/aforesaid or to have deteriorated (and the decision of the Engineer-in-charge will be entitled to reject the said good/stores/articles or such portion there of as may be discovered not to confirm to the said description and quality). On such rejection the goods/articles stores will be at the contractors risk and the provisions contained in the tender document shall mutates mutinies apply to the removal of the goods/stores/articles rejected under this clause. The contractor/seller shall if called upon to replace the said goods/stores/articles or such portion thereof as has been rejected by the Engineer-in-charge or otherwise the contractor/seller shall pay to the IWAI such damages as may arise by reason of the breach of the condition herein contained. Nothing herein contained shall prejudice any other right of the IWAI/Govt. in that behalf under this contract or otherwise.

12. if the contractor or his work people or servants shall break, deface injure or destroy buildings, road, fence, enclosure, water pipes, cabbies, drains, electric or telephones posts or wires, trees, grass or grass land or any other property belonging to IWAI or any other contractor working in the same premises where the materials are being supplied, he shall make good the same at his own expenses and in the event or his refusing of failing to do so the damage shall be made good as required at his expenses by the Engineer-in-charge, who shall deduct the cost from any sums due, or which may become due, to the contractor.
13. The contractor shall supply at his own expenses all tools, plant and equipment's required for the due fulfillment of this contract and the material shall remain at his risk till the date of final delivery, unless it shall have been in the meantime remove for use by the Engineer-in-charge.
14. No material shall be brought to site or delivery given on Sundays or holidays without the written permission of the Engineer-in-charge. Normally all material shall be delivered during office house and with prior information to the Engineer-in-charge.
15. This contract shall not be sublet without the written permission of the Engineer-in-charge. In the event of the contractor subletting his contract without such permission he shall be considered to have thereby committed a breach of contract, and shall forfeit his security deposit and shall have no claim for any compensation for any loss.
 - (a) The Engineer-in-charge shall have power to make any alteration, omissions, additions or substitutions in the original specifications, drawings, designs, and instruction that may appear to him be necessary or advisable during the course of supply of the materials and the contractor shall be bound to supply the materials in accordance with any such instruction which may be given to him in writing signed by the Engineer-in-charge and such alterations, omissions, additions or substitution shall not invalidate the contractor, and altered, additional or substituted materials which the contractor may be directed to supply in the manner above specified as part of the work shall be supplied by the contractor on the same conditions in all respect for which he agreed to do the main work, and at the same rates, as specified in the tender for the main work. The time for the completion of the supply shall be extended in the

proportion that the altered, additional or substituted quantity of materials bears to the original quantities and the certificate of Engineer-in-charge shall be conclusive as to such proportion. And if the altered, additional or substituted materials include any class of materials, for which the rate is specified on this contract than such class of materials shall be supplied at the rates entered in the schedule of rates of the main contract direct on which the estimated cost shown in the tender is passed and in such class of materials are not entered in the schedule of rates of the main contract direct on which the estimated cost shown in the tender is passed and in such class of materials are not entered in the said schedule of rates than the contractor shall which seven days of the date or his receipt of the order to supply the materials inform the Engineer-in-charge of the rate which he intends to charge for such class of materials and if the Engineer-in-charge does not agree to his rate he shall give notice in writing and be at liberty to cancel this supply, such class of materials and arrange the supply thereof in such manner as he may consider advisable provided always that if the contractor shall commence supply or incur any expenditure in regard thereof the rates shall have been determined as lastly herein before mentioned time and in such case he shall only be entitled to be paid in respect of the supply made or expenditure incurred by him prior to the date of the determination of the rate as aforesaid according to such rate or rates shall be fixed by the Engineer-in-charge. In the event of any disputes the decision of the Chairman, IWAI shall be final and binding to all.

16. In respect of all labour directly or indirectly employed in the work for performance of the contractor's parts of this agreement the contractor shall at his own expense arrange for the safety provision as per CPWD safety code framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the contractor fails to make arrangement and provide necessary facilities as aforesaid he shall be liable to pay a penalty of Rs. 50/- for each default and in addition the Engineer-in-charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the cost incurred in that behalf from the contractor.
17. Except otherwise provided in the contract all questions and disputes relating to the meaning of the specification designs drawing and instructions herein mentioned as to the quality of workmanship or materials used on the work or as to any other question claim right matter or thing whatsoever in any way arising out of or relating to the contract, design drawings, specifications, estimates, instructions orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the completion, abandonment thereof shall be referred to the sole arbitrator or the person appointed by the Chief Engineer, IWAI in charge of work. At the time of such appointment, it will be no objection to any such appointment that the arbitrator so appointed is a IWAI/Government servant that he had dealt with the matter to which the contract relates and that in the course of his duties as Govt. servant he had expressed views on all or any of the matters in disputes or difference. The arbitrator to whom the matter is originally referred being transferred or vacating his office or being unable to act for any reasons, such C.E. or administrative head as aforesaid at the time of such transfer vacation of officer or inability to act shall appoint another person to act as arbitration in accordance with the terms of the contract that one person other than a person appointed by such Chief Engineer or administrative head of the IWAI as aforesaid should act as arbitrator and if for any reason, that is not possible, the matter is not to be referred to arbitration at all.

18. Subject to as aforesaid the provisions of the Arbitration Act, 1940 or any statutory modification or re-effacement thereof and the rules made there under and for time being in force shall apply to the arbitration proceeding under this clause.
19. It is term of the contract that the party invoking arbitration shall specify the disputes or disputes to be referred to arbitration under this clause together with the amount or amounts claimed in respect of such dispute.
The arbitrator(s) may from time to time with consent of the parties enlarge the time, for making and publishing the award.
- 19(a) The arbitrator/s shall make such inquiries and shall call upon such evidences as he may deem fit.
- 19(b) The arbitrator/s may call upon the parties for their personal appearance before him on the date fixed by him at the specified time and place.
- 19(c) That in case of non-appearance of either of the parties the arbitrator/s shall proceed ex-parte.
- 19(d) The decision of the arbitrator/s shall be binding on the parties, their legal representatives, successor and heirs.
- 19(e) The cost of the reference shall be on the sole discretion of the arbitrator/s.
20. On the breach of any terms or conditions of this contract by the contractor, the said owner/ IWAI shall be entitled to forfeit the security deposit or the balance thereof that may at that time be remaining and to release and retain the same as damages and compensation for the said breach but without prejudice to right of the said owner/IWAI to recover any further sums as damage from any sums due or which may become due to the contractor by Government or otherwise howsoever.
21. Without prejudice to any of the right or remedies under this contract. If the contractor dies the Engineer-in-charge on behalf of Chairman, IWAI shall have the option of terminating the contract without compensation of the contractor.
- 22.(1) Whenever any claim against the contractor for the payment of a sum or money arises out or under the contract, IWAI shall be entitled to recover such sum by appropriating in part or whole security deposit of the contractor and to sell any of his equipment etc. In event of the security being insufficient or if no security has been taken form the contractor then the balance or the total sum recoverable as the case may be, shall be deducted from any sum hence due or which at any time thereafter may become due from the contractor under this or any other contract with the Government. Should this sum be not sufficient to cover the full amount recoverable, the contractor shall pay to IWAI/Government on demand the balance remaining due.
- 22.(2) IWAI/Government shall have the right to cause an audit the technical examination of the works and the final bill of the contractor including all supporting vouchers abstract etc. to be made after payment of final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by the contractor under the contract or any work claimed by him to have been done by him under contract and found not to have been executed the contractor shall be liable to refund the amount of the overpayment and it shall be lawful for Government to recover the same from him in the manner described in sum clause (1) of this clause or in any other manner legally permissible and if as a result of audit and technical examination, it is found that contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by IWAI to the contractor.

- 22.(3) Provide that IWAI/Government shall not be entitled to recover any sum overpaid, not the contractor shall be entitled to payment of any sum paid short where such payment has been agreed upon between the Engineer-in-charge on the one hand and the contractor on the other under any term of the contract permitting payment for work after assessment by the Competent Authority.
23. The work is under progress and there are other contractors working under separate contract agreement with IWAI. Contractor/Supplier shall ensure that their material, workmanship, workmen do not obstruct/damage the work of other contractors and maintain a peaceful atmosphere. The entire work shall be done at contractor's risk. Any damage to the office property/outside property or injury to any the outsiders, office staff, staff and labour of the other contractors working at the same site under separate agreement with IWAI or to any of contractor own staff/labour shall be completely at contractor risks and costs. Contractor shall also undertake the necessary insurance cover for all their supervisor, staff and worker. The work is to be done in co-ordination with other contractors working at site. Contractor should undertake work in workman like manner and it should not create hindrance working at site.
24. **Force Majeure:**
- 24.1 If at any time during the continuance of this contract, it becomes impossible by reason of war, warlike operation, strikes, riots, civil commotion, epidemical sickness, pestilence, earthquake, fire, storm or floods, you shall during the continuance of such calamities be not bound to execute the contract provided always that the work shall be resumed immediately on the cessation or otherwise termination of the calamity and your obligations under various clauses of this contract shall continue to be in force and time necessary for the fulfillment of your obligation shall be extended correspondingly to the period for which the calamity lasted.
- 24.2 Non availability of power due to any reason shall not constitute force majeure.
- 24.3 Contractor will inform the Engineer in charge by fax, followed by confirmation by registered post, with appropriate documentation in support of the beginning and end of force majeure conditions as per clause stated above. The delivery period will suitably be extended by Engineer-in-charge if the causes for the delay are beyond the control of contractor and are as per the clause 24 above.
25. The bidder shall acquaint himself with the site of work, its approach roads, working space available for stacking of material, equipment, labour hutments, etc. before quoting. Since the building is occupied by IWAI, access to vehicles, officials and visitors to office building will be permitted from one side including access to basement and necessary barricading to provide safety of building and visitors shall be done by the contractor at his cost.
26. The contractor shall ensure that their material, workman do not obstruct/damage the window and curtain walls, glass panes, façade of building, office furniture, materials, racks and other goods, fixtures, etc and maintain a peaceful atmosphere and any damage to the building, glass panes, curtain wall or any fitting and fixtures of the existing building shall be made good by the contractor at his cost. The entire work shall be done at contractor's risk. Any damage to the property or injury to any of the staff, visitors and labour of the other contractors shall be at the contractor's risk. The contractor shall take necessary insurance cover for all their workmen working at the site.

SPECIAL CONDITION

1.0 Rates:

- 1.1 The rates quoted by the tenderer, shall be firm and inclusive of all taxes (including works contract taxes), duties and levies, octroi and all charges for packing forwarding, insurance, freight and delivery, installation, testing, commissioning etc. at site i/c temporary constructional storage, risks, overhead charges general liabilities/obligations and clearance form local authorities. However, the fee for inspections shall be borne by the department.
- 1.2 The contractor has to carry out routine & preventive maintenance for 12 months from the date of handing over. Nothing extra shall be paid.

2.0 Payment

- 2.1 The payment will be made only for the quantity actually supplied, executed and certified.
- 2.2 Payment will be made on completion of each item of work. However, payment of part quantity would be considered. Contractor shall submit their running bill for the payment after the measurement is recorded by the representative of the Engineer-in-charge in the measurement books. Part rate payment will not be permitted.
- 2.3 Necessary deduction for Security Deposit, TDS etc. shall be made from the bills.

3.0 Period of Completion

The completion period of 2 Months indicated in the tender documents is for the entire work of planning, designing, supplying, installation, testing, commissioning and handing over of the entire system to the satisfaction of the Engineer-in-charge.

4.0 Performance Guarantee:

- 4.1 The tenderer shall guarantee among other things, the following
 - (a) Quality, strength and performance of the materials used.
 - (b) Safe mechanical and electrical stress on all parts under all specified conditions of operation.
 - (c) Satisfactory operation during the maintenance period.
- 4.2 The successful tenderer shall submit an irrevocable performance guarantee of 5% of the tendered amount in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement within 15 days of issue of letter of intent. This guarantee shall be in the form of government securities of fixed deposit receipts or guarantee bonds of any scheduled bank or the State Bank of India in the specified format. The performance guarantee shall be initially valid up to the stipulated date of completion plus 60 days beyond. This bank guarantee shall be kept valid till the recording of completion certificate for the work by the Competent Authority.

5.0 Guarantee

- 5.1 All equipments shall be guaranteed for a period of 12 months form the date of taking over the installation by the department against unsatisfactory performance and /or break down due to defective design, workmanship of material. The equipment's of components, or any part thereof, so found defective during guarantee period shall be forth with repaired or replaced free of cost, to the satisfaction of the Engineer-in-charge. In case it is felt by the department that undue delay is being caused by the contractor in doing this, the same will be got done by the department at the risk and cost of the contractor. The decision of the Engineer-in-charge in this regard shall be final.

6.0 Power Supply

Electric service connection of 415 V, 3 Phase, 4 Wire, 50 Hz, AC supply shall be provided by the Deptt. for installation purpose free of charge.

7.0 Water Supply

Water supply shall be made available by the department at one point.

8.0 After Award of work

(i) The successful tenderer would be required to submit the following drawings/documents within 15 days of award of work for approval before commencement of installation.

(a) All general arrangement drawings.

(b) Details of foundations for the equipment, load, location etc. of various assembled equipment as may be needed generally by other agencies for purpose of their work. lift well etc.

(c) Complete layout dimensions for every unit/group of units with dimensions required for erection purposes.

(d) Any other drawing/information not specifically mentioned above but deemed to be necessary for the job by the contractor.

9.0 The successful tenderer should furnish well in advance three copies each of detailed instructions and manuals of manufactures for all items of equipments regarding installation, adjustments operation and maintenance i/c preventive maintenance & trouble shooting together with all the relevant data sheets, spare parts catalogue and workshop procedure for repairs, assembly and adjustment etc. all in triplicate.

10.0 Extent of work

10.1 The work shall comprise of entire labour including supervision and all materials necessary to make a complete installation and such tests and adjustments and commissioning as may be required by the department. The terms complete installation shall not only mean major items of the plant and equipment's covered by specifications but all incidental sundry components necessary for complete execution and satisfactory performance of installation with all layout charges whether or not those have been mentioned in details in the tender document in connection with this contract.

10.2 Minor building works necessary for installing of equipment, foundation, making of opening in walls or in floors and restoring to their original condition, finish and necessary grouting etc. as required.

10.3 Maintenance (Routine & Preventive) for one year from date of completion and handing over.

10.4 The work is a turnkey project. Any item required for completion of the project but left inadvertently shall be executed with in the quoted rates.

11.0 Inspection and testing:

11.1 Copies of all documents of routine and type test certificates of the equipment, carried out at the manufacturers premises shall be furnished to the Engineer-in-charge and consignee.

11.2 After completion of the work in all respect the contractor shall offer the installation for testing and operation.

12.0 Validity

Tenders shall be valid for acceptance for a period of 90 days from the date of opening of price bid.

13.0 Compliance with regulations and Indian standards

13.1 All works shall be carried out in accordance with relevant regulation, both statutory and those specified by the Indian Standards related to the works covered by this specification. In particular, the equipment and installation will comply with the following:

- (i) Factories Act.
- (ii) Indian Electricity Rules.
- (iii) IS & BS Standards as applicable.
- (iv) Workmen's compensation Act.
- (v) Statutory norms prescribed by local bodies like NOIDA etc.

13.2 Nothing in this specification shall be construed to relieve the successful tenderer of his responsibility for the design, manufacture and installation of the equipment with all accessories in accordance with currently applicable statutory regulations and safety codes.

13.3 Successful tenderer shall arrange for compliance with statutory provisions of safety regulations and departmental requirements of safety codes in respect of labour employed on the work by the tenderer. Failure to provide such safety requirement would make the tenderer liable for penalty of Rs. 50/- for each default. In addition, the department will be at liberty to make arrangement for the safety requirements at the cost of tenderer and recover the cost thereof from him.

14.0 Indemnity

The successful tenderer shall at all times indemnify the department, consequent on this works contract. The successful tenderer shall be liable, in accordance with the Indian Law and Regulations for any accident occurring due to any cause and the department shall not be responsible for any accident or damage incurred or claims arising therefrom during the period of erection, construction and putting into operation the equipments and ancillary equipment under the supervision of the successful tenderer in so far as the latter is responsible. The successful tenderer shall also provide all insurance including third party insurance as may be necessary to cover the risk. No extra payment would be made to the successful tenderer due to the above.

15.0 Erection Tools

No tools and tackles either for unloading or for shifting the equipment's for erections purposes would be made available by the department. The successful tenderer shall make his own arrangement for all these facilities.

16.0 Cooperation with other agencies

The successful tenderer shall co-ordinate with other contractors and agencies engaged in the construction of building, if any, exchange freely all technical information so as to make the execution of this works contract smooth. No remuneration should be claimed from the department for such technical cooperation. If any unreasonable hindrance is caused to other agencies and any completed portion of the work has to be dismantled and re-done for want of cooperation and coordination by the successful tenderer during the course of work, such expenditure incurred will be recovered from the successful tenderer if the restoration work to the original condition or specification of the dismantled portion of the work was not undertaken by the successful tenderer himself.

17.0 Mobilization Advance

No mobilization advance shall be paid for this work.

18.0 Insurance and Storage

All consignments are to be duly insured the cost of the supplier. The insurance covers shall be valid till the equipment is handed over duly installed, tested and commissioned.

19.0 Verification of correctness of Equipment at Destination

The contractor shall have to produce all the relevant records to certify that the genuine equipment from the manufactures has been supplied and erected.

20.0 Training

The scope of works includes on job technical training of two persons at site. Nothing extra shall be payable on this account.

21.0 Maintenance

21.1 Sufficient trained and experienced staff shall be made available to meet any exigency of work during the guarantee period of one year from the handing over of the installation.

21.2 The maintenance, routine as well as preventive for one year from the date of taking over the installation as per manufacturer's recommendation shall be carried out and the record of the same shall have to be maintained.

22.0 Interpreting Specifications

In interpreting the specifications, the following order of decreasing importance shall be followed in case of contradictions:

- (a) Schedule of quantities
- (b) Technical specifications
- (c) Drawing (if any)
- (d) General Specifications
- (e) Relevant IS or other international code in case IS code is not available.

23.0 Specifications

The work shall be carried out as per CPWD General Specifications for DG Set works 2004 as amended upto date along with the following changes, CPWD General Specifications for Electrical Works Part – I, II & IV as amended upto date, relevant IE rules, and as per directions of Engineer-in-charge. For electrical panels, CPWD General Specifications for Electrical Works Part – IV shall be applicable.

24.0 Programme Chart

24.1 The Contractor shall prepare an integrated programme chart in MS Project software for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, equipment and machinery required for the fulfillment of the programme within the stipulated period or earlier and submit the same for approval to the Engineer-in-Charge within ten days of award of the contract. **A recovery of Rs. 1000/ shall be made on per day basis in case of delay** in submission the above programme subject to a max. of **Rs. 20,000/-**.

24.2 The programme chart should include the following:

- (a) Descriptive note explaining sequence of the various activities.

- (b) Network (PERT / CPM / BAR CHART).
 - (c) Programme for procurement of materials by the contractor.
 - (d) Programme of procurement of machinery / equipments having adequate capacity, commensurate with the quantum of work to be done within the stipulated period, by the contractor.
- 24.3 If at any time, it appears to the Engineer-in-Charge that the actual progress of work does not conform to the approved programme referred above, the contractor shall produce a revised programme showing the modifications to the approved programme to ensure completion of the work. The modified schedule of programme shall be approved by the Engineer in Charge.
- 24.4 The submission for approval by the Engineer-in-Charge of such programme or the furnishing of such particulars shall not relieve the contractor of any of the duties or responsibilities under the contract. This is without prejudice to the right of Engineer-in-Charge to take action against the contractor as per terms and conditions of the contract.
- 24.5 Contractor shall give the Engineer-in-charge **on 5th day** of each month a progress report in MS Project with base line programme referred above for the work done during previous month.

GENERAL SPECIFICATION

1.0 The specifications given hereunder relate to the Supply & installation of silent type DG Sets (500 KVA and 380 KVA Capacity), resetting of 160 KVA DG Set and shall be read in conjunction with the appropriate International & Indian Standard Specifications.

2.0 Site

The delivery shall be made at the office cum R & D complex of Inland Waterways Authority of India, A – 13, Sector -1, Noida.

3.0 Scope of work

To supply two numbers of silent type Generator Sets of 500 KVA & 380 KVA Capacity including installation, testing and commissioning along with accessories and other items required for proper completion of the work as mentioned in the tender document and resetting of 160 KVA DG Set and dismantling and taking away of 125 KVA DG Set.

4.0 Exclusions

The following works associated with the installation of DG Sets.

Associated Works: Civil

- i) Foundation for installation of DG Sets.
- ii) Providing cutouts in slabs/walls for fuel pipes and cable etc. if required.
- iii) Finishing & making good of the above openings/cutouts.
- iv) MS Structure work for exhaust stack, exhaust pipe supports and fuel line supports etc.

Associated Works : Plumbing

- i) Providing fuel pipe line with valves.

5.0 Equipment :

5.1 All labours, materials, tools plants, machinery, equipments and any other things required for execution for work shall be arranged by the contractor at his own cost.

5.2 All arrangements for establishment, watch & ward of stores and security of sites, permits, license, appropriate vehicles for transportation etc. shall have to be made by the contractor at his own cost and nothing extra on this account shall be paid.

5.3 Testing and Commissioning shall include furnishing all labour, materials, instruments etc. and incidentals necessary for complete testing of each component as per the specifications and manufacturer's recommendations. Maintenance services for the DG Sets installation shall be provided during the defects liability period.

- 6.0** The prices also include packing charges, transportations charges and insurance as required. All necessary clearances as per the prevailing rules shall be obtained by the supplier for transportation of the Generator to the site. The packing shall be in such way as to prevent damages or deterioration in transit and final destination as mentioned in the tender. The packing should be sufficient to withstand rough handling and atmospheric condition.
- 7.0** On the completion of the work, the contractor shall clear away and remove from the site all construction plants, temporary works, surplus material and rubbish of every kind and leave the site and works clean to the satisfaction of the Engineer-in-charge.

TECHNICAL SPECIFICATIONS

(A) 500KVA DG SET

DIESEL GENERATOR SETS:

GENERAL:

The Diesel generator set shall consist of an alternator of required capacity coupled to a suitable capacity diesel engine with all accessories and controls such as starting device, lubricating arrangements, speed control, cooling arrangement, exhausting arrangement, automatic control devices, protection gear, instrument etc. as required and specified hereinafter.

1. ALTERNATOR:

General:

Alternator shall be of salient pole, brush less type, revolving field type and shall be self-excited & self-regulated. The alternator shall be of drip proof construction. Alternator shall generally conform to IS: 4722 and BS: 2613 and will be suitable for operation in tropical condition.

Frame:

Frame shall be of cast iron construction. The feet and terminal box mounting being cast integral with the frame.

The Stator:

The stator and rotor shall be wounded with synthetic enamel coated copper wires.

Bearing:

The bearings shall be of heavy duty pre-lubricated cartridge design, ball or roller bearings. Single bearing alternations shall have self-aligning ball or roller bearings. The end frames of the rotor shall be removable (from stator) without disturbing the bearings.

Ventilation:

Axial ventilation shall be employed. A direct driven centrifugal blower shall be fitted to supply and direct adequate airflow for efficient cooling of the alternator.

Terminals:

Terminals shall be housed in a suitable cast iron box fixed on to the stator frame. The terminals shall have ample clearance between phases and between phases to earth and shall be readily accessible. The terminals shall be suitable for receiving at least two 3.5core 400sq. mm. aluminium conductor PVC insulated. PVC sheathed and steel armoured cables.

Circuit Breaker:

1 No.800TP MCCB, with suitable enclosure shall be provided near DG Set.

Temperature Rise:

The alternator shall be suitable for temperature rise for 50⁰ C above ambient temperature of 45⁰ C shall be capable of withstanding 10% overload for one hour continuously.

Exciter Voltage Regulator:

Exciter of static type of semiconductor may be provided. Solid state voltage regulator with all accessories and relays shall be provided for proper voltage regulation.

Balancing:

The alternator rotating parts shall be dynamically balanced to ensure smooth vibration free running.

2. DIESEL ENGINE:**General:**

Diesel Engine shall be of heavy duty robust construction, suitable for continuous duty. Engine shall be of enclosed construction and engine case shall be made of grey iron castings. The cylinder heads shall be of cast iron and shall accommodate one suction valve. One exhaust valve (for each cylinder head) pistons shall be of cast aluminium and shall be provided with adequate number of sealing rings and scrapping rings. The big and small ends shall be fitted with bearings.

Accessories:

The Diesel engine shall be provided with the following.

- a. Electronic type governor with servo motor & oil pump shall be provided. The setting of speed of the engine should be manual by hand or by remote control operation.
- b. Lubricating arrangement shall be force-feed type with gear oil pump, oil service tank, oil filters and high oil pressure relief valve, etc. lubricating oil cooler shall be provided.
- c. Fuel injection system shall have separate fuel injection pump for each cylinder with fuel oil filter & service tank of required capacity.
- d. Starting system complete with electric starter & motor. 12/24V DC dynamo with battery charger, voltage regulator etc.
- e. Cooling water pump with high water temperature safety control.
- f. Air cleaner dry type, air suction pipe, exhaust pipe with silencer, thermal insulation etc.
- g. Turbo Charger
- h. Fly wheel with suitable coupling and guard.
- i. Heat exchanger mounted on DG set.
- j. Suitable 'stop' device to stop the engine in case any of the controlled variables exceed the upper or lower limits (Temperatures of cooling water and lube oil and pressure of lube oil and over speed)
- k. Indicating panel consisting of the following.
 - (i) Cooling water temperature gauge.
 - (ii) Lube oil pressure gauge.
 - (iii) Lube oil temperature gauge
 - (iv) Audio-visual signal to indicate 'abnormal' and conditions of the controlled variable described above with reset push button.
 - (v) Starting switch with key.
 - (vi) Battery amp. meter.
- l. Oil service tank of 700 litres whichever, is higher such as level indicator, manhole, valve inlet and outlet, air vent, drain plug, mounting pedestal, etc.

3. BASE:

The DG set, that is, diesel engine, alternator, etc. shall be mounted on a steel skid base. An oil and water drain block shall be provided on the base rail.

4. TESTING:

1. Diesel Generator Set

The following test shall be conducted on alternator and DG set.

a) Factor Test

The factory test shall incorporate the following.

- (i) Type tests
- (ii) Routine tests
- (iii) High voltage test
- (iv) Short circuit current test.
- (v) Instantaneous short-circuit withstand test.
- (vi) Insulation resistance test.

These tests shall be conducted as per the requirements of BS: 2613 or IS: 4722 and the original test certificate shall be furnished with supply of DG Set.: -

b) Site Tests

After the erection and wiring and earthing of DG set the following tests shall be conducted:-

- (i) Insulation resistance of the generator.
- (ii) Speed, no load voltage and full load voltage regulation.
- (iii) Frequency at no load, half load and full load
- (iv) load testing for 12 hours.

The reading shall be observed with calibrated materials. Only one meter shall be used for the test. The readings shall be properly submitted in triplicate. All consumable including fuel, lube oil etc., shall be supplied by contractor without any extra charges.

c) Testing of Controls

All the safety controls and protective device of the DG set shall be tested for correct calibration and operation. The results of the tests shall be tabulated and submitted in triplicate.

5.0 ACOUSTIC ENCLOUSER FOR 500 KVA DG SET:

5.1 THICKNESS OF SHEET- 14 G

High Class sheet metal fabricated enclosure for reducing the noise level of DG set & also acts as weather proof housing. Generator Sets will be an integral part of acoustic enclosure & whole construction will be on multi-fold sheet channels & ISMC sections. Enclosure construction is fully bolted keeping in view the major service requirements all doors are provided with specially designed hinges & lockable handles, battery is housed inside the enclosure.

5.2 ACOUSTIC MATERIAL

Rock wool in the form of slabs of 75-100 mm thickness & 48 Kg/ Metric cube density compressed alongwith 1.2 mm MS Perforated sheet. The sheet is pasted on the inside of the outer wall for anti-droning effect, 0.6 mm RP Fiber Tissue sandwiched between Rock wool layers Specification of Rock wool confirms to IS 8183.

Further to increase the life of Acoustic material resin coated fiber glass Tissue is provided on exposed surface of Rockwool slabs and the panels are supported by perforated sheets.

5.3 SURFACE TREATMENT

Weather proof and anti-corrosion treatment provided to the entire structure i.e. Powder coated & dependability and longer life.

* Surface treatment should be with seven tank process.

5.4 VENTILATION

Acoustic enclosure is designed in such a way that there are no hot pockets around engine and it is provided with suitable designed engine radiator/ or temperature to rise more than 5oC., above ambient temperature besides this provisions are mark in cooling air within Max.+ 2⁰

To achieve optimal output and minimum sound level from the DG set, suitable openings with acoustic hoods are provide for increasing the inflow of air required for combustion & forced ventilation. Air intake system as per the recommendations and engine requirement are provided.

* Acoustic hoods with noise splitters provided to block and reduce the sound leakage.

* The sound control system designed to suppress the sound level 75 db at 1 meters distance. As per requirement of Pollution Board

5.5 SILENCER

Specially designed low noise silencer shall be used. Silencer & engine exhaust outlet, Connected with flexible SS below.

5.6 VIBRATION ISOLATION

To avoid transfer of vibration from Generator Sets to enclosure & surrounding specially designed vibration isolators shall be used.

EQUIPMENTS SCHEDULE FOR 500 KVA DG SET

DIESEL GENERATOR SET

1.0 DIESEL ENGINE

- a) Make : CUMMINS/ CATERPILLAR/KIRLOSKAR
- b) Capacity : 500 KVA
- c) Speed : 1500 rpm
- d) No. of cylinders : 6 Nos. Cylinders
- e) Accessories : Fly wheel to suite flexible coupling.

ELECTRONIC GOVERNOR SUITABLE FOR SYNCHRONISING

Lubricating gear oil pump, oil tank, oil filter and high oil pr. Relief valve, oil cooler, etc.

Fuel injection pump and fuel oil filter.

Starting motor, battery leads and stand 12/ 24 VCC leadacid batteries, battery charger (battery AH capacity shall be min. 150 AH)

Turbo charger

Air cleaner and air suction pipe

Exhaust pipe- manifold flexible pipe.

Residential silencer

Air Cooling system complete with engine driven fan (Radiator water cooled system) .

Coupling and coupling guard

- f) Controls : Automatic ‘stop’ device if any of the following parameters are varied beyond upper/ lower limits, with visual indication.

Low- lube oil pressure.

Cooling water temperature (High)

Over- Speed

Over crank

Low coolant level.

- g) Digital Instrument Panel (for engine) : Integral mounted complete with wiring and connections and connections and comprising of :-
Starting switch with key.
Lube oil temperature gauge.
Water temperature gauge
Lube oil pressure gauge.
Battery charging ammeter hour- meter
Hour- Meter
RPM indicator
Visual alarm to pin- point the fault on tripping.
- h) Isolation Switchgear : 1 No. 800A TP MCCB on Alternator with incoming copper links between Alternator & MCCB, Outgoing copper links suitable to terminate to 2Nos. 3.5 core 400Sqmm Alu XLPE cable in suitable sheet steel painted enclosure, RYB lamp etc as required.
- i) Fuel tank. Fuel tank base frame and fuel piping : As per Schedule of Quantities.

2.0 ALTERNATOR

- a) Make : KEC/ STAM FORD
- b) Capacity : 500 KVA
- c) Speed : 1500 rpm
- d) Type : Brush less. Self excited and self regulated with Aux. Winding to meet PMG performance.
- e) Winding : Copper
- f) Class of insulation : Class 'H' (tropicalised)
- g) Exciter : IP- 23
- h) Bearings : Heavy duty pre- lubricated cartridge type
- i) Ventilation : Centrifugal fan.
- j) Terminals : Suitable for 800A TP MCCB incoming copper links & outgoing copper links from 800A TP MCCB to terminate 2Nos. 3.5 core 400Sqmm Alu XLPE cable.
: CT's shall be provide for parallel operation

(B) 380KVA DG SET

DIESEL GENERATOR SET

GENERAL:

The Diesel generator set shall consist of an alternator of required capacity coupled to a suitable capacity diesel engine with all accessories and controls such as starting device, lubricating arrangements, speed control, cooling arrangement, exhausting arrangement, automatic control devices, protection gear, instrument etc. as required and specified hereinafter.

1. ALTERNATOR:

General:

Alternator shall be of salient pole, brush less type, revolving field type and shall be self-excited & self-regulated. The alternator shall be of drip proof construction. Alternator shall generally conform to IS: 4722 and BS: 2613 and will be suitable for operation in tropical condition.

Frame:

Frame shall be of cast iron construction. The feet and terminal box mounting being cast integral with the frame.

The Stator:

The stator and rotor shall be wounded with synthetic enamel coated copper wires.

Bearing:

The bearings shall be of heavy duty pre-lubricated cartridge design, ball or roller bearings. Single bearing alternations shall have self-aligning ball or roller bearings. The end frames of the rotor shall be removable (from stator) without disturbing the bearings.

Ventilation:

Axial ventilation shall be employed. A direct driven centrifugal blower shall be fitted to supply and direct adequate airflow for efficient cooling of the alternator.

Terminals:

Terminals shall be housed in a suitable cast iron box fixed on to the stator frame. The terminals shall have ample clearance between phases and between phases to earth and shall be readily accessible. The terminals shall be suitable for receiving at least two 3.5core 240sq. mm. aluminium conductor PVC insulated. PVC sheathed and steel armoured cables.

Circuit Breaker:

1 No.630TP MCCB, with suitable enclosure shall be provided near DG Set

Temperature Rise:

The alternator shall be suitable for temperature rise for 50⁰ C above ambient temperature of 45⁰ C shall be capable of withstanding 10% overload for one hour continuously.

Exciter Voltage Regulator:

Exciter of static type of semiconductor may be provided. Solid state voltage regulator with all accessories and relays shall be provided for proper voltage regulation.

Balancing:

The alternator rotating parts shall be dynamically balanced to ensure smooth vibration free running.

2. DIESEL ENGINE:**General:**

Diesel Engine shall be of heavy duty robust construction, suitable for continuous duty. Engine shall be of enclosed construction and engine case shall be made of grey iron castings. The cylinder heads shall be of cast iron and shall accommodate one suction valve. One exhaust valve (for each cylinder head) pistons shall be of cast aluminium and shall be provided with adequate number of sealing rings and scrapping rings. The big and small ends shall be fitted with bearings.

Accessories:

The Diesel engine shall be provided with the following:

- a. Electronic type governor with servo motor & oil pump shall be provided. The setting of speed of the engine should be manual by hand or by remote control operation.
- b. Lubricating arrangement shall be force-feed type with gear oil pump, oil service tank, oil filters and high oil pressure relief valve, etc. lubricating oil cooler shall be provided.
- c. Fuel injection system shall have separate fuel injection pump for each cylinder with fuel oil filter & service tank of required capacity.
- d. Starting system complete with electric starter & motor. 12/24V DC dynamo with battery charger, voltage regulator etc.
- e. Cooling water pump with high water temperature safety control.
- f. Air cleaner dry type, air suction pipe, exhaust pipe with silencer, thermal insulation etc.
- g. Turbo Charger
- h. Fly wheel with suitable coupling and guard.
- i. Heat exchanger mounted on DG set.
- j. Suitable 'stop' device to stop the engine in case any of the controlled variables exceed the upper or lower limits (Temperatures of cooling water and lube oil and pressure of lube oil and over speed)

- k. Indicating panel consisting of the following.
 - (i) Cooling water temperature gauge.
 - (ii) Lube oil pressure gauge.
 - (iii) Lube oil temperature gauge
 - (iv) Audio-visual signal to indicate 'abnormal' and conditions of the controlled variable described above with reset push button.
 - (v) Starting switch with key.
 - (vi) Battery amp. meter.
- l. Oil service tank of 500 litres whichever, is higher such as level indicator, manhole, valve inlet and outlet, air vent, drain plug, mounting pedestal, etc.

3. BASE:

The DG set, that is, diesel engine, alternator, etc. shall be mounted on a steel skid base. An oil and water drain block shall be provided on the base rail.

4. TESTING:

1. Diesel Generator Set

The following test shall be conducted on alternator and DG set.

a) Factor Test

The factory test shall incorporate the following.

- i) Type tests
- ii) Routine tests
- iii) High voltage test
- iv) Short circuit current test.
- v) Instantaneous short-circuit withstand test.
- vi) Insulation resistance test.

These tests shall be conducted as per the requirements of BS: 2613 or IS: 4722 and the original test certificate shall be furnished with supply of DG Set.: -

b) Site Tests

After the erection and wiring and earthing of DG set the following tests shall be conducted:-

- i) Insulation resistance of the generator.
- ii) Speed, no load voltage and full load voltage regulation.
- iii) Frequency at no load, half load and full load
- iv) Load testing for 12 hours.

The reading shall be observed with calibrated materials. Only one meter shall be used for the test. The readings shall be properly submitted in triplicate. All consumable including fuel, lube oil etc., shall be supplied by contractor without any extra charges.

c) Testing of Controls

All the safety controls and protective device of the DG set shall be tested for correct calibration and operation. The results of the tests shall be tabulated and submitted in triplicate.

5.0 ACOUSTIC ENCLOUSER FOR 380KVA DG SET:

5.1 THICKNESS OF SHEET- 14 G

High Class sheet metal fabricated enclosure for reducing the noise level of DG set & also acts as weather proof housing. Generator Sets will be a integral part of acoustic enclosure & whole construction will be on multi-fold sheet channels & ISMC sections. Enclosure construction is fully bolted keeping in view the major service requirements all doors are provided with specially designed hinges & lockable handles, battery is housed inside the enclosure.

5.2 ACOUSTIC MATERIAL

Rock wool in the form of slabs of 75-100 mm thickness & 48 Kg/ Metric cube density compressed alongwith 1.2 mm MS Perforated sheet. The sheet is pasted on the inside of the outer wall for anti-droning effect, 0.6 mm RP Fiber Tissue sandwiched between Rock wool layers Specification of Rock wool confirms to IS 8183.

Further to increase the life of Acoustic material resin coated fiber glass Tissue is provided on exposed surface of Rockwool slabs and the panels are supported by perforated sheets.

5.3 SURFACE TREATMENT

Weather proof and anti-corrosion treatment provided to the entire structure i.e. Powder coated & dependability and longer life.

* Surface treatment should be with seven tank process.

5.4 VENTILATION

Acoustic enclosure is designed in such a way that there are no hot pockets around engine and it is provided with suitable designed engine radiator/ or temperature to rise more than 5oC. above ambient temperature besides this provisions are mark in cooling air within Max.+ 2^o

To achieve optimal output and minimum sound level from the DG set, suitable openings with acoustic hoods are provide for increasing the inflow of air required for combustion & forced ventilation. Air intake system as per the recommendations and engine requirement are provided.

* Acoustic hoods with noise splitters provided to block and reduce the sound leakage.

* The sound control system designed to suppress the sound level 75 db at 1 meters distance. As per requirement of Pollution Board

5.5 SILENCER

Specially designed low noise silencer shall be used. Silencer & engine exhaust outlet, Connected with flexible SS below.

5.6 VIBRATION ISOLATION

To avoid transfer of vibration from Generator Sets to enclosure & surrounding specially designed vibration isolators shall be used

EQUIPMENTS SCHEDULE FOR 380 KVA DG SET

1.0 DIESEL GENERATOR SET:

- a. Make : CUMMINS/ CATERPILLAR/KIRLOSKAR
- b. Capacity : 380KVA
- c. Speed : 1500 rpm
- d. No. of cylinders : 6 Nos. Cylinders
- e. Accessories : Fly wheel to suite flexible coupling.

ELECTRONIC GOVERNOR SUITABLE FOR SYNCHRONISING

Lubricating gear oil pump, oil tank, oil filter and high oil pr. Relief valve, oil cooler, etc.

Fuel injection pump and fuel oil filter.

Starting motor, battery leads and stand 12/ 24 VCC lead acid batteries, battery charger (battery AH capacity shall be min. 150 AH)

Turbo charger

Air cleaner and air suction pipe

Exhaust pipe manifold flexible pipe.

Residential silencer

Air Cooling system complete with engine driven fan (Radiator water cooled system).

Coupling and coupling guard

- f. Controls : Automatic 'stop' device if any of the following parameters are varied beyond upper/ lower limits, with visual indication.

Low- lube oil pressure.

Cooling water temperature (High)

Over- Speed

Over crank

Low coolant level.

- g. Digital Instrument Panel : Integral mounted complete with wiring and connections and connections and comprising of :-
- Starting switch with key.
- Lube oil temperature gauge.
Water temperature gauge
Lube oil pressure gauge.
- Battery charging ammeter hour- meter
- Hour- Meter
- RPM indicator
- Visual alarm to pin- point the fault on tripping.
- h. Isolation Switchgear : 1 No. 630A TP MCCB after Alternator with incoming copper links between Alternator & MCCB, Outgoing copper links suitable to terminate 2Nos. 3.5 core 240 Sqmm Alu XLPE cable in suitable sheet steel painted enclosure, RYB lamps etc as required
- i. Fuel tank. Fuel tank base : As per Schedule of Quantities.
frame and fuel piping

2.0 ALTERNATOR

- a. Make : KEC/ STAM FORD
- b. Capacity : 380 KVA
- c. Speed : 1500 rpm
- d. Type : Brush less. Self-excited and self regulated with Aux. Winding to meet PMG performance.
- e. Winding : Copper
- f. Class of insulation : Class 'H' (tropicalised)
- g. Exciter : IP- 23
- h. Bearings : Heavy duty pre- lubricated cartridge type
- i. Ventilation : Centrifugal fan.
- j. Terminals : Suitable for 630A TP MCCB incoming copper links & outgoing copper links from 630A TP MCCB to terminate 2Nos. 3.5 core 240Sqmm Alu XLPE cable.
: CT's shall be provide for parallel operation

LIST OF ACCEPTABLE MATERIALS

1.1 The following are the list of approved brands/ makes of equipments required under this tender.

Sr.	Description	Approved Makes
A)	Diesel Engine	: CUMMINS/ CATERPILLAR / KIRLOSKAR
B)	Alternator	: KEC/ STEMFORD
C)	APPLICABLE ONLY IF CONTROL PANEL REQUIRED	
i)	Switch Gears	: SCHNEIDER(COMPACT CVS) /L&T/ (D SHINE SERIES) SIEMENS (3 VL SERIES)
ii)	CTs	: CONTROL & SWITCH GEAR / KAPPA
iii)	Pipes	: GST/JINDAL HISSAR/TATA

NOTE: - For testing & commissioning fuel and lube oil shall be provided by contractor

PROFOMETREA FOR EXPERIENCE

DETAILS OF SIMILAR WORKS CARRIED OUT BY THE Firm

(SEPARATE SHEETS TO BE ATTACHED)

S. No	NAME OF ORGANISTON	NAME OF WORK	CONTRACT VALUE	SCHEDULED DATE and ACTUAL DATE OF COMPLECTON (EXTN. OF TIME, IF ANY)	ACTUAL REASON FOR DELAY IN COMPLEETION, IF ANY

FOMETREAT OF BANK GUARANTEE FOR PERFORMETREANCE SECURITY

To,
The Chairman,
Inland Waterways Authority of India,
A-13, Sector-I,
NOIDA – 201301.

WHEREAS..... (name and address of contractor) hereinafter called “the contractor” has undertaken, in pursuance of Contract No. Datedto execute..... (Name of Contract and brief description of Works) (hereinafter called “the contract”).

AND WHEREAS it has been stipulated by you in the said contract that the Contractor shall furnish you with a Bank Guarantee by a Nationalised/Scheduled bank of India for the sum specified therein as performance guarantee for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREOF we hereby affirm that we are the guarantor and responsible to you on behalf of the Contractor, up to a total of Rs..... (amount of guarantee) (Rupees..... (in words), such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract or of the works to be performed there under or of any of the contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until 28 days from the date of issue of the Defects Liability Certificate.

Signature and seal of the Guarantor.....

Name of the Bank

Address.....

Date.....

In the presence of

1.....

(Name of Occupation)

An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract and denominated in Indian Rupees.

PROFORMA FOR AGREEMENT

(TO BE SUBMITTED ON RS.100/- NON JUDICIAL STAMP PAPER)

CONTRACT AGREEMENT FOR THE WORK OF
Made this Day of.....
Between..... M/s

Hereinafter called the “Contractor” (which terms shall unless excluded by or repugnant to the context include its successors and permitted assigns) of the one part; and Inland Waterways Authority of India, A- 13, Sector- 1 Noida- 201301 (U.P.) hereinafter called the “OWNER” (which terms shall unless excluded by or repugnant to the context include its successors and permitted assigns) of the other part.

WHEREAS

- a) OWNER being desirous of getting executed the WORK mentioned, enumerated or referred to in the Bid Document including Notice Inviting Tender, Instruction to Bidders, General Condition of Contract, Special Conditions of Contract, Specifications, Time Schedule, Letter of Acceptance of Bid and other documents has invited Bids.
- b) CONTRACTOR has inspected SITE and surroundings of WORK specified in the Bid Documents and satisfied himself by careful examination before submitting his Bid as to the nature of the quantities, nature and magnitude of WORK, availability of equipment etc. necessary for the execution of WORK, the means of access to SITE, the position of supply of power and water thereto and the accommodation he may require and has made local and independent enquiries and obtained complete information as to the matters and things referred to, or implied in the Bid Document or having any connection therewith, and has considered the nature and extent of all probable and possible situation, delays, hindrances or interferences to or with the execution and completion of WORK, to be carried out under this CONTRACT, and has examined and considered all other matters condition and things and probably and possibly contingencies, and generally all matters incidental thereto and ancillary thereof effecting the execution and completion of WORK and which might have influenced him in making his Bid.
- c) The Invitation to Bid, instructions to Bidders, General Conditions of Contract, Description of Works and specifications, Plans, Time Schedule, Letter of Acceptance of Bid any and any other documents and enclosures, copies of which are hereto annexed are included in the expression “CONTRACT” :

AND WHEREAS

OWNER accepted the Bid of CONTRACTOR for the provision and the execution of WORK at the CONTRACT PRICE as indicated in the letter of award of work upon the terms and subject to the conditions of Contract.

Now this CONTRACT AGREEMENT witnesseth and it is hereby agreed and declared as follows:

1. In consideration of the payment to be made to CONTRACTOR for WORK to be executed by him, CONTRACTOR hereby covenants with OWNER that CONTRACTOR shall and will duly provide, execute and complete the work and things in CONTRACT, mentioned or described or which are to be implied therefrom or may be reasonably necessary for completion or stipulations mentioned in CONTRACT.
2. In consideration of the due provision, execution and completion of WORK by the CONTRACTOR in accordance with the terms of the CONTRACT, the Owner does hereby agree with CONTRACTOR that OWNER will pay to Contractor the respective amount for the work actually done by him and approved by Owner as per Payment Terms accepted in CONTRACT and payable to CONTRACTOR under provision of Contract; such payment to be made at such time and such manner as provided for in the CONTRACT.

AND

3. In consideration of the due provision, execution and completion of WORK, CONTRACTOR does hereby agree to pay such sums as may be due to OWNER for the services rendered by Owner to Contractor as set forth in CONTRACT and such other sums as may become payable to Owner towards loss, damage to the OWNER's equipment, materials etc. and such payments to be made at such time and in such manner as in provided in the CONTRACT.

IN WITNESS WHEREOF Parties executed these presents on the day and the year above written.

Signed and Delivered for
and on behalf of
CONTRACTOR

.....
.....

Date:
Place:

Signed and Delivered for
and on behalf of
OWNER (IWAI)

.....
.....

Date:
Place:

In presence of Witness (Signature with Name & Address)

1.
.....
2.
.....

1.
.....
2.
.....



Supply & installation of DG Sets for vertical expansion (2nd to 6th floors) of IWA
office cum R & D complex at A-13, Sector - 1, Noida.

PART – II

PRICE BID

BILL OF QUANTITIES

PART - I : SUPPLY

Sl.No	Description	Unit	Qty	Rate	Amount
1.0 1.1	D.G. SET (500KVA) Supply of 500 KVA silent type continues rated @ 1500 rpm. 3 Phase 4 wire, 415 Volts, 50Hz Ac, 0.85 PF, brushless, self-excited self-regulated class-H, IP 23 voltage regulated $<\pm 1\%$ Alternator coupled to a diesel engine developing required BHP at 1500 RPM under NTP conditions of BS: 5514, radiator water cooled, 6 cylinder, Electronic type governor complete with all accessories such as electric starter, starting batteries (150 AH), flywheel, coupling with guard, instrument panel, residential type silencer, fuel oil piping with valves, in- built fuel tank of minimum 500 litres of 14 swg sheet, GI fuel piping with required valves & accessories for required distance, AVM pads, special tools operation manual, including first fill of lube oil & supply of fuel oil of 500 litres with acoustic enclosure as per technical specifications and equipment schedule (Annexure-A). DG Set shall be suitable for Synchronizing/Parallel operations.(including 800A TP MCCB as an isolator on alternator with in the canopy)	Set	1		
2.0 2.1	D.G. SET (380KVA) Supply of 380 KVA silent type continues rated @ 1500 rpm. 3 Phase 4 wire, 415 Volts, 50Hz Ac, 0.85 PF, brushless, self-excited self-regulated class-H, IP 23 voltage regulated $<\pm 1\%$ Alternator coupled to a diesel engine developing required BHP at 1500 RPM under NTP conditions of BS: 5514, radiator water cooled, 6 cylinder, Electronic type governor complete with all accessories such as electric starter, starting batteries (150 AH), flywheel, coupling with guard, instrument panel, residential type silencer, fuel oil piping with valves, in built fuel tank of minimum 500 litres of 14 swg sheet, GI fuel piping with required valves & accessories for required distance, AVM pads, special tools operation manual, including first fill of lube oil & supply of fuel oil of 500 litres with acoustic enclosure as per technical specifications and equipment schedule (Annexure-B). DG Set shall be suitable for Synchronizing / Parallel operations. (including 630A TP MCCB as an isolator on alternator with in the canopy)	Set	1		

3.0	REBATE ITEMS (-)				
3.1	Dismantling & taking away the existing operational 125 KVA DG Set with Engine, Alternator (KIRLOSKAR make), and all accessories. AMF panel, Exhaust pipe & Fuel tank and Fuel oil piping.	SET	1	rebate (subtracted)	
	TOTAL OF (PART- I) (Rs.)				

PART - II : INSTALLATION & ANCILLARY WORK

S. No.	Description	Unit	Qty.	Rate	Amount
1.0	D.G. SET (500KVA)				
1.1	Receiving, loading, unloading, co-ordination, supervision, erection, approval from all authorities, testing & commissioning of 500 KVA continues rated @ 1500 rpm. 3 Phase 4 wire, 415 Volts, 50Hz Ac, 0.85 PF, brushless, self-excited self-regulated class-H, IP 23 voltage regulated $<\pm 1\%$ Alternator coupled to a diesel engine developing required BHP at 1500 RPM under NTP conditions of BS: 5514, radiator water cooled, 6 cylinder, Electronic type governor complete with all accessories such as electric starter, starting batteries (150 AH), flywheel, coupling with guard, instrument panel, residential type silencer, fuel oil piping with valves, in built fuel tank of minimum 500 litres of 14 swg sheet, GI fuel piping with required valves & accessories for required distance, AVM pads, special tools, operation manual, including first fill of lube oil & supply of fuel oil of 500 litres with acoustic enclosure as per technical specifications and equipment schedule (Annexure-A). DG Set shall be suitable for Synchronizing/Parallel operations. (including 800A TP MCCB as an isolator on alternator with in the canopy)	Set	1		
2.0	D.G. SET (380KVA)				
2.1	Receiving, loading, unloading, co-ordination, supervision, erection, approval from all authorities, testing & commissioning of 380 KVA continues rated @ 1500 rpm. 3 Phase 4 wire, 415 Volts, 50Hz Ac, 0.85 PF, brushless, self-excited self-regulated class-H, IP 23 voltage regulated $<\pm 1\%$ Alternator coupled to a diesel engine developing required BHP at 1500 RPM under	Set	1		

	NTP conditions of BS: 5514, radiator water cooled, 6 cylinder, Electronic type governor complete with all accessories such as electric starter, starting batteries (150 AH), flywheel, coupling with guard, instrument panel, residential type silencer, fuel oil piping with valves, in built fuel tank of minimum 500 litres of 14 swg sheet, GI fuel piping with required valves & accessories for required distance, AVM pads, special tools operation manual, including first fill of lube oil & supply of fuel oil of 500 litres with acoustic enclosure as per technical specifications and equipment schedule (Annexure-B). DG Set shall be suitable for Synchronizing / Parallel operations.(including 630A TP MCCB as an isolator on alternator with in the canopy)				
3.0	RE INSTALLATION OF 1No. D.G. SET (160KVA)				
3.1	Dismantling of existing (without canopy) 160 KVA DG Set (Kirloskar make) from basement & reinstallation with new acoustic enclosure/canopy as per technical specification of the same at outside the building but in the same premises (including cost of supply of acoustic enclosure/canopy + 1 No. 250A 4P MCCB as an isolator on alternator & accessories like copper link for cable terminations, inbuilt fuel tank alongwith fuel oil piping etc.)	Set	1		
4.0	ANCILLARY WORK Supply, erection, testing and commissioning of ancillary item of work as mentioned below for DG sets.				
a)	Provide & fixing exhaust piping with bends, flanges packing, hardwares,				
i)	200 mm dia medium class MS pipe	M	80		
ii)	100 mm dia medium class MS pipe	M	40		
b)	Provide and fix insulation of exhaust pipe with 50mm mineral wool having a density of 24Kg./Sq.mm.(U.P twiga/FGP) covered with wire mesh 26g aluminium cladding.				
i)	200 mm dia medium class MS pipe	M	80		
ii)	100 mm dia medium class MS pipe	M	40		

c)	Same as item No.4.1 (b) but insulation of DG Sets Silencers.				
i)	For 500 KVA DG Set	Set	1		
ii)	For 380 KVA DG Set	Set	1		
iii)	For 160 KVA DG Set	Set	1		
4.2	Provide & fixing of Stainless steel bellows complete with all accessories.				
i)	For 500 KVA DG Set	Set	1		
ii)	For 380 KVA DG Set	Set	1		
iii)	For 160 KVA DG Set	Set	1		
4.3	Fuel piping & Valves				
a)	Provide & fixing fuel piping with pipe supports bends, flanges packing, hardwares, and painting from main storage tank to day oil tank and day oil tank to DG set of following sizes.				
i)	25 mm dia medium class MS pipe	M	75		
b)	Valves Supply & fixing the following valves of approved make complete with flanges, bolts nuts and gaskets etc.				
a)	25 mm dia gate valve.	Nos.	6		
4.4	Supply & fixing of 990 liter (3.0 mm thick) fuel oil service tank with oil level indicator, inlet/outlet connection valve, air vent, pedestal for mounting etc.	Set	2		
4.5	Supply & fixing of fuel transfer hand operated rotary pump.	Set	1		
5.0	MS STRUCTURE WORK Supply, fabricated, transportation, hoisting, erection & painting of MS structure i.e channel angles, plates, flat, beam sheet etc. as per design including anchor bolts / dash fasteners/ bolts & nuts/hardwares etc. as required complete with painting with one coat of primer and two coats of synthetic enamel paint as per approved shade for exhaust stack, exhaust pipe supports fuel line supports etc. complete in all respects.	Ton	2		
	TOTAL OF (PART- II)	Rs.			

SUMMARY OF PRICES

Supply & installation of silent type DG Sets for vertical expansion (2nd to 6th floors) of IWAI office cum R & D complex at A-13, Sector - 1, Noida.

SECTIONS	DESCRIPTION	AMOUNT
PART - I	SUPPLY	
PART - II	INSTALLATION & ANCILLARY WORK	
	TOTAL	

Amount in words: