



# INDIAN INSTITUTE OF TECHNOLOGY DELHI HAUZ KHAS, NEW DELHI – 110016

## NOTICE INVITING E-TENDER IITD / WORKS (SP- 741) / 2016

Executive Engineer [Electrical], Indian Institute of Technology Delhi, Hauz Khas, New Delhi – 100016 [Phone No. 011-26591742] on behalf of Board of Governors invites **Item Rate Tender** in two parts [Part-I: Technical cum commercial, Part-II: Financial] from the OEM / OEA of Cummins / Mitsubishi / Caterpillar / MTU as per details given below:

1	Name of Work	:	<b>Supply, Installation, Testing &amp; Commissioning of 1 x 500 KVA DG set near water reservoir at IIT Delhi</b>
2	NIT No.	:	<b>8775/73/EW/IITD/2016-17</b>
3	Estimated cost	:	<b>Rs.63,83,887.00</b>
4	Earnest Money	:	<b>Rs.1,27,678.00</b>
5	Period of completion	:	<b>180 days</b>
6	Last date & time of bid submission	:	<b>30-12-2016 upto 05:00 PM</b>
7	Performance Bank Guarantee	:	<b>5% of the tendered amount</b>

The bid forms and other details may be downloaded from Central Public Procurement Portal <http://eprocure.gov.in/eprocure/app>. Aspiring Bidders who have not enrolled / registered in e-procurement should enroll / register before participating through the website <http://eprocure.gov.in/eprocure/app>. The portal enrolment is free of cost. Bidders are advised to go through instructions provided at 'Instructions for Bid Submission'.

Bidders can access Quotation / tender documents on the website (For searching in the NIC site, kindly go to Quotation Search option and type 'IIT'. Thereafter, Click on "GO" button to view all IIT Delhi Quotations). Select the appropriate Quotation / tender and fill them with all relevant information and submit the completed Quotation / tender document on the website <http://eprocure.gov.in/eprocure/app> as per the schedule given in the next page.

**No manual bids will be accepted. All bids (both Technical and Financial should be submitted in the E-procurement portal).**

**Executive Engineer [E],  
For & on Behalf of BOG, IIT Delhi**

**Ch. Head: PLN 05  
Work code- W02762**

C.....Nil

I..... Nil

O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.



**Copy to: -**

1. Institute Engineer
2. D.A. (Works Accounts) - for opening of tenders in the office of D.R. [SPS]
3. A.E.E. (E) Plg.
4. D.R. (A/Cs)
5. D.R. [SPS]
6. Notice Boards.
7. Office Copy
8. Web site Administrator, IITD

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C.....Nil

I..... Nil

O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.



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C.....Nil

I..... Nil

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D'Man /J.E.

A.E.E / A.E.

E.E.

**SCHEDULE**

1	Name of Organization	:	Indian Institute of Technology Delhi
2	Tender / Quotation Type [open / limited / EOI / auction / single]	:	Open
3	Tender / Quotation Category [services / goods / works]	:	Goods & Works
4	Type / Form of Contract [work / supply / auction / service / buy / empanelment / sell]	:	Work: IITD-8
5	Product Category [civil works / electrical works / fleet management / computer systems]	:	Electrical Works & minor civil works
6	Is Multi Currency Allowed?	:	No
7	Date of issue / publishing /start	:	<b>13-12-2016, 05:00 PM</b>
8	Document download start date	:	<b>13-12-2016, 05:00 PM</b>
9	Document download end date	:	<b>30-12-2016, 5:00 PM</b>
10	Date of pre-bid meeting	:	<b>N.A.</b>
11	Venue of pre-bid meeting	:	<b>-</b>
12	Last date & time of uploading of bids	:	<b>30-12-2016 upto 05:00 PM</b>
13	Date & time of opening of Technical Bids	:	<b>03-01-2017 at 11:00 AM</b>
14	Tender fee	:	NIL
15	EMD	:	Rs.1,27,678.00 [For EMD] (To be paid through RTGS/NEFT. IIT Delhi Bank details are as under: Name of the Bank A/C : IITD Revenue Account SBI A/C No. : 10773572622 Name of the Bank : State Bank of India, IIT Delhi, Hauz Khas, New Delhi-110016 IFSC Code : SBIN0001077 MICR Code : 110002156 Swift No. : SBININBB547 (This is mandatory that UTR Number is provided in the on-line quotation/bid. (Kindly refer to the UTR Column of the Declaration Sheet at Annexure-II)
16	No. of covers [1/2/3/4]	:	<b>02</b>
17	Address for communication	:	Executive Engineer [Electrical], Works Organization, Hauz Khas, IIT Delhi, New Delhi – 110016
18	Contact No.	:	011- 2659 1742
19	E-mail address	:	<a href="mailto:a26984@admin.iitd.ac.in">a26984@admin.iitd.ac.in</a> ; <a href="mailto:a26335@admin.iitd.ac.in">a26335@admin.iitd.ac.in</a>

C.....Nil

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## **INSTRUCTIONS FOR BID SUBMISSION**

As per the directives of Department of Expenditure, this Quotation / tender document has been published on the Central Public Procurement Portal (URL:<http://eprocure.gov.in/eprocure/app>). The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids on the CPP Portal.

More information useful for submitting bids on the CPP Portal may be obtained at:

<http://eprocure.gov.in/eprocure/app>

### **REGISTRATION**

- 1) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL:<http://eprocure.gov.in/eprocure/app>) by clicking on the link "Click here to Enroll". Enrolment on the CPP Portal is free of charge.
- 2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- 3) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- 4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.), with their profile.
- 5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse.
- 6) Bidder then logs in to the site through the secured log-in by entering their userID / password and the password of the DSC / e-Token.

### **SEARCHING FOR QUOTATION /TENDER DOCUMENTS**

- 1) There are various search options built in the CPP Portal, to facilitate bidders to search active Quotations / Tender by several parameters. These parameters could include Quotation ID, organization name, location, date, value, etc. There is also an option of advanced search for Quotations, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a Quotation published on the CPP Portal.
- 2) Once the bidders have selected the Quotations they are interested in, they may download the required documents / Quotation schedules. These Quotations can be moved to the respective 'My Quotations' folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the Quotation document.
- 3) The bidder should make a note of the unique Quotation ID assigned to each Quotation / Tender, in case they want to obtain any clarification / help from the Helpdesk.

### **PREPARATION OF BIDS**

- 1) Bidder should take into account any corrigendum published on the Quotation document before submitting their bids.

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- 2) Please go through the Quotation / Tender advertisement and the Quotation / Tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- 3) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the Quotation document / schedule and generally, they can be in PDF / XLS / RAR / DWF formats. Bid documents may be scanned with 100 dpi with black and white option.
- 4) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

### **SUBMISSION OF BIDS**

- 1) Bidder should log into the site well in advance for bid submission so that he/she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- 2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the Quotation document.
- 3) Bidder has to select the payment option as "offline" to pay the Quotation fee / EMD as applicable and enter details of the instrument.
- 4) A standard BoQ format has been provided with the Quotation document to be filled by all the bidders. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it , without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected.

OR

In some cases Financial Bids can be submitted in PDF format as well (in lieu of BOQ).

- 5) The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- 6) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done.
- 7) The uploaded Quotation documents become readable only after the Quotation opening by the authorized bid openers.
- 8) Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- 9) Kindly add scanned PDF of all relevant documents in a single PDF file of compliance sheet.

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**ASSISTANCE TO BIDDERS**

- 1) Any queries relating to the Quotation document and the terms and conditions contained therein should be addressed to the Quotation Inviting Authority for a Quotation or the relevant contact person indicated in the Quotation.
- 2) Any queries relating to the process of bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 1800 233 7315.

**GENERAL INSTRUCTIONS TO THE BIDDERS**

- 1) The Quotations will be received through portal <http://eprocure.gov.in/eprocure/app> . In the Technical Bids, the bidders are required to upload all the documents in .pdf format.
- 2) Possession of a Valid Class II/III Digital Signature Certificate (DSC) in the form of smart card/e-token in the company's name is a prerequisite for registration and participating in the bid submission activities through <https://eprocure.gov.in/eprocure/app> . Digital Signature Certificates can be obtained from the authorized certifying agencies, details of which are available in the web site <https://eprocure.gov.in/eprocure/app> under the link "Information about DSC".

Bidders are advised to follow the instructions provided in the 'Instructions to the Bidder' for the e-submission of the bids through the Central Public Procurement Portal for e Procurement at <https://eprocure.gov.in/eprocure/app>



## INFORMATION AND INSTRUCTIONS TO BIDDERS FOR E-TENDERING

Executive Engineer [Electrical], Indian Institute of Technology Delhi, Hauz Khas, New Delhi – 100016 [Phone No. 011-26591742] on behalf of Board of Governors invites **Item Rate Tender** in two parts [Part-I: Technical cum commercial, Part-II: Financial] from the OEM / OEA of Cummins / Mitsubishi / Caterpillar / MTU for the following work:

Sl. No.	N.I.T. No.	Name of work & Location	Estimated cost put to bid	Earnest Money	Period of completion	Last date & time of submission of bid, EMD and other documents as specified in the NIT	Time & date of opening of Technical Bid
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
1	877573/EW/IITD/2016-17	Supply, Installation, Testing & Commissioning of 1 x 500 KVA DG set near water reservoir at IIT Delhi	Rs.63,83,887.00	Rs.1,27,678.00	180 days	30-12-2016 upto 05:00 PM	03-01-2017 at 11:00 AM

1. The successful bidders shall be required to submit a performance guarantee of 5% of the tendered amount in the form of Bank Guarantee or F.D.R. from a Nationalized / Scheduled Bank within 15 days of issue of letter of intent before award of work. In case of failure by the Contractor to submit the performance guarantee within the specified period, full earnest money will be forfeited and the tender shall be treated as null and void. **The performance guarantee shall be initially valid up to the stipulated date of completion plus 60 (Sixty) days beyond that.**
2. Contractors who fulfill the following requirements shall be eligible to apply. Joint ventures are not accepted.

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- (a) Should have satisfactorily completed the works as mentioned below during last seven years ending previous day of last date of submission of bids
- a. one similar completed work costing not less than **Rs.51,07,110.00** with capacity of individual DG set being 80% of the individual capacity [rounded off to the next available higher capacity] of the equipment i.e. DG set proposed in the NIT
- or
- two similar completed works each of costing not less than **Rs.38,30,330.00** with capacity of individual DG set being 80% of the individual capacity [rounded off to the next available higher capacity] of the equipment i.e. DG set proposed in the NIT
- or
- three similar completed works each of costing not less than **Rs.25,53,550.00** with capacity of individual DG set being 80% of the individual capacity [rounded off to the next available higher capacity] of the equipment i.e. DG set proposed in the NIT with some Central / State Govt. Department / Central Autonomous Body / Central Public Sector Undertaking. Similar work shall mean works of **Supply, installation, testing and commissioning of DG Sets of desired capacity i.e. 400 KVA and above**. The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum; calculated from the date of completion to last date of receipt of applications for bids.
3. **The intending bidder must read the terms and conditions [both commercial & Additional] & IITD - 6 carefully** which will be the part of the Contract. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.
4. Information and Instructions for bidders shall form part of bid document.
5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website [e-procure.gov.in](http://e-procure.gov.in).
6. But the bid can only be submitted after depositing requisite EMD as specified in the schedule and mandatory documents.
7. **Copy of certificate of work experience and other documents as specified in the Press Notice / web notice shall be scanned and up-loaded to the e-Tendering website within the period of bid submission. However, certified / original copy of all the scanned and up-loaded documents as specified in press notice web / notice shall have to be submitted by the lowest bidder only within a week physically in the office of e-tendering authority.**
8. **Bid documents submitted by intending bidders shall be opened only of those bidders, who has deposited requisite tender fee, if any and EMD and other documents scanned and uploaded are found in order.**
9. Completion certificates are required to be got issued by an officer not below the rank of Executive Engineer of similar works completed by the Firm. The work experience certificates submitted by the bidders shall clearly indicate that:
- a. The similar work executed shall be **as '2 [a]' above**
- b. The completed cost of the work
- c. Actual date of completion of the work
10. IITD is committed to follow the principle of transparency, equity and competitiveness in public procurement. Before submission of bid, **each bidder should sign integrity pact at respective places** and submit the bid. If duly signed integrity pact is not submitted by bidder, such bid shall not be considered.
11. When bids are invited in two / three stages systems and if it is desired to submit revised financial bid it shall be mandatory to submit revised financial bid. If not submitted then the bid submitted earlier shall become invalid.

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12. The department reserves the right to reject any prospective application without assigning any reason and to restrict the list of qualified contractors to any number deemed suitable by it, if too many bids are received satisfying the laid down criterion.
  
13. The technical bid shall be opened first on due date and time as mentioned above. The time and date of opening of financial bid of contractors qualifying the technical bid shall be communicated to them at a later date.

**List of Documents to be scanned and uploaded within the period of bid submission:**

1. Annexure – I, II & IV duly filled in and got signed
2. Certificate of work experience
3. Certificate of Registration for Sales Tax / VAT and acknowledgement of up to date filed return
4. Affidavit as per Notice Inviting Tender Condition [IITD-6] 1.2.2 [To be submitted on stamp paper]
5. Acceptance to execute INTEGRITY PACT [see integrity pact]
6. IITD 7 / 8 duly signed
7. Certificate of registration of Service Tax and acknowledgement of upto date filed return, if required as per notification no. 12/2012 of Department of Revenue, M/o Finance
8. Any other document as specified in the NIT

**Executive Engineer [Electrical]  
For & on Behalf of BOG, IIT Delhi**

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C.....Nil

I..... Nil

O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.



## INDIAN INSTITUTE OF TECHNOLOGY DELHI NOTICE INVITING E-TENDER

1.0 Item rate tenders are invited on behalf of The Board of Governors, IIT Delhi, Hauz Khas, New Delhi - 110016 in two parts [Part-I: Technical cum commercial, Part-II: Financial] from the OEM / OEA of Cummins / Mitsubishi / Caterpillar / MTU as per details given below for the work of **Supply, Installation, Testing & Commissioning of 1 x 500 KVA DG set near water reservoir at IIT Delhi.**

1.1 The work is estimated to cost **Rs.63,83,887.00**. This estimate, however, is given merely as a rough guide

1.1.1 The authority competent to approve NIT for the combined cost and belonging to the major discipline will consolidate NITs for calling the bids. He will also nominate Division which will deal with all matters relating to the invitation of bids.

For composite bid, besides indicating the combined estimated cost put to tender, should clearly indicate the estimated cost of each component separately. The eligibility of bidders will correspond to the combined estimated cost of different components put to bid.

1.2 Intending bidder is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar works of magnitude specified below:-

### Criteria of eligibility for submission of bid documents.

#### 1.2.1 Criteria of eligibility for IITD as well as non-IITD contractors.

Three similar works each of value not less than **Rs.25,53,550.00** or two similar work each of value not less than **Rs.38,30,330.00** or one similar work of value not less than **Rs.51,07,110.00** with capacity of individual DG set being 80% of the individual capacity [rounded off to the next available higher capacity] of the equipment i.e. DG set proposed in the NIT in last 7 years ending previous day of last date of submission of bids.

#### 1.2.2 To become eligible for issue of bid, the bidders shall have to furnish an affidavit as under :-

"I / We undertake and confirm that eligible similar works(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I / We shall be debarred for bidding in IIT Delhi in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee (Scanned copy to be uploaded at the time of submission of bid)"

2. Agreement shall be drawn with the successful bidders on prescribed Form No. IITD 7/8 which is available as IIT Delhi Publication. Bidders shall quote their rates as per various terms and conditions of the said form which will form part of the agreement.

3. The time allowed for carrying out the work will be **180 days** from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.

4. The site for the work is available / to be made available.

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5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen from the web Site **e-procure.gov.in**.
6. After submission of the bid the contractor can re-submit revised bid any number of times but before last time and date of submission of tender as notified.
7. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of tender as notified.
8. If it is desired to submit revised financial bid then it shall be mandatory to submit revised financial bid. If not submitted then the tender submitted earlier shall become invalid.
9. Earnest Money as specified to be paid through RTGS / NEFT.  
IIT Delhi Bank details are as under:  
Name of the Bank A/C : IITD Revenue Account  
SBI A/C No. : 10773572622  
Name of the Bank : State Bank of India, IIT Delhi,  
Hauz Khas, New Delhi-110016  
IFSC Code : SBIN0001077  
MICR Code : 110002156  
Swift No. : SBININBB547  
(This is mandatory that UTR Number is provided in the on-line quotation/bid. Kindly refer to the UTR Column of the Declaration Sheet at Annexure-I)

Interested contractors who wish to participate in the bid has also to make following payments within the period of bid submission:

- (i) **Tender Fee : NIL**
  - (ii) Copy of certificate of work experience and other documents as specified in the press notice shall be scanned and uploaded to the e-tendering website within the period of bid submission.
10. The bid submitted shall become invalid, if:
    - a) The bidder is found ineligible.
    - b) The bidder does not upload all the documents (including VAT registration/ Sales Tax registration/Technical bid) as stipulated in the bid document.
    - c) EMD & Tender fee [if any] not deposited as specified
    - d) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted **physically by the lowest bidder** in the office of the bid opening authority.
  11. The contractor whose bid is accepted will be required to furnish **performance guarantee of 5% (Five Percent)** of the bid amount within the period specified in Schedule F. This guarantee shall be in the form of Deposit at Call receipt of any scheduled bank / Banker' cheque of any scheduled bank/ Demand Draft of any scheduled bank/Pay order of any Scheduled Bank (in case guarantee amount is less than Rs.1,00,000/-) or Government Securities or Fixed Deposit Receipts or irrevocable Bank Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F' including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor.
  12. Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and subsoil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity

C.....Nil

I..... Nil

O..... Nil



- access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.
13. The competent authority on behalf of the Board of Governors does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidder shall be summarily rejected.
  14. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable for rejection.
  15. The competent authority on behalf of the Board of Governors reserves to himself the right of accepting the whole or any part of the bid and the bidder shall be bound to perform the same at the rate quoted.
  16. The contractor shall not be permitted to bid for works in the IITD responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any Gazetted officer in the IIT Delhi. Any breach of this condition by the contractor would render him liable to be debarred from bidding process in future in IIT Delhi.
  17. No Engineer of Gazetted rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract liable to be cancelled, if, either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.
  18. The bid for the works shall remain open for acceptance for a period of **ninety [90] days from the date of opening of financial bids**, if any bidder withdraws his bid before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the bid which are not acceptable to the department, then the IIT Delhi shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the bidder shall not be allowed to participate in the re-bidding process of the work.
  19. This notice inviting bid shall form a part of the contract document. The successful bidder / contractor, on acceptance of his bid by the Accepting Authority shall **within 15 days** from the stipulated date of start of the work, sign the contract consisting of:-
    - a) The Notice Inviting Bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.
    - b) Standard IITD Form –7/8 or other Standard IITD Form as applicable.
  20. In case any discrepancy is noticed between the documents as uploaded at the time of submission of the bid and hard copies as to be submitted physically in IIT Delhi, if so desired by the accepting authority, then the bid submitted shall become invalid and the IIT Delhi shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the bidder shall not be allowed to participate in the bidding process of the work.

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# INTEGRITY PACT

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Sub: NIT No. **8775/73/EW/IITD/2016-17** for the work of **“Supply, Installation, Testing & Commissioning of 1 x 500 KVA DG set near water reservoir at IIT Delhi”**

Dear Sir,

It is here by declared that IITD 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 the tender/bid documents, failing which the tender/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 IITD.

Yours faithfully,

Executive Engineer

---

C.....Nil      I..... Nil      O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.



**[TO BE SUBMITTED DULY SIGNED BY THE BIDDER ALONGWITH BID DOCUMENTS]**

To

**Executive Engineer (Elect.),**  
IIT Delhi, Hauz Khas,  
New Delhi – 110016

Subject: Submission of Bid for the work of **“Supply, Installation, Testing & Commissioning of 1 x 500 KVA DG set near water reservoir at IIT Delhi”**

Dear Sir,

I / We acknowledge that IITD 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 / bid 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 IITD. 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, IITD 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)

---

C.....Nil

I..... Nil

O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.



[To be signed by the bidder and same signatory competent / authorized to sign the relevant contract on behalf of IITD]

**INTEGRITY AGREEMENT**

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

**BETWEEN**

The Board of Governors, IIT Delhi, Hauz Khas, New Delhi - 16 represented through **Executive Engineer (Elect.)**, IIT Delhi

....., (Hereinafter referred as the 'Principal/Owner',  
(Address of Division)

'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  
(Details of duly authorized signatory)

to as the "**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. **8775/73/EW/IITD/2016-17**) (hereinafter referred to as "**Tender/Bid**") and intends to award, under laid down organizational procedure, contract for "**Supply, Installation, Testing & Commissioning of 1 x 500 KVA DG set near water reservoir at IIT Delhi**" (Name of work) hereinafter referred to as the "**Contract**".

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:  
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.

- (a) 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

C.....Nil      I..... Nil      O..... Nil





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.

- (b) 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 (PoC 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.
- 3) 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 (PoC 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 Government / Department 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) commits 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/PoC 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.

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C.....Nil

I..... Nil

O..... Nil



- 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 practices **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 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

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C.....Nil

I..... Nil

O..... Nil



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 Sub-contractors/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 6 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 of IITD.

#### **Article 7: Other Provisions**

- 1) This Pact is subject to Indian Law, place of performance and jurisdiction is the Head Quarters 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 intentions.
- 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/Contract documents with regard any of the provisions covered under this Integrity Pact.

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C.....Nil

I..... Nil

O..... Nil



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:

Dated :

---

C.....Nil      I..... Nil      O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.



## INDIAN INSTITUTE OF TECHNOLOGY DELHI HAUZ KHAS, NEW DELHI - 110016

### Percentage Rate Tender / Item Rate Tender & Contract for Works

Tender for the work of **“Supply, Installation, Testing & Commissioning of 1 x 500 KVA DG set near water reservoir at IIT Delhi”**

(A) (I) To be submitted by **30-12-2016 upto 05:00 PM**

(II) To be opened on **03-01-2017 at 11:00 AM**

#### e-TENDER

I / We have read and examined the Notice Inviting Tender, schedule, A, B, C, D, E & F, Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, Clauses of Contract, Special conditions, Schedule of Rate & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I / We hereby tender for the execution of the work specified for the Board of Governors, IIT Delhi within the time specified in Schedule 'F' viz., schedule of quantities and in accordance in all respect with the specifications, designs, drawing and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract and with such materials as are provided for, by, and in respect of accordance with, such conditions so far as applicable.

We agree to keep the tender open for ninety (90) days from the due date of its opening / ninety days from the date of opening of financial bid in case tenders are invited on 2/3 envelop system (**strike out as the case may be**) and not to make any modification in its terms and conditions.

A sum of **Rs.1,27,678.00** is hereby deposited in IIT Delhi Revenue Account No. 10773572622 as earnest money. If I / We, fail to furnish the prescribed performance guarantee within prescribed period I / We agree that the said The Board of Governors, IIT Delhi, Hauz Khas, New Delhi - 16 or his successors, in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I / We fail to commence the work as specified, I / We agree that The Board of Governors, IIT Delhi, Hauz Khas, New Delhi - 16 or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely, otherwise the said earnest money shall be retained by him towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form. Further, I / We agree that in case of forfeiture of Earnest Money & Performance Guarantee as aforesaid I / We shall be debarred for participation in the re-tendering process of the work.

I / We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I / We shall be debarred for tendering in IIT Delhi in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

I / We hereby declare that I / We shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived there from to any person

C.....Nil

I..... Nil

O..... Nil



other than a person to whom I / We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Dated:

Signature of Contractor

Witness:

Postal Address

Address:

Occupation:

### ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for an on behalf of The Board of Governors, IIT Delhi, Hauz Khas, New Delhi - 110016 for a sum of (Rupees.....).

The letters referred to below shall form part of this contract agreement:-

- (a)
- (b)
- (c)

For & on behalf of Board of Governors, IIT Delhi

Signature .....

Dated:

Designation .....

C.....Nil

I..... Nil

O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.





Reference to General Conditions of contract [GCC]

1	Name of work	:	<b>Supply, Installation, Testing &amp; Commissioning of 1 x 500 KVA DG set near water reservoir at IIT Delhi</b>
2	Estimated cost of work	:	<b>Rs.63,83,887.00</b>
3	Earnest Money	:	<b>Rs.1,27,678.00</b>
4	Performance Guarantee	:	5 percent of tendered value
5	Security Deposit	:	5 percent of tendered value

**SCHEDULE 'F'****GENERAL RULES & DIRECTIONS**

: Officer inviting tender

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2&12.3	:	See below
<b>Definitions:</b>		
2[v] Engineer – in - charge	:	<b>Executive Engineer [Elect]</b>
2[vi] Accepting Authority	:	<b>Institute Engineer</b>
2[x] Percentage on cost of materials and labour to Cover all overheads and profits	:	15 percent
2[xi] Standard schedule of rates	:	<b>Market Rate</b>
2[xii] Department	:	E & W, IIT Delhi
9[ii] Standard IITD Contract Form	:	<b>General Conditions of Contract 2010, IITD Form 7/8-2010 modified &amp; Corrected up to date of submission of tender</b>

<b>Clause 1:</b>		
[i]	Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance	: <b>15 days</b>
[ii]	Maximum allowable extension with late fees @ 0.1% per day of performance guarantee amount beyond the period provided in (i) above	: <b>1 to 15 days</b>
<b>Clause 2:</b>		
Authority for fixing compensation under clause 2	:	<b>Institute Engineer</b>
<b>Clause 2 A:</b>		
Whether Clause 2A shall be applicable	:	<b>No</b>
<b>Clause 5:</b>		
Number of days from the date of issue of letter of award for reckoning date of start	:	<b>10 [ten] days</b>

**Milestone(s) as per table given below:-**

C.....Nil

I..... Nil

O..... Nil





Sl. No.	Description of Milestone (Financial)	Time allowed in days (from date of start)	Amount to be with-held in case of non-achievement of mile stone
1	Submission of drawings	20	0.5% of tendered cost
2	Foundation of DG sets	40	1.5% of tendered cost
3	Supply of AMF Panel & Cables	80	1.5% of tendered cost
4	Supply and Installation of DG set	160	1% of tendered cost
5	Testing, commissioning and handing over	180	0.5% of tendered cost

Time allowed for execution of work	:	180 days
Authority to decide:		
Extension of time	:	Executive Engineer [Engineer-in-charge]
Rescheduling of mile stones	:	Institute Engineer
<b>Clause Applicable 6 or 6A:</b>	:	Clause 6 A
<b>Clause 7:</b>		
Gross work to be done together with net payment / adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment	:	Rs.40.00 lakh
<b>Clause 10 A:</b>		
List of testing equipment to be provided by the contractor at site lab	:	As desired by the Engineer-in-charge relating to the work
<b>Clause 10B(ii):</b>		
Whether Clause 10 B (ii) shall be applicable	:	No
<b>Clause 10C:</b>		
Component of labour expressed as percent of value of work	:	15 percent

**Clause 10CA:**

S.N.	Material covered under this clause	Nearest Materials (other than cement, reinforcement bars and the structural steel) for which All India Wholesale Price Index to be followed	Base Price of all Materials covered under clause 10 CA*
1			
2			
3		<b>Nil</b>	

\* Base price of all the materials covered under clause 10 CA is to be mentioned at the time of approval of NIT.

**Clause 10CC**

Clause 10 CC to be applicable in contracts with stipulated period of completion exceeding the period shown in next column	:	18 months
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C.....Nil

I..... Nil

O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.



Schedule of component of other Materials, Labour, POL etc. for price escalation		
Component of civil (except materials covered under clause 10CA)/ Electrical construction Materials expressed as percent of total value of work	:	<b>X<sub>m</sub> : 85 percent</b>
Component of Labour expressed as percent of total value of work	:	<b>Y : 15 percent</b>
Component of P.O.L. expressed as percent of total value of work	:	<b>Not Applicable</b>

**Clause 11**

Specifications to be followed for execution of work	:	IITD General Specifications for DG Set Works [Part – VII], 2013 as amended upto date, IITD 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, IITD General Specifications for Electrical Works Part-IV shall be applicable.
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**Clause 12**

Type of work	:	<b>Project and original work</b>
Clause 12.2. & 12.3		
Deviation Limit beyond which clauses 12.2 & 12.3 shall apply for building work	:	<b>100 percent</b>
Clause 12.5	:	<b>100 percent</b>
Deviation Limit beyond which clauses 12.2 & 12.3 shall apply for foundation work	:	<b>100 percent</b>

**Clause 16**

Competent Authority for deciding reduced rates	:	<b>Institute Engineer</b>
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**Clause 18**

List of mandatory machinery, tools & plants to be deployed by the contractor at site:

1.....	2.....	3.....
4.....	5.....	6.....
7.....	8.....	9.....

**Nil**

C.....Nil

I..... Nil

O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.



**Clause 36 (i)**

Requirement of Technical Representative(s) and recovery Rate:

S. No.	Minimum Qualification of Technical Representative	Discipline	Designation (Principal Technical/ Technical Representative)	Minimum Experience (Years)	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause 36(i)	
						Figures	Words
1	Graduate Engineer Or Diploma Engineer	Electrical/ Mechanical	Technical Representative	2 or 5	1	Rs.15,000.00 per month	Rs. Fifteen Thousand only

Assistant Engineers retired from Government services that are holding diploma will be treated at par with Graduate Engineers

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C.....Nil

I..... Nil

O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.



## COMMERCIAL AND ADDITIONAL CONDITIONS

### 1. GENERAL

1.1. This specification covers manufacture, testing as may be necessary before dispatch, delivery at site, all preparatory work, assembly and installation, commissioning, putting into operation of DG Sets.

#### 1.2. LOCATION

1.2.1. The DG Set will be installed at IIT Delhi

1.3. The work shall be executed as per IITD General Specifications for Electrical Works [Part – VII DG Sets - 2013], as per relevant IS as per directions of Engineer-in-Charge. These additional specifications are to be read in conjunction with above and in case of any variations, specifications given in the additional specifications shall apply. However nothing extra shall be paid on account of these additional specifications & conditions as the same are to be read alongwith schedule of quantities for the work.

1.4. The tenderer should in his own interest visit the site and familiarise himself with the site conditions before tendering.

1.5. No T&P shall be issued by the department and nothing extra shall be paid on account of this.

### 2. COMMERCIAL CONDITIONS

#### 2.1. Type of contract

2.1.1. The work to be awarded by this tender shall be treated as indivisible works contract.

#### 2.2. Submission & Opening of Tenders

2.2.1. The tender is in two parts:

2.2.1.1. Part – I – Technical cum Commercial Bid

2.2.1.2. Part – II – Price Bid

2.2.2. Bidder shall submit the cost of tender documents, if any and earnest money, other documents, price bid in prescribed manner as indicated in "INFORMATION AND INSTRUCTIONS FOR CONTRACTORS FOR e-TENDERING FORMING PART OF NIT AND TO BE POSTED ON WEBSITE"

2.2.3. The tenderers are advised not to deviate from the technical specifications / items, commercial terms and conditions of NIT like terms of payment, guarantee, arbitration clause, escalation etc.

2.2.4. The Part-I of the tender documents i.e. Technical cum commercial bid only, shall be opened on due date & time, as specified in form IITD-6 through on-line mode.

2.2.5. Scrutiny / evaluation of the technical cum commercial bid shall be done by the department in consultation with any agency as deemed necessary. In case it is found that the technical cum commercial bid of a tenderer is not in line with the NIT specifications, requirements and or contains many deviations, the department reserves the right to reject the technical bid of such firm[s] without making any reference to the tenderer[s].

2.2.6. Necessary clarifications required by the department shall have to be furnished by the tenderer within the time given by the department for the same. The tenderer will have to depute his representative to discuss with the officer[s] of the department as and when so desired. In case, in the opinion of the department a tender is taking undue long time in furnishing the desired clarifications, his bid will be rejected without making any reference.

2.2.7. After obtaining clarifications from all the tenderers, the department may modify the technical & commercial conditions / specifications if required, and will intimate the same to the tenderers, whose technical-cum-commercial bids are acceptable. At the same time, date and time of opening of price bid will also be intimated. A tenderer will also not be allowed to withdraw or modify any condition at a time after the technical bids have been accepted and the decision to open the price bid has been taken by

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C.....Nil

I..... Nil

O..... Nil



the department unless revised bid is allowed due to measure changes made during negotiations on technical-bid.

2.2.8. The part-II of the tender i.e. price bid will be opened by the Executive Engineer [E] in the presence of the interested representatives of the tenderers who wish to be present.

2.2.9. The department reserves the right to reject any or all the price bids and call for fresh prices / tenders as the case may be without assigning any reason.

**2.2.10. VALIDITY**

2.2.10.1. Tenders shall be valid for acceptance for a period as prescribed in IITD-6 from the date of opening of price bid.

**2.2.11. COMPLETION PERIOD**

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

**2.2.12. CONFORMITY WITH STATUTORY ACTS, RULES, STANDARDS AND CODES**

2.2.12.1. All components shall conform to relevant Indian Standard Specifications, wherever existing, amended to date. A list of such standards is appended with this tender document.

2.2.12.2. All electrical works shall be carried out in accordance with the provisions of Indian Electricity Act, 2003 and Indian Electricity Rules, 1956 as amended up to date. They shall also conform to CPWD General Specifications for Electrical Works, Part-I (Internal), 2013 and Part-II (External), 1994 and Part IV (Sub-station), 2013, as amended up to date.

**2.2.13. SAFETY CODES AND LABOUR REGULATIONS**

2.2.13.1. In respect of all labour employed directly or indirectly on the work for the performance of the contractor's part of work, the contractor at his own expense, will arrange for the safety provisions as per the statutory provisions, B.I.S. recommendations, factory act, workman's compensation act, CPWD code and instructions issued from time to time. Failure to provide such safety requirements would make the tenderer liable for penalty for Rs. 200/- for each violation. In addition the Engineer-in-Charge, shall be at liberty to make arrangements and provide facilities as aforesaid and recover the cost from the contractor.

2.2.13.2. The contractor shall provide necessary barriers, warning signals and other safety measures while executing the work of DG Set installation, cables etc. or wherever necessary so as to avoid accident. He shall also indemnify IITD against claims for compensation arising out of negligence in this respect. Contractor shall be liable, in accordance with the Indian Law and Regulations for any accident occurring due to any cause. The department shall not be responsible for any accident occurred or damage incurred or claims arising there from during the execution of work. The contractor 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 contractor due to the above provisions thereof.

**2.2.14. WORKS TO BE ARRANGED BY THE DEPARTMENT**

2.2.14.1. Unless otherwise specified in the tender documents, the following works shall be arranged by the Department:

2.2.14.2. Space for accommodating all the equipments and components involved in the work. However, watch and ward shall be responsibility of the contractor.

2.2.14.3. Power supply (Single/three phase).

**2.2.15. WORKS TO BE DONE BY THE CONTRACTOR**

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C.....Nil

I..... Nil

O..... Nil



- 2.2.15.1. Unless otherwise mentioned in the tender documents, the following works shall be done by the contractor and therefore, their cost shall be deemed to be included in their tendered cost-whether specifically indicated in the schedule of work or not:-
- 2.2.15.2. Foundations for equipments including vibration isolation springs/ pads,
- 2.2.15.3. Making good all damages caused to the structure during installation and restoring the same to their original finish.
- 2.2.15.4. Minor building works necessary for installation of equipments, foundation trench for fuel line & cable, making of opening in walls or in floors and restoring them to their original condition/ finish and necessary grouting etc. as required.
- 2.2.15.5. All supports for exhaust & water pipes, chimney, bus trunking (if included in scope of contract), cables, anti-vibration pads etc. as are necessary.
- 2.2.15.6. All electrical work and neutral earthing, body earthing, required for engine & alternator, main board/ control panels, and control wiring including loop earthing, if specified in Schedule of work.
- 2.2.15.7. All pipes, bus trunking and/ or cable connections.
- 2.2.15.8. POL i.e. HSD oil and lub. Oil for diesel engine for testing & commissioning for 12 hours i/c 1hr of 10% overloading at OEA/ OEM works shall be arranged by the contractor. POL i.e. HSD oil for trial run of 4 Hrs. at site at available load shall be arranged by the department.
- 2.2.15.9. Painting of all exposed metal surfaces of equipments and components with appropriate colour.
- 2.2.15.10. Clearance/ Approval of the complete installation from CPCB/ State Pollution Control Board, Central Electricity Authority (CEA)/ Local Bodies and other licensing authorities, wherever required.

#### 2.2.16. RATES

- 2.2.16.1. The rates quoted by tenderer, shall be firm and inclusive of all taxes (including works contract tax), duties and levies and all charges for packing, forwarding, insurance, freight and delivery, installation, testing, commissioning etc. at site including temporary constructional storage, risks, overhead charges, general liabilities/ obligations etc. but exclusive of Service Tax, which shall be reimbursed on production of documentary proof of actual payment against this contract/ work.
- 2.2.16.2. Octroi exemption certificate will be issued by the department if required by the contractor. However, the department is not liable to reimburse the octroi duty in case exemption certificates are not honored by the concerned authorities.
- 2.2.16.3. The contractor has to carry out routine and preventive maintenance as per manufacturer's standards for a period of 12 months from the date of handing over. However, all consumables (fuel/ lube oil etc.) including filters will be supplied by the department.

#### 2.2.17. POWER SUPPLY AND WATER SUPPLY

- 2.2.17.1. **Power supply**
- 2.2.17.2. Unless otherwise specified, 3 phase, 415 volts, 50 Hz power supply shall be provided by the department free of charge to the contractor at one point for installation at site suitable for 10 KW load. Termination switchgear however, shall be provided by the contractor. Further extension if required shall be done by the contractor.
- 2.2.17.3. The contractor shall not use the power supply for any other purpose than that for which it is intended for. No major fabrication work shall be done at site. Power shall be used only for welding / cutting works. The power supply shall be disconnected in case of such default and the contractor shall then have to arrange the required power supply at his cost.



**2.2.17.4. Water supply**

Water supply shall be made available to the contractor by the Department free of charge at one point.

**2.2.18. MACHINERY FOR ERECTION**

All tools and tackles required for unloading / handling of equipments and materials at site, their assembly, erection, testing and commissioning shall be the responsibility of the contractor.

**2.2.19. COMPLETENESS OF THE TENDER, SUBMISSION OF PROGRAMME, APPROVAL OF DRAWINGS AND COMMENCEMENT OF WORK**

**2.2.19.1. Completeness of the tender**

All sundry equipments, fittings, assemblies, accessories, hardware items, foundation bolts, supports, termination lugs for electrical connections, cable glands, junction boxes and all other sundry items for proper assembly and installation of the various equipments and components of the work shall be deemed to have been included in the tender, irrespective of the fact that whether such items are specifically mentioned in tender documents or not.

**2.2.19.2. Submission of programme**

Within fifteen days from the date of receipt of the letter of acceptance, the successful tenderer shall submit his programme for submission of drawings, supply of equipment, installation, testing, commissioning and handing over of the installation to the Engineer-in-Charge. This programme shall be framed keeping in view the building progress.

**2.2.19.3. Submission of Drawings**

The contractor shall submit the drawings to the Engineer-in-Charge as per clause 2.2.29 of this specification for approval before start of work.

**2.2.19.4. Commencement of work**

The contractor shall commence work as soon as the drawings submitted by him are approved. The drawings are to be submitted by the contractor within 15 days of stipulated date of start, and shall be approved by the Engineer-in-Charge within 10 days of receipt in his office.

**2.2.20. DISPATCH OF MATERIALS TO SITE AND THEIR SAFE CUSTODY**

The contractor shall dispatch materials to site in consultation with the Engineer-in-Charge. Suitable lockable storage accommodation shall be made available free of charge temporarily. Watch & ward however, shall be the responsibility of contractor.

Programme of dispatch of material shall be framed promptly after getting work order. Safe custody of all equipment/ items supplied by the contractor shall be the responsibility of the contractor till final taking over by the department.

**2.2.21. CO-ORDINATION WITH OTHER AGENCIES**

The contractor shall co-ordinate with all other agencies involved in the work so that the work of other agencies is not hampered due to delay in his work.

**2.2.22. 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 contractor shall be responsible for any accident or damage incurred or claim arising there from on the department 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 on account of the above.



### **2.2.23. QUALITY OF MATERIALS AND WORKMANSHIP**

- 2.2.23.1.** The components of the installation shall be of such design so as to satisfactorily function under all conditions of operations.
- 2.2.23.2.** The entire work of manufacture/fabrication, assembly and installation shall conform to sound engineering practice. The entire installation shall be such as to cause minimum transmission of noise and vibration to the building structure.
- 2.2.23.3.** All equipment and materials to be used in work shall be manufactured in factories of good reputed having excellent track record of quality manufacturing, performance and proper after sales service.

### **2.2.24. CARE OF THE BUILDING**

- 2.2.24.1.** Care shall be taken by the contractor during execution of the work to avoid damage to the building. He shall be responsible for repairing all such damages and restoring the same to the original finish at his cost. He shall also remove all unwanted and waste materials arising out of the installation from the site of work from time to time.

### **2.2.25. INSPECTION AND TESTING**

- 2.2.25.1.** The successful tenderer will arrange staff/fuel/POL for test run at his cost.

#### **2.2.25.2. Inspection and Testing of DG sets of capacity more than 200 KVA**

- 2.2.25.2.1.** For DG sets of capacity more than 200 KVA testing shall necessarily be carried out at factory / manufacture premises in presence of representative of the Department.

- 2.2.25.2.2.** For Testing, following procedure will be followed: All major items/ equipments i.e. engine & alternator in assembled condition, associated electrical control panels etc. shall be offered for inspection and testing at factory / manufactures works. The successful tenderer shall give a notice of minimum two weeks for carrying out such tests. The Engineer-in-charge / or his authorized representative shall witness such inspection & testing at mutually agreed date. The cost of the representative's visit to the factory will be borne by the Department

- 2.2.25.2.3.** The department also reserves the right to inspect the fabrication job at factory and the successful tenderer has to make arrangements for the same.

- 2.2.25.2.4.** DG set will be tested on load of unity power factor for the rated KW rating. During testing, each of the D.G. sets covered under scope of work, shall be operated for a period of 12 hours on the rated KW at DG set's KW rating including one hour on 10% overload after continuous run of the 12 Hours. During testing all controls / operations safeties will be checked and proper record will be maintained. Any defect / abnormality noticed during testing shall be rectified. The testing will be declared successful only when no abnormality / failure is noticed during the testing. The DG set will be cleared for dispatch to site only when the testing is declared successful by authorized representative / Engineer-in-Charge.

- 2.2.25.2.5.** 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.

- 2.2.25.2.6.** After completion of the installation work in all respects, the contractor shall offer the DG sets for testing. Testing shall be carried out exactly as per Clause 2.2.25.2.4 mentioned above.

#### **2.2.25.3. TRIAL RUN/ RUNNING-IN-PERIOD**

After successful testing of the DG Sets, a trial run at available load will be carried out for 120 Hours or 15 Days whichever is earlier. The DG Set will be operated and a log of all relevant parameters will be maintained during this period. The arrangement of staff for trial run/ running in

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C.....Nil

I..... Nil

O..... Nil





period will be made by the successful tenderer. However, diesel shall be provided by Department. The contractor will be free to carry out necessary adjustments. The DG Set will be said to have successfully completed the trial run, if no break-down or abnormal/ unsatisfactory operation of any component of the entire installation included in the scope of work of the contract, occurs during this period. After this the DG Set will be made available for beneficial use. After the DG Set has operated without any major break-down/ trouble, it shall be taken over by the department subject to guarantee clause of the contract. This date of taking over of the DG Set, after trouble free operation during the trial run/ running-in-period, shall be the date of acceptance/ taking over.

#### 2.2.25.4. SAFETY MEASURES

All equipments shall incorporate suitable safety provisions to ensure safety of the operating personnel as per manufacturers' standard practice.

#### 2.2.26. STATUTORY CLEARANCE(S)

Approval/ clearance of the complete installation shall be obtained by the contractor from CPCB/ State Pollution control Boards/ Local Bodies/ Central Electricity Authority (CEA)/ other licensing authorities wherever required. However, application shall be made by Department and any statutory fee, as applicable, shall be paid by Department directly to the govt. authorities concerned.

#### 2.2.27. GUARANTEE

All equipments shall be guaranteed, against unsatisfactory performance and/ or break down due to defective design, workmanship or material, for a period of 12 months from the date of taking over the installation by the department. The equipments or components, or any part thereof, so found defective during guarantee period shall be forthwith 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 attending the defect/ fault removed, 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.

#### 2.2.28. PAYMENT TERMS

2.2.28.1. The following percentage of contract rates shall be payable against the stages of work shown herein:

Stage of Work	Engine-Alternator Set & AMF Panel	All other items
I] After initial inspection (Wherever specified) & delivery at site in good condition on pro-rate basis	85%	75%
II] On completion of pro-rata installation	10 %	20%
III] On commissioning and completion of successful running in period & taking over of the DG set by the department.	5%	5%

2.2.28.2. Deduction of Security Deposit shall be governed by standard/ relevant clauses of IITD-7/8

#### 2.2.29. DRAWINGS FOR APPROVAL & COMPLETION DRAWINGS

##### 2.2.29.1. Drawings for Approval on Award of the work

The contractor shall prepare & submit three sets of following drawings and get them approved from the Engineer-in-charge before the start of the work. The approval of drawings however does not absolve the contractor not to supply the equipments/ materials as per agreement, if there is any contradiction between the approved drawings and agreement.

- (a) Lay out drawings of the equipments to be installed including control cables, fuel/ lube oil pipes and supports/ structure for exhaust piping, Chimney and bus ducts/ cable



trays.

- (b) Drawings including section, showing the details of erection of entire equipments.
- (c) Electrical wiring diagrams from engine-alternator set to Electrical control panel, Electrical control panel to essential LT board including the sizes and capacities of the various electrical/ control cables and equipment.
- (d) Dimensioned drawings of Acoustic enclosure/ Engine-Alternator set and Electrical control panel.
- (d) Drawings showing details of supports for pipes, chimney cable trays, ducts etc.
- (e) Any other drawings relevant to the work.

**2.2.29.1.1. Drawings/Documents to be furnished on completion of Installation**

Two sets of the following laminated drawings shall be submitted by the contractor while handing over the installation to the Department. One set shall be laminated on a hard base for display base for display in the DG set room/room where AMF panel is installed and another set shall be displayed in Junior Engineer's room. In addition, drawings will be given on Compact Disc (CD):

- (a) DG set installation drawings giving complete details of all the equipments, including their foundations.
- (b) Line diagram and layout of all electrical control/AMF panels giving switchgear ratings and their disposition, cable feeder sizes and their layout.
- (c) Control wiring drawings with all control components and sequence of operations to explain the operations of control circuits in AMF panel/PCC

**2.2.29.1.2. Manufacturer's technical catalogues of all equipments and accessories.**

**2.2.29.1.3. Operation and maintenance manual of all major equipments, detailing all adjustments, operation and maintenance procedure.**

**2.2.29.2. AFTER SALES SERVICES**

The contractor shall ensure adequate and prompt after sales service free of cost during guarantee period, and against payment after the guarantee period is over, in the form of maintenance, spares and personnel as and when required during normal life span of the equipments and shall minimize the breakdown period. In case of equipment supplied by other manufacturers the firm shall furnish a guarantee from the manufacturer for the same before the DG Set installation is taken over.

**2.2.29.3. MOBILIZATION ADVANCE**

**2.2.29.3.1. No mobilization advance will be given**



## TECHNICAL SPECIFICATIONS

The work shall be carried out as per CPWD General Specifications for DG Set Works, 2013 as amended upto date, 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.

Note: Any deviations from CPWD General Specifications for DG set Works, 2013 may be given by the NIT approving authority.

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C.....Nil

I..... Nil

O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.

**ANNEXURE - I****<< Organization Letter Head >>  
DECLARATION**

I / We, \_\_\_\_\_ hereby declare that all the information and data furnished by our organization with regard to this tender specification are true and complete to the best of our knowledge. I / we have gone through the specification, conditions and stipulations in details and agree to comply with the requirements and intent of specification.

1	Name & Address of the bidder	:	
2	Phone	:	
3	E-mail	:	
4	Contact person name	:	
5	Mobile number	:	
6	TIN number	:	
7	PAN number	:	
8	UTR no. [for depositing tender fee]	:	Not applicable
9	UTR no. [for payment of EMD]	:	
	<b>BANK DETAILS</b>		
10	Bank name	:	
11	Branch address	:	
12	Branch telephone no.	:	
13	MICR Code of the bank	:	
14	IFSC code	:	
15	Bank Account no.	:	
16	Type of account	:	

We further declare that our organization has not been blacklisted / delisted or put to any holiday by any Institutional agency / Govt. Department / Public Sector Undertaking in the last three years.

[Signature of the bidder]

Name:

Seal of the bidder

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C.....Nil

I..... Nil

O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.

**Annexure - II****SCHEDULE OF TECHNICAL PARTICULARS**

[To be filled in by the bidder]

Sr. No.	Item	Details
<b>[A]</b>	<b>Engine</b>	
1	Make	
2	Model / IS Reference	
3	No. of cylinders	
4	Rated RPM	
5	Method of Starting	
6	Aspiration Method	
7	BHP	
8	Specific fuel consumption [gm/BHP/hr]	
9	Lub oil recommended	
10	Lub oil pressure	
11	Qty. of lub oil required	
12	Time required for starting	
13	Lub oil sump capacity	
14	Nos. of exhaust pipe required	
15	Dia. of exhaust pipe	
16	Whether meets CPCB norms for emission	
17	Fuel consumption at full load	
18	Any other data	
<b>[B]</b>	<b>Alternator</b>	
1	Make	
2	Enclosure details	

C.....Nil

I..... Nil

O..... Nil



3	Full load output in KVA	
4	Full load output in KW at 0.8 PF	
5	Designed overload capacity at max. ambient temperature	
6	Efficiency at full load	
7	Class of insulation of rotor	
8	Class of insulation of stator	
<b>[C]</b>	<b>GENERAL</b>	
1	Overall length of DG Set L x W x H	
2	Overall weight of DG Set	
3	Noise level of DG Set at one metre with acoustic enclosure	
<b>[D]</b>	<b>AMF PANELS</b>	
1	Make	
2	Type [floor / wall mounted]	
3	Overall dimensions [L x B x H]	
4	Finish	
<b>[E]</b>	<b>GENERATOR CONTROL PANEL</b>	
1	Make	
<b>[F]</b>	<b>ACOUSTIC ENCLOSURE</b>	
1	Make	
2	Size	
3	Details of acoustic lining material & make	

C.....Nil

I..... Nil

O..... Nil

**Annexure- III****LIST OF RELEVANT INDIAN / INTERNATIONAL STANDARDS**

<b>[A] GENERATING SET</b>		
ISO 8528	Part – I	Application, rating and performances
	Part – II	Engines
	Part – III	AC Generator for generating set
	Part – IV	Control gear & switch gear
	Part – V	Generating sets
	Part – VI	Test method
	Part – VII	Technical declaration for specification & design
	Part – VIII	Low power general purpose generating sets
	Part – IX	Measurement and evaluation of mechanical vibration
	Part – X	Measurement of Airborne Noise – Enveloping surface method
	Part – XI	Security generating sets with uninterruptible power system
<b>[B]</b>	<b>ENGINE</b>	
ISO 10000 [Naturally aspirated]	Part – I 1980	Methods of tests for I.C. Engines Part – I – Glossary of terms relating of test method
	Part – II 1980	Standard reference condition
	Part – III 1980	Measurements for testing units and limits of accuracy
	Part – IV 1980	Declaration of power, efficiency, fuel consumption, lubricating oil consumption
	Part – V	Preparation for tests and measurement of wear
	Part – VI	Recording of test results
	Part – VII	<b>Governing</b> test for constant speed engines and selection of engines for use with electrical generators
	Part – VIII	Performance tests
	Part – IX	Endurance test

C.....Nil

I..... Nil

O..... Nil



	Part – X	Tests for smoke level, limit and correction for smoke level for variable speed
	Part – XI	Information to be supplied by the purchaser to the manufacturer and information to be supplied by the manufacturer alongwith the engine
	Part – XII	Specimen test certificates
	Part – XIII	Recommendations on nature of tests required for functional changes in critical components
BS 5514	Part 5 – 1979	Reciprocating Internal Combustion Engines
ISO 3046	Part V 2001	Performance, torsional vibrations
	Part – I 2002	Declaration of powers, fuel and lubrication oil consumption
	Part – 3 – 1989	Test measurement
	Part – 4 -1997	Speed Governing
	Part – 6 – 1990	Overspeed protection
BS 649		Reciprocating internal combustion engines, performance, torsional vibrations
<b>[C]</b>		<b>ALTERNATOR</b>
IS 4889 / BS - 269		For declaring efficiency of electrical machines
IS 4722 – 1992		Capability of machine to withstand over current / overload
IS – 13364	Part I 1992	Alternator – voltage regulation upto 20 KVA
IS – 13364	Part II 1992	Alternator – voltage regulation above 20 KVA to 80 KVA
IEC 34 – 1 – 1983		Rotating electrical machines rating and performance
IP – 21	IS – 4691/85	Alternator [degree of protection]
<b>[D]</b>		<b>ACOUSTIC ENCLOSURE</b>
IS – 8183		Insulation material for sound absorption
ISO 3744	1998 [E]	Acoustics – determination of sound power levels of noise sources
ISO 8528	Part – 10 1998 [E]	Measurement of air-borne noise by enveloping surface method
ISO 9614	1993 Part – I	Requirement of grade – II, accuracy for insulation
ISO 9614	1993 Part – II	Requirement of grade – II, accuracy for insulation

C.....Nil

I..... Nil

O..... Nil





<b>[E]</b>		<b>CONTROL PANEL / AMF PANEL</b>
IS – 2147 1962		Degree of protection
IS – 4722		HV testing for panel

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C.....Nil

I..... Nil

O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.



**Annexure - IV**

**LIST OF TECHNICAL LITERATURE & CATALOGUE AND ANY OTHER INFORMATION**

The tenderer should furnish the list of technical literature & catalogues of the equipment offered:

Sl. No.	Data / Information	Remarks
1		
2		
3		
4		
5		

Date:

Signature of tenderer

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C.....Nil

I..... Nil

O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.

**Annexure - V****PROFORMA OF TESTING OF DG SET AT OEM WORKS**

Sl. no.	Description of the Item	Details
1.	Name of the work	
2.	Name of the Agency	
3.	Name of the OEM	
4.	Address of the OEM	
5.	Mean height from sea level a) of site b) Of OEM works	
6.	Max. ambient temperature a) At site b) At OEM works	
7.	Relative Humidity a) b)	
8.	Make, model and capacity of the engine a) Requirement of de-rating / up-rating of engine of DG set and Alternator	
9.	Make, model and capacity of the alternator	
10.	De-rating / up-rating capacity of the alternator at OEM works	
11.	Theoretical full load current in amps. At power factor of testing load	

C.....Nil

I..... Nil

O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.



12.	Test results on various parameters		Voltage	Power factor	Frequency	Engine oil pressure	Radiator water temperature	Test current in amps.			Any other observation during test of DG set
								R	Y	B	
		1 <sup>st</sup> hr									
		2 <sup>nd</sup> hr									
		3 <sup>rd</sup> hr									
		4 <sup>th</sup> hr									
		5 <sup>th</sup> hr									
		6 <sup>th</sup> hr									
		7 <sup>th</sup> hr									
		8 <sup>th</sup> hr									
		9 <sup>th</sup> hr									
		10 <sup>th</sup> hr									
		11 <sup>th</sup> hr									
		12 <sup>th</sup> hr									
13.	Balancing of DG set										
14.	Batteries used (make, AH and capacity)		Satisfactory / not satisfactory								
15.	Fuel tank capacity										
16.	If acoustic enclosure is provided db75 level at 1 m distance from DG set										
17.	Acoustic enclosure specification		As per agreement or not								
18.	AMF Panel										

Deptt. Officials' sig.

Contractor's sig.

OEM engineer's sig.

C.....Nil

I..... Nil

O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.

**Annexure - VI****ACCEPTABLE MAKES**

Sr. No.	Item	Make
1	Engine	Cummins / Mitsubishi / Caterpillar / MTU
2	Alternator	Stamford / Kirloskar / ABB/ LEROY SOMER
3	Relays & Timers	Siemens GE L&T
4	Contactors	L&T Schneider GE Siemens
5	GI / M.S. pipes	TATA / Prakash / JINDAL / BST / ATL / ITC / JST / ZENITH
6	Anti-vibration mountings	GERB Resistoflex Dunlop Polybond
7	Batteries	Exide Stanford Prestolite Cummins Amara Raja
8	Control cables and other cables	Finolex Polycab Havells
9	Power cable	Havells / RR Kabel / Nicco / Skytone / Grandly / Kalinga Premium
10	ACBs	L&T GE Schneider C & S Legrand Siemens
11	Switch Disconnecter Fuse Units [SDFUs]	L&T GE Havells Legrand Siemens
12	Ammeter / voltmeter & other metering instruments	L&T AE IMP Universal Mecco

C.....Nil

I..... Nil

O..... Nil



13	Current Transformer	AE Kappa / NIPPEN
14	MCB	Legrand Hager GE L & T Havells
15	MCCB	L&T Schneider GE ABB C & S
16	AMF Panel	AS PER OEM STANDARD
17	Rubber Mating	ISI mark
18	Fire Extinguisher	ISI mark
19	Glass Wool	AS PER OEM STANDARD
20	Cable Tray	Reputed make
21	Acoustic Enclosure	AS PER OEM STANDARD

For any other makes other than suggested in the list, the contractor shall take approval from the Engineer-in-Charge before execution of work

**IITD - 2010 CORRECTION SLIPS**

In General condition of contract for IIT Delhi works department 2010 –

Reference	Existing	Modified
Clause 10B (ii), Para-2	Before any installment of advance is released, the contractor shall execute a Bank Guarantee Bond from Scheduled Bank <b>for the amount of advance &amp;</b> valid for the contract period. This shall be kept renewed from time to time to cover the balance amount and likely period of complete recovery, <b>together with interest.</b>	Before any installment of advance is released, the contractor shall execute a Bank Guarantee Bond from Scheduled Bank <b>for the amount equal to 110% of the amount of advance and</b> valid for the contract period. This <b>(Bank Guarantee from Scheduled Bank for the amount equal to 110% of the balance amount of advance)</b> shall be kept renewed from time to time to cover the balance amount and likely period of complete recovery.
Clause 3 (vii)	If the contractor shall obtain a contract with Government as a result of wrong tendering or other non-bonafide methods of competitive tendering.	If the contractor had secured the contract with Government as a result of wrong tendering or other non-bonafide methods of competitive tendering <b>or commits breach of Integrity Agreement.</b>

Reference	Existing Provision	Modified Provision
Page 5, IITD 2010	Page 5, IITD 2010 4A. Applicable for Percentage Rate Tender only (IITD-7) In case of Percentage Rate Tenders, a tenderer shall fill up the usual printed form, stating at what percentage below/above (in figures as well as in words) the total estimated cost given in Schedule of Quantities at Schedule-A, he will be willing to execute the work. Tenders, which propose any 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 including conditional rebates, will be summarily rejected. No single tender shall include more than one work, but contractors who wish to tender for two or more works shall submit separate tender for each. Tender shall have the name and number of the works to which they refer, written on the envelopes.	Page 5, IITD 2010 4A. Applicable for Percentage Rate Tender only (IITD-7) In case of Percentage Rate Tenders, <b>contractor</b> shall fill up the usual printed form, stating at what percentage below/above (in figures as well as in words) the total estimated cost given in Schedule of Quantities at Schedule-A, he will be willing to execute the work. <b>The tender submitted shall be treated as invalid if :-</b> <b>1. The contractor does not quote percentage above/below on the total amount of tender or any section/sub head of the tender.</b> <b>2. The percentage above/below is not quoted in figures &amp; words both on the total amount of tender or any section/sub head of the tender.</b> <b>3. The percentage quoted above/below is different in figures &amp; words on the total amount of tender or any section/sub head of the tender:</b> Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for

C.....Nil

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O..... Nil



		<p>carrying out the work, or which contain any other conditions of any sort including conditional rebates, will be summarily rejected. No single tender shall include more than one work, but contractors who wish to tender for two or more works shall submit separate tender for each. Tender shall have the name and number of the works to which they refer, written on the envelopes.</p> <p><b>New Para 4B is added as below:</b></p> <p><b>4B:</b> In case the lowest tendered amount (estimated cost + amount worked on the basis of percentage above/ below) of two or more contractors is same, such lowest contractors will be asked to submit sealed revised offer in the form of letter mentioning percentage above/below on estimated cost of tender including all sub sections/sub heads as the case may be, but the revised percentage quoted above/below on tendered cost or on each sub section/ sub head should not be higher than the percentage quoted at the time of submission of tender. The lowest tender shall be decided on the basis of revised offers.</p> <p>In case any of such contractor refuses to submit revised offer, then it shall be treated as withdrawal of his tender before acceptance and 50% of earnest money shall be forfeited.</p> <p>If the revised tendered amount of two more contractors received in revised offer is again found to be equal , the lowest tender, among such contractors, shall be decided by draw of lots in the presence of SE of the circle, EE(s) in-charge of major &amp; minor component(s) (also DDH in case Horticulture work is also included in the tender), EE(P) or EE(HQ) of the circle &amp; the lowest contractors those have quoted equal amount of their tenders.</p> <p>In case all the lowest contractors those have quoted same tendered amount, refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each contractor.</p> <p>Contractor(s), whose earnest money is forfeited because of non-submission of revised offer, shall not be allowed to participate in the re-tendering process of the work.</p>
Reference	Existing Provision	Modified Provision
10A	In case of Percentage Rate Tenders only	In case of Percentage Rate Tenders only

C.....Nil

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O..... Nil





(page 6-7)	<p>percentage quoted shall be considered. Any tender containing item rates is liable to be rejected. Percentage quoted by the contractor in percentage rate tender shall be accurately filled in figures and words, so that there is no discrepancy. <b>However if the contractor has worked out the amount of the tender and if any discrepancy is found in the percentage quoted in words and figures, the percentage which corresponds with the amount worked out by the contractor shall, unless otherwise proved, be taken as correct. If the amount of the tender is not worked out by the contractor or it does not correspond with the percentage written either in figures or in words, then the percentage quoted by the contractor in words shall be taken as correct. Where the percentage quoted by the contractor in figures and in words tally but the amount is not worked out correctly, the percentage quoted by the contractor will, unless otherwise proved, be taken as correct and not the amount.</b></p>	<p>percentage quoted shall be considered. Any tender containing item rates is liable to be rejected. Percentage quoted by the contractor in percentage rate tender shall be accurately filled in figures and words, so that there is no discrepancy.</p> <p><b>(Remaining part deleted)</b></p>
<b>Reference</b>	<b>Existing Provisions</b>	<b>Modified Provisions</b>
Deviations/ Variations Extent and Pricing	<p><b><u>CLAUSE 12</u></b></p> <p>The Engineer-in-Charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do</p>	<p><b><u>CLAUSE 12</u></b></p> <p>The Engineer-in-Charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which</p>

C.....Nil

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	the main works except as hereafter provided.	he agreed to do the main works except as hereafter provided.  <b>The completion cost of any agreement for Maintenance works including works of upgradation, aesthetic, special repair, addition/ alteration shall not exceed 1.25 times of Tendered amount.</b>
Deviations, Extra Items, Pricing	12.2  In the case of extra items (items that are completely new and are in addition to the items contained in the contract), the contractor may within 90 days of receipt of order or occurrence of the item(s) claim rate, supported by proper analysis, for the work and the Engineer-in-charge shall within one month of the receipt of the claims supported by analysis after giving considerations to the analysis of the rates submitted by the contractor, determined the rates on basis of market rates and the contractor shall be paid in accordance with the rates so determined.	12.2  <b>A. For Project and original works:</b>  In the case of extra items (items that are completely new and are in addition to the items contained in the contract), the contractor may within 90 days of receipt of order or occurrence of the item(s) claim rate, supported by proper analysis, for the work and the Engineer-in-charge shall within one month of the receipt of the claims supported by analysis after giving considerations to the analysis of the rates submitted by the contractor, determined the rates on basis of market rates and the contractor shall be paid in accordance with the rates so determined.  <b>B. For Maintenance including works of upgradation, aesthetic, special repair, addition/ alteration:</b>  <b>In the case of Extra Item(s) being the schedule items (Delhi Schedule of Rates items), these shall be paid as per the schedule rate plus cost index (at the time of tender) plus/minus percentage above below quoted contract amount.</b>  <b>Payment of Extra items in case of non-schedule items (Non-DSR items) shall be made as per the prevailing market rate.</b>
Deviation, Substituted Items, Pricing	In the case of substituted items (items that are taken up with partial substitution or lieu of items of work in the contract), the rate for the agreement item (to be substituted) and substituted item shall also be determined in the manner as mentioned in the following Para.	<b>A. For Project and original works:</b>  In the case of substituted items (items that are taken up with partial substitution or lieu of items of work in the contract), the rate for the agreement item (to be substituted) and substituted item shall also be determined in

C.....Nil

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	<p>(a) If The market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted).</p> <p>(b) If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted)</p>	<p>the manner as mentioned in the following Para.</p> <p>(a) If The market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted).</p> <p>(b) If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted). <b>For Maintenance including works of upgradation, aesthetic, special repair, addition/ alteration:</b></p> <p><b>In the case of Substitute Item(s) being the schedule items (Delhi Schedule of Rates items), these shall be paid as per the schedule rate plus cost index (at the time of tender) plus/minus percentage above below quoted contract amount.</b></p> <p><b>Payment of Extra items in case of non-schedule items (Non-DSR items) shall be made as per the prevailing market rate.</b></p>
<p>Deviation, Deviated Quantities, Pricing</p>	<p>In the case of contract items, substituted items, contract cum substituted items, which exceed the limits laid down in schedule F, the contractor may within fifteen days of receipt of order or occurrence of the excess, claim revision of the rates, supported by proper analysis for the work in excess of the above mentioned limits, provided that if the rates so claimed are in excess of the rates specified in the schedule of quantities, the Engineer-in-Charge shall within one month of receipt of the claims supported by analysis, after giving consideration to the analysis of the rates</p>	<p><b>A. For Project and original works:</b></p> <p>In the case of contract items, substituted items, contract cum substituted items, which exceed the limits laid down in schedule F, the contractor may within fifteen days of receipt of order or occurrence of the excess, claim revision of the rates, supported by proper analysis for the work in excess of the above mentioned limits, provided that if the rates so claimed are in excess of the rates specified in the schedule of quantities, the Engineer-in-Charge shall within one month of</p>

C.....Nil

I..... Nil

O..... Nil



	<p>submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.</p>	<p>receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.</p> <p><b>B. For Maintenance including works of upgradation, aesthetic, special repair, addition/ alteration:</b></p> <p><b>In the case of contract items, which exceed the limit laid down in schedule F, the contractor shall be paid rates specified in the schedule of quantities.</b></p>
	<p>12.3 The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the work excess of the limits laid down in Schedule F, and the Engineer-in-Charge shall after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within fifteen days of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates.</p>	<p><b>12.3 A. For Project and original works:</b></p> <p>The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the work excess of the limits laid down in Schedule F, and the Engineer-in-Charge shall after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within fifteen days of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates.</p> <p><b>B. For Maintenance including works of upgradation, aesthetic, special repair, addition/ alteration:</b></p> <p>In the case of decrease in the rates <b>Prevailing in the market</b> of items for the the work excess of the limits laid down in Schedule F, and the</p> <p>Engineer-in-Charge shall after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within fifteen days of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the</p>

C.....Nil

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O..... Nil



		said period of fifteen days having regard to the market rates.
Schedule F	Clause 12  No provision.	<b>Clause 12</b>  Type of work ___ *** _____  *** To be filled by NIT approving authority either Project and original work or Maintenance works including works of upgradation, aesthetic, special repair, addition/ alteration.

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C.....Nil

I..... Nil

O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.



## **BID SUBMISSION**

The bids (complete in all respect) must be uploaded in **two** Envelops as explained below:-

<b>Envelope – 1</b> (Following documents to be provided as single PDF file)			
<b>Sl. No.</b>	<b>Documents</b>	<b>Content</b>	<b>File Types</b>
1	Technical Bid	Organization Declaration Sheet as per Annexure - I	.PDF
2		Certificate of work experience	.PDF
3		Annexure – II [Technical Particulars]	.PDF
4		Annexure – IV [List of Technical Literature]	.PDF
5		Affidavit as per NIT condition 1.2.2 on stamp paper [see IITD 6]	.PDF
6		Acceptance to execute integrity pact	.PDF
7		IITD 7/8 duly signed by the bidder	.PDF
8		Certificate of registration of Sales Tax / VAT and acknowledgement of upto date filed return	.PDF
9		Certificate of registration of Service Tax and acknowledgement and upto date filled return	.PDF
10		Any other document as specified in the NIT	.PDF
<b>Envelope – 2</b>			
<b>Sl. No.</b>	<b>TYPES</b>	<b>Content</b>	
1.	Financial Bid	Price bid should be submitted in BOQ format.	.EXL

**SCHEDULE OF QUANTITY**

Name of work: **Supply, Installation, Testing & Commissioning of 1 x 500 KVA DG set near water reservoir at IIT Delhi**

S. No.	Description of work	Qty	Rate	Unit	Amount
1	<p><b>Sub Head - A [Equipments]</b></p> <p>Providing, Installing, Testing and Commissioning of Silet Type Diesel Generating set alongwith having Prime Power Rating of 500 KVA, 415 volts at 1500 RPM, 0.8 lagging power factor at 415 V suitable for 50 Hz, 3 phase system &amp; for 0.85 Load Factor and consisting of the following:</p> <p><b>[a] Diesel Engine:</b></p> <p>Diesel Engine 4 stroke water cooled, electric start, of suitable BHP at 1500 RPM suitable for above output of alternator at 40 degree C, 50% RH &amp; at 1000 metre MSL and conforming to BS 5514, BS 649, IS 10000, capable of taking 10% overloading for one hour after 12 hours of continuous operation. The engine will be fitted complete with all the required accessories.</p> <p><b>[b] Engine mounted Instrument Panel fitted with and having digital display for following:</b></p> <p>[i] Start-stop switch with key [ii] Water temperature indication [iii] Lubrication oil pressure indication [iv] Lubrication oil temperature indication [v] Battery charging indication [vi] RPM indication [vii] Over speed indication [viii] Low lub. Oil trip indication [ix] Engine Hours indication</p> <p><b>[c] Alternator</b></p>				

C.....Nil

I..... Nil

O..... Nil



	<p>Synchronous alternator rated at 500 KVA, 415 volts at 1500 RPM, 3 phase 50 Hz, a.c. supply with 0.8 lagging power factor at 40 degree C, 50% RH &amp; at 1000 metre MSL. The alternator shall be having SPDP enclosure, brushless, continuous duty, self-excited and self-regulated through AVR conforming to IS:4722/BS 2613 suitable for tropical conditions and with class - F/H insulation</p> <p><b>[d] Base Frame &amp; Foundation</b></p>				
	<p>Both the engine and alternator shall be mounted on suitable base frame made of MS channel with necessary reinforcement which shall be installed on suitable cement concrete foundation and vibration isolation arrangement as per recommendations of manufacturer.</p> <p><b>[e] Fuel Tank</b></p> <p>Daily service fuel tank of 990 litres capacity fabricated out of 3 mm thick M.S. sheet complete with all standard accessories and fuel piping between fuel tank and diesel engine with MS class 'C' pipes of suitable dia. Complete with valves, level indications and accessories as required as per specifications</p> <p><b>[f] Exhaust System</b></p> <p>Dry exhaust manifold with hospital exhaust silencer meeting noise and emission standards as per CPCB</p> <p><b>[g] Starting System</b></p> <p>12 V / 24 V dc starting system comprising of starter motor: voltage regulator and arrangement for initial excitation complete with suitable nos. of batteries [25 plates, 180 AH capacity lead acid type] as required as per specifications</p>				





	<b>[h] Acoustic and weather proof enclosure</b> with arrangement for fresh air intake for cooling of the engine & alternator, extraction and discharging hot air into the atmosphere as per specifications.	1 set		set	
2	Fabricating, Installing, Testing & Commissioning of automatic mains failure control including auto by-pass panel, suitable for 500 KVA silent type DG set complete with relays, timers, set of CTs for metering and protection and energy analyser to indicate currents, phase and line voltages, frequency, power factor, KWH, KVARH & provision for overload, short circuit, restricted earth fault, under frequency, control cabling from AMF panel to diesel engine and elsewhere, if required, all complete and interlocking including the following:				
	<p><b>[a] 03 nos. 1250 amps, 4 pole motorised electrically operated draw out with cradle type 3 position ACB</b> with electronic release for O/C &amp; E/F and shunt trip</p> <p><b>[b]</b> Auto / Manual / Test / Off selector switch</p> <p><b>[c]</b> 2 nos. overload relay, 2 nos. reverse power relay and 2 nos. under voltage relay</p> <p><b>[d]</b> 3 sets of current transformers</p> <p><b>[e]</b> Energy analyser unit to indicate current, voltage, frequency, power factor and KWH</p> <p><b>[f]</b> Indicating lamps for load on mains and load on set</p> <p><b>[g]</b> Fuse for instruments</p> <p><b>[h]</b> Battery charger, complete with transformer / rectifier, dc voltmeter and ammeter, selector switch for trickle, off and boost and current adjustment</p> <p><b>[i]</b> Main supply failure monitor</p> <p><b>[j]</b> Supply failure timer</p> <p><b>[k]</b> Restoration timer</p> <p><b>[l]</b> Control unit with three impulse automatic engine start / stop and failure to start lockout</p>				

C.....Nil

I..... Nil

O..... Nil



	<p><b>[m]</b> Impulse counter with locking and reset facility</p> <p><b>[n]</b> ON / OFF / Control circuit switch with indicator</p> <p><b>[o]</b> Audio / Video annunciation for</p> <p>i) high water temperature</p> <p>ii) low lubricating oil pressure</p> <p>iii) engine over speed</p> <p>iv) engine fails to start</p> <p>v) full load / maximum load warning</p>	1 set		set	
3	Supplying and fixing exhaust gas piping of suitable dia. Welded black MS, B class pipe conforming to IS:3589 cut to required lengths and installed with necessary bends, supports and clamps, insulation of exhaust system with mineral wool / Rockwool, 50 mm thick wire mesh & aluminium cladding etc. as required as per specifications: 250 mm dia min. 4.5 mm thick	50 m		metre	
4	Supplying, fabricating and installation of steel fabrication for cable support, for support of fuel tank, exhaust pipe including welding, grouting and painting with civil foundation etc. as required.	5000 kg		kg	
	<b>Total of Sub Head 'A' [Rs.]</b>				

S. No.	Description of work	Qty	Rate	Unit	Amount
	<b>Sub Head - B [Cabling]</b>				
1	Laying of one number PVC insulated & PVC sheathed / XLPE power cable of 1.1 KV grade of size not exceeding 25 sqmm in the existing RCC / HUME / STONE WARE / METAL pipe as required.	70 m		metre	

C.....Nil

I..... Nil

O..... Nil



2	Laying of one number PVC insulated & PVC sheathed / XLPE power cable of 1.1 KV grade of size exceeding 25 sqmm but not exceeding 400 sqmm in the existing RCC / HUME / STONE WARE / METAL pipe as required.	100 m		metre	
3	Laying of one number PVC insulated & PVC sheathed / XLPE power cable of 1.1 KV grade of size not exceeding 25 sqmm in the existing masonry open duct, as required.	30 m		metre	
4	Laying of one number PVC insulated & PVC sheathed / XLPE power cable of 1.1 KV grade of size exceeding 25 sqmm but not exceeding 400 sqmm in the existing masonry open duct as required.	30 m		metre	
5	Laying of one number PVC insulated & PVC sheathed / XLPE power cable of 1.1 KV grade of size not exceeding 25 sqmm on surface as required.	25 m		metre	
6	Laying of one number PVC insulated & PVC sheathed / XLPE power cable of 1.1 KV grade of size exceeding 25 sqmm but not exceeding 185 sqmm on surface as required.	30 m		metre	
7	Laying of one number PVC insulated & PVC sheathed / XLPE power cable of 1.1 KV grade of size exceeding 185 sqmm but not exceeding 400 sqmm etc. on surface as required.	50 m		metre	
8	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
	[a] 3.5 x 400 sqmm	12 nos.		Each	
	[b] 4 x 25 sqmm	10 nos.		Each	
9	Supplying of PVC insulated and PVC sheathed XLPE armoured aluminium conductor cable of following size of 1.1 KV grade.				
	[a] 3.5 x 400 sqmm	100 m		Metre	

C.....Nil

I..... Nil

O..... Nil



	[b] 4 x 25 sqmm	30 m		metre	
10	Supplying of PVC insulated and PVC sheathed / XLPE armoured copper conductor cable of following size of 1.1 KV grade.				
	[a] 6 x 2.5 sqmm	60 m		Metre	
	[b] 12 x 2.5 sqmm	60 m		Metre	
	[c] 10 x 4 sqmm	60 m		metre	
11	Supplying and making end termination with brass compression gland and copper lugs for following size of PVC insulated and PVC sheathed / XLPE copper conductor cable of 1.1 KV grade as required.				
	[a] 6 x 2.5 sqmm	8 nos.		Each	
	[b] 12 x 2.5 sqmm	8 nos.		Each	
	[c] 10 x 4 sqmm	8 nos.		Each	
12	Fabricating and installing following size of perforated M.S. cable trays including horizontal and vertical bends, reducers, tees, cross members and other accessories as required, and duly suspended from the ceiling with M.S. suspenders, including painting etc. as required of size 375 mm width x 50 mm depth x 2.0 mm thickness	40 m		metre	
	<b>Total of Sub Head - B</b>				

S. No.	Description of work	Qty	Rate	Unit	Amount
	<b>Sub Head - C [Earthing]</b>				
1	<b>Earthing with copper earth plate 600 mm x 600 mm x 3 mm</b> thick including accessories, providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal or coke and salt complete as required.	4 set		set	
2	Providing and fixing 25 mm x 5 mm copper strip in 40 mm size medium class GI pipe from earth electrode in ground as required.	100 m		metre	

C.....Nil

I..... Nil

O..... Nil



3	Providing and fixing earth bus of 50 mm x 5 mm copper strip on surface for connections, including making holes, etc. as required.	1 m		metre	
4	Providing and fixing 25 mm x 5 mm GI strip on surface or in recess for connections etc. as required.	75 m		metre	
5	Providing and fixing 6 SWG dia GI wire on surface or in recess for loop earthing as required.	400 m		metre	
	<b>Total of Sub Head - C</b>				

S. No.	Description of work	Qty	Rate	Unit	Amount
	<b><u>Sub Head - D [Miscellaneous]</u></b>				
1	Supplying and fixing of 5 kg capacity Carbon di oxide type fire extinguisher duly ISI marked, seamless steel body, initially filled etc. as required conforming to IS 2878.	2 nos.		Each	
2	Supplying and fixing of 5 kg capacity ABC dry powder [stored pressure] type fire extinguisher duly ISI marked, seamless steel body, initially filled etc. as required conforming to IS 13849.	2 nos.		Each	
3	Supplying and laying of ISI marked rubber mat of 1.1 KV grade, 1 metre wide as required.	30 m		Metre	
4	Supplying and fixing of a set fire bucket of 9 litre capacity duly sand filled with necessary hanging arrangement etc. as required. [one set comprises of 4 buckets]	1 set		Set	
5	Supplying of hand operated rotary diesel pump with pvc delivery pipe of suitable diameter of 3 m long duly fitted with the pump etc. as required.	2 set		Set	
	<b>Total of Sub Head: D</b>				

AEE [E]

Executive Engineer [E]

C.....Nil

I..... Nil

O..... Nil

D'Man /J.E.

A.E.E / A.E.

E.E.