



ODISHA POWER TRANSMISSION CORPORATION LIMITED

OFFICE OF THE SENIOR GENERAL MANAGER
CENTRAL PROCUREMENT CELL
JANAPATH, BHUBANESWAR-751022

TEL NO. 0674-2541801 FAX NO. 0674-2542964
TENDER SPECIFICATION NO

SR.G.M.-C.P.C.-TENDER- DIESEL GENERATOR SET 31 /2016-17

**FOR PROCUREMENT OF DIESEL GENERATOR SET
COMPREHENSIVE AMC OF DG SET FOR 5 YEARS**

PART-I COMMERCIALBID

SECTION-I	INSTRUCTION TO TENDERERS
SECTION-II	GENERAL TERMS AND CONDITIONS OF CONTRACT (G.T.C.C.) (COMMERCIAL)
SECTION-III	LIST OF ANNEXURES
SECTION-IV	TECHNICAL SPECIFICATION
SECTION-V	COMPREHENSIVE AMC OF DG SET FOR 5 YEARS

PART-II PRICEBID

Request for online tender documents –From dt. 20.07.2016 (10.00 hrs) to 18.08.2016 dt (13.00 hrs.)
Last date of submission of online tender – up to dt 19.08.2016 (13.00 hrs.)
Date of opening of Tender - 20.08.2016 (15.00 hrs.)



**ODISHA POWER TRANSMISSION CORPORATION LTD.
REGD. OFFICE: JANPATH, BHUBANESWAR – 751 022,**

e-TENDER NOTICE NO 31 / 2016-17

For and on behalf of ODISHA POWER TRANSMISSION CORPORATION LTD, Sr.G.M. [C.P.C.] invites Tenders from reputed manufacturers in two part bidding system for supply of **63** nos of **82.5 KVA D G set** including Erection, Testing, commissioning & Comprehensive AMC for 5 Years. The interested bidders would be required to enroll themselves on the tender portal www.tenderwizard.com/OPTCL Complete set of bidding documents are available at www.tenderwizard.com/OPTCL from 20.07.2016 (10:00hrs.) to 18.08.2016 (13:00hrs.) Interested manufacturers may visit OPTCL's official web site <http://www.optcl.co.in> and www.tenderwizard.com/OPTCL for detail specification.

N.B:- All subsequent addendums/corrigendum to the tender shall be hosted in the OPTCL's official web site <http://www.optcl.co.in> and www.tenderwizard.com/OPTCL only.

SENIOR GENERAL MANAGER [C.P.C.]



NOTICE INVITING TENDER
ODISHA POWER TRANSMISSION CORPORATION LTD
REGD. OFFICE: JANPATH, BHUBANESWAR – 751 022
e-TENDER NOTICE NO- 31/2016-17

For and on behalf of the ODISHA POWER TRANSMISSION CORPORATION LTD., the undersigned invites bids under two-part bidding system in e-tendering mode only as per the following details.

Sl. No	Tender Specification No	Description of materials.	Delivery schedule.	Qty in Nos	INDIAN RUPEES			Last date of submission & Date of opening of Tender
					Earnest Money Deposit	Cost of Tender Spec. Document	Tender Processing Fee	
1.	Sr.G.M.-CPC – D G set	Supply of 63 nos of 82.5 KVA DG set including Erection, Testing Commissioning & Comprehensive AMC for 5 years	(As per Annexure-II of Technical specification) Phase-1 4 months from the issue of P.O(21 nos) Phase-2 6 months from the issue of P.O(21 nos) Phase-3 8 months from the issue of P.O(21 nos)	63 (sixty three) no's 82.5 KVA DG set	Rs 7,35,966	Rs.10000/ + Rs 500/- (VAT)	Rs. 5,750/-	Up to 19.08.2016 (13.00 Hrs.) & on 20.08.2016 at 15.00 Hrs.

The bidders can view the tender documents from website free of cost.

The bidders who want to submit bid shall have to pay Rs. 10,500/- (Rupees ten thousand five hundred) only nonrefundable including VAT @ 5%) towards the tender cost, in the form of Demand draft/Cash only, drawn in favour of the D.D.O Head QRS, OPTCL, Bhubaneswar.

The bidders shall have to pay nonrefundable amount of **Rs. 5,750/- (Rupees five thousand seven hundred & fifty only)** towards the tender processing fee to K.S.E.D.C. Ltd, in e-payment mode. The e-payment of above amount is to be made to enable the bidder to download the bid proposal sheets and bid document in electronic mode. The bidder shall deposit the tender cost, tender processing fee & EMD amount prior to last date & time for submission of bid as per the tender notice.

The bidders shall scan the Demand Draft/Pay order/ Bank guarantee, towards EMD and upload the same in the prescribed form in .pdf or .jpeg format in addition to sending the original as stated above.

The prospective bidders are advised to register their user ID, Password, company ID from website www.tenderwizard.com/OPTCL by clicking on hyper link "Register Me".

Any clarifications regarding the scope of work and technical features of the project can be had from the undersigned during office hours.

Minimum qualification criteria of bidders: AS STIPULATED IN SECTION-II, PART-I (G.T.C.C) OF THE TENDER SPECIFICATION.

SENIOR GENERAL MANAGER
CENTRAL PROCUREMENT CELL



PART – I

SECTION – I

INSTRUCTIONS TO TENDERERS

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COMMERCIAL SPECIFICATION

PART-I

SECTION-I

INSTRUCTIONS TO TENDERER

1. Submission of Bids: -

The bidder shall submit the bid in Electronic Mode only i.e. www.tenderwizard.com/OPTCL. The bidder must ensure that the bids are received in the specified website of the OPTCL by the date and time indicated in the Tender notice. Bids submitted by telex/telegram will not be accepted. No request from any bidder to the OPTCL to collect the Bids in physical form will be entertained by the OPTCL.

The OPTCL reserves the right to reject any bid, which is not deposited according to the instruction, stipulated above. The participants to the tender should be registered under ODISHA Sales Tax, Act, VAT Act / Central sales Tax Act.

1. For all the users it is mandatory to procure the Digital Signatures.
2. Contractors / Vendors / Bidders / Suppliers are requested to follow the below steps for Registration:
 - a. Click "Register", fill the online registration form.
 - b. Pay the amount of Rs. 2300/- through e-payment mode only.
 - c. Send the acknowledgment copy for verification.
 - d. As soon as the verification is being done the e-tender user id will be enabled.
3. After viewing Tender Notification, if bidder intends to participate in tender, he has to use his e-tendering User Id and Password which has been received after registration and acquisition of DSCs (Digital Signature Certificates).
4. If any Bidder wants to participate in the tender he will have to follow the instructions given below:
 - a. Insert the PKI (which consist of your Digital Signature Certificate) in your System.
(Note: Make sure that necessary software of PKI be installed in your system).
 - b. Click / Double Click to open the Microsoft Internet Explorer (This icon will be located on the Desktop of the computer).
 - c. Go to Start > Programs > Internet Explorer.
 - d. Type www.tenderwizard.com/OPTCL in the address bar, to access the Login Screen.
 - e. Enter e-tender User Id and Password, click on "Go".
 - f. Click on "Click here to login" for selecting the Digital Signature Certificate.
 - g. Select the Certificate and enter DSC Password.
 - h. Re-enter the e-Procurement User Id Password
5. To make a request for Tender Document Bidders will have to follow below mentioned steps.
 - Click "Un Applied" to view / apply for new tenders.
 - Click on Request icon for online request.
6. After making the request Bidders will receive the Tender Documents which can be checked and downloaded by following the below steps:
 - Click to view the tender documents which are received by the user.
 - Tender document screen appears.
 - Click "Click here to download" to download the documents.
7. After completing all the formalities Bidders will have to submit the tender and they must take care of following instructions.
 - Prior to submission, verify whether all the required documents have been attached and uploaded to the particular tender or not.
 - Note down / take a print of bid control number once it displayed on the screen
8. Tender Opening event can be viewed online.
9. Competitors bid sheets are available in the website for all.
10. **For any e-tendering assistant contact help desk number mentioned below.**
 - Bangalore – 080- 40482000.

The participants to the tender should be registered under ODISHA Sales Tax, Act, VAT Act/Central sales Tax Act.

2. Division of Specification.

The specification is mainly divided into two parts viz. Part-I & Part-II.

Part-I Consists of

[i] Section-I	Instruction to Tenderers.
[ii] Section-II	General Terms & conditions of contract.
[iii] Section-III	Schedules and forms etc.
[iv] Section-IV	Technical Specification.
[v] Section-V	Comprehensive AMC

Part-II Consists of

[ii] Schedule of prices as per Annexure-V & V (a)

3. Tenders shall be in Two Parts.

The Tenderers are required to submit the tenders in two parts viz. Part-I (Techno commercial) & Part-II (Price bid).

The Tenderers are required to submit the tenders in two parts Part-I, technical and commercial and Part-II "Price Bid".

4. Opening of Bids.

[a] The part-I shall be opened on the date and time fixed by the OPTCL for opening of bids in Electronic mode in presence of such of the Tenderers or their authorized representatives [limited to one person only] on the due date of opening of tender who opt remain present. After scrutiny of the technical particulars and other commercial terms, clarifications, if required, shall be sought for from the bidders. The Tenderers shall be allowed 15 days' time for such activity.

[b] On receipt of technical clarification, the bids shall be reviewed, evaluated and those not in conformity with the technical Specification / qualifying experience, shall be rejected. If any of the technical proposals requires modification to make them comparable, discussion will be held with the participating bidders. All the responsive bidders shall be given opportunity to submit the revised technical and revised price proposals as a follow up to the clarification (modification if any) on the technical proposals. The qualified bidders shall be given opportunity to submit revised price proposals within 15 days from the date of such discussion or within time frame mutually agreed, whichever is earlier.

[c] When the revised price proposals are received, the original price proposals will be returned to the bidders unopened along with their original technical proposals. Only the revised technical and price proposals will be considered for bid evaluation. The price bids [Part-II] of such of the Tenderers, whose tenders have been found to be technically and commercially acceptable, including those supplementary revised price bids, submitted subsequently, shall be opened in the presence of the bidder's representative on a date and time which will be intimated to all technically and commercially acceptable Tenderers.

[d] The bidders are required to furnish sufficient information to the Purchaser to establish their qualification, capacity to manufacture and/or supply the materials/perform the work. Such information shall include details of bidder's experience, its financial, managerial and technical capabilities.

[e] The bidders are also required to furnish details of availability of appropriate technical staff and capability to perform after sales services. The above information shall be considered during scrutiny and evaluation of bids and any bid which does not satisfactorily meet these requirements, shall not be considered for price bid evaluation.

[f] The price bids of the technically and otherwise acceptable bids shall only be evaluated as per the norms applicable in terms of this Specification.

5. Purchaser's Right Regarding Alteration of Quantities Tendered.

The Purchaser may alter the quantities of materials/equipment at the time of placing orders. Initially the purchaser may place orders for lesser quantity with full freedom to place extension orders for further quantity under similar terms and conditions of the original orders. Orders may also be split among more

than one tenderer for any particular item, if considered necessary in the interest of the Purchaser to get the goods/equipment earlier.

6. Procedure and opening time of tenders.

Tenders will be opened in the office of the Senior General Manager [C.P.C.] on the specified date and time in presence of the Tenderers or their authorized representatives [limited to one person only] in case of each bidder who may desire to be present, at the time of opening the bids.

7. Bidder's Liberty to deviate from Specification.

The Tenderer may deviate from the specification while quoting, if in his opinion, such deviation is in line with the manufacturer's standard practice and conducive to a better and more economical offer. All such deviations should however be clearly indicated giving full justifications for such deviation. [Read with Clause-9, Section-II of the Specification].

8. Eligibility for submission of bids.

Only those manufacturers who have deposited the cost of tender specification are eligible to participate in the tender. They should submit the money receipt as a proof of such payment.

9. Purchaser's right to accept/reject bids:

The purchaser reserves the right to reject any or all the tenders without assigning any reasons what so ever if it is in the interest of OPTCL, under the existing circumstances. [Read with clause-10, Section-II of the specification].

10. Mode of submission of Tenders.

[A] Tenders shall be submitted in electronic mode only. (www.tenderwizard.com/OPTCL)

[B] **Telegraphic or FAX tenders** shall not be accepted under any circumstances.

11. Earnest money deposit:

The tender shall be accompanied by Earnest Money deposit of value specified in the notice inviting tenders against each lot / bid. Tenders without the required EMD as indicated at **Annexure-VIII** will be rejected out rightly.

The earnest money deposit shall be furnished in one of the following forms subject to the conditions mentioned below:

- (a) **Cash:** - Payable to drawing & disbursing Officer, OPTCL (HQRS Office), Bhubaneswar – 751022
- (b) **Bank Draft:** -To be drawn in favour of Drawing & Disbursing Officer, OPTCL [HQRS Office], Bhubaneswar-751 022.
- (c) Bank Guarantee from any Nationalized/Scheduled Bank strictly as per enclosed proforma vide **Annexure-VI** to be executed on non-judicial stamp paper worth Rs.29.00 or as applicable, as per prevailing laws in force and also to be accompanied by the confirmation letter of the issuing Bank Branch.
- (d) National saving certificates duly pledged in favour of Senior General Manager [Central Procurement Cell] OPTCL {HQRS Office}, Bhubaneswar-751 022.

NOTE:

- (i). The validity of the EMD in the form of Bank Guarantee shall be at least for 240 days from the date of opening of tender failing which the tender will be liable for rejection.
- (ii) No interest shall be paid on the Earnest Money Deposit.
- (iii) E.M.D. in shape of cash may be submitted up to Rs. 25,000/- (Rupees Twenty-five) Thousand only. Above Rs. 25,000/- (Rupees Twenty-five thousand) the Earnest Money Deposit shall be furnished in any one of the forms indicated above (i.e. Through Bank Draft, Bank Guarantee/ National Savings Certificate).
- (iv) No adjustment towards EMD shall be permitted against any outstanding amount with the **ODISHA POWER TRANSMISSION CORPORATION LTD.**
- (v) The chart showing particulars of EMD to be furnished by Tenderers of different categories is placed at **Annexure-VIII.**

- (vi) In the case of un- successful tenderer, the EMD will be refunded after the tender is decided. In the case of successful Tenderer, this will be refunded only after furnishing of security money referred to a clause-19 of Section-II.
- (vii) Suits, if any, arising out of this clause shall be filed in a Court of law to which the jurisdiction of High Court of ODISHA extends.
- (vii) EMD will be forfeited if the tenderer fails to accept the letter of intent and/or purchase order issued in his favour or to execute the order, placed on them.
- (viii) Tenders not accompanied by Earnest Money shall be disqualified.

12. Validity of the Bids: -

The tenders should be kept valid for a period of **180** days from the date of opening of the tender, failing which the tenders will be rejected.

13. PRICE: -

Tenderers are requested to quote-‘FIRM’ Price. No deviation from **FIRM PRICE** will be entertained irrespective of deviation clause No.7 of this part of the specification.

14. Revision of tender price by Bidders: -

- [a] After opening of tenders and within the validity of period, no reduction or enhancement in price will be entertained. If there is any change in price, the tender shall stand rejected and the EMD deposited shall be forfeited.
- [b] After opening of price bid if the validity period is not sufficient to place purchase order, the tenderer may be asked by the purchaser to extend the validity period of the bid under the same terms and condition as per the original tender.
However, the tender are free to change any or all conditions including price except delivery period of their bids at their own risk, if they are asked by the purchaser to extend the validity period of the bid prior to opening of price bid.

15. Tenderers to be fully conversant with the clauses of the Specification: -

Tenderers are expected to be fully conversant with the meaning of all the clauses of the specification before submitting their tenders. In case of doubt regarding the meaning of any clause, the tenderer may seek clarification in writing from the Senior General Manager (Central Procurement Cell) OPTCL. This, however, does not entitle the Tenderer to ask for time beyond due date, fixed for receipt of tender.

16. Documents to Accompany Bids.

Tenderers are required to submit tenders in the following manner:

Part-I of the Tender shall contain the following documents.

- [i] Declaration Form. [As per Annexure-I]
- [ii] Earnest Money. [As per Annexure-VIII]
- [iii] Technical specification and Guaranteed Technical Particulars conforming to the Purchaser’s Specification along with drawings, literatures and all other required Annexures, duly filled in.
- [iv] Photostat (xerox) copies of type test certificates of materials/equipments offered as stipulated in the Technical Specification.
- [v] Abstract of Terms & conditions in prescribed proforma as per Annexure-II.
- [vi] General Terms & Conditions of supply offer as per Section-II of the Specification.
- [vii] List of orders executed for similar materials/equipments during preceding 2 (two) years indicating the customer’s name, Purchase Order No. & Date, date of supply and date of commissioning etc.
- [viii] Data on past experience **as per Clause-7 of Section-II** of the Specification.
- [ix] Sales tax clearance certificate for the previous year. The permanent account number [PAN] of the firm is required under Income tax Act.
- [x] Audited Balance sheet & profit loss accounts of the bidder, for past (3) three years.
- [xi] Schedule of quantity and delivery in the prescribed Proforma vide Annexure, as appended.
- [xii] List of Orders in hand to be executed.
- [xiii] Deviation schedule.
- [xiv] Affidavit of Bidder

[xv] Scanned copy of the affidavit as per the clause no 21 of ITB

17. Documents/Papers to accompany Part-II Bid.

- (a) Part – II of the tender shall consist of the following
(i) Schedule of prices in the prescribed pro-forma as per Annexure-V & V(a)

18. Conditional Offer:

Conditional offer shall not be accepted.

19. General: -

- (i) In the event of discrepancy or arithmetical error in the schedule of price, the decision of the purchaser shall be final and binding on the Tenderer.
(ii) For evaluation, the price mentioned in words shall be taken if there is any difference in figures and words in the price bid.
(iii) Notice inviting tender shall form part of this specification.
(iv) The price bids of the technically and otherwise acceptable bids shall only be evaluated. The EMD of others, if any, shall be returned to the bidders.
(v) Tenderer can offer any lot or all the lots of the tender, if there are more than one lots. But the tender (bid) must be furnished separately for each lot. For each lot, the tenderer has to submit PART-I & PART-II of the bids separately.
(vi) It should be distinctly understood that the part-II of the bid shall contain only details/documents relating to price, as outlined in clause-17 mentioned herein above. Inclusion of any of the documents/information etc. shall render the bid liable for rejection.

20.0 Expenses in respect of OPTCL's representative for witnessing the inspection & testing of the offered equipment/materials at the inspection and testing site.

The testing and inspection of the equipment/ materials at manufacturer works are in the scope of work of the Contractor/Supplier. OPTCL inspecting officer, on receipt of offer for inspection from the contractor/supplier, proceeds to the manufacturer works to witness the Type/Acceptance/Routine test.

Important:

It is hereby informed to all the bidders that the relevant clauses of the contract specification, pertaining to inspection and testing of equipment/materials, are hereby supplemented with following additional terms and conditions. The expenses under the following heads, in respect of OPTCL's representative for witnessing the inspection & testing of the offered equipment/materials at the inspection and testing site, shall be borne by the contractor / supplier.

a) Hotel Accommodation:

- I. Single room accommodation in 4 star hotels for the OPTCL inspecting officer of the rank of Assistant General Manager (Grade E-6) and above.
II. Single room accommodation in 3 star hotels for the OPTCL inspecting officer of the rank below Assistant General Manager (Grade E-6).

N.B.: It is the responsibility of the contractor to arrange the hotel accommodation matching with their inspection and testing schedule, so that the inspecting officer can check-in the hotel one day prior to the date of inspection and check out after the completion of the inspection, subject to availability of the return travel ticket. In case of extended duration of inspection or non-availability of the return travel ticket, Contractor/supplier/manufacturer shall arrange for the extended stay of the inspecting officer in the Hotel accordingly. In case there is no hotel with prescribed standard in and around the place of inspection, the contractor/supplier/manufacturer shall suggest alternative suitable arrangement at the time of offer for inspection, which is subjected to acceptability of OPTCL inspecting officer.

b) Journey of the inspecting officer:

(i) To and fro travel expenditure from the Head Quarters of the inspecting officer to the place of inspection/testing shall be borne by the contractor/supplier/manufacturer. Journey from the Head Quarters of the inspecting officer to the nearest Air Port by train (Ist / II nd A.C) & A/C Taxi then by Air to the place of inspection / testing or to the nearest place of inspection /testing and then by train (Ist/II nd A.C) & A/C taxi to the place of inspection/testing shall be arranged by the contractor/supplier/manufacturer.

(ii) For train journey, inspecting officer of the rank Assistant General Manager and above shall be provided with 1st class AC ticket and inspecting officer below the rank of Assistant General Manager shall be provided with 2nd class AC ticket.

(iii) The Air-ticket / train-ticket booking/cancellation is the responsibility of the contractor / supplier.

(iv) Moreover during the journey, if there is an unavoidable necessity for intermediate travel by road/waterway/sea-route, the contractor/supplier shall provide suitable conveyance to the inspecting officer for travel this stretch of journey or bear the cost towards this. Any such possibilities shall be duly intimated to OPTCL at the time of their offer for inspection.

c) Local Conveyance:

At the place of the inspection/testing, for local journey of the inspecting officer between Hotel and inspection/testing site and or any other places, Air-conditioned four wheeler vehicle in good condition shall be provided by the contractor/supplier/manufacturer.

d) Following points are also to be considered:

(i) All the above expenses shall be deemed to be included in the bidder's quoted price for that supply item. Bidder shall not be eligible to raise any extra claim in this regard.

(ii) Contractor/supplier/manufacturer may assume that only in 40% of the inspection and testing offer cases, OPTCL inspecting officer, not below the rank of Assistant General Manager will witness the inspection and testing.

(iii) In case of inspection and testing of some critical equipment/materials like Power transformers, OPTCL may depute more than one inspecting officer. (iv) Contractor/supplier/manufacturer shall judiciously plan the inspection/testing schedule and place of inspection/testing, so that optimum number of inspection/testing and minimum time shall be required to cover all the equipment/materials of the relevant contract package.

(v) It shall be the responsibility of the Contractor/Supplier to organize the above tour related matters of OPTCL inspecting officer including the matters related to overseas inspection/testing, if any.

21. Litigation/Arbitration

(i)- Bidder has to furnish detailed information on any litigation or arbitration arising out of contracts completed or under execution by it over the last five years. A consistent history of litigation by or against the bidder may result in rejection of bid.

(ii) The bidder should not have any pending litigation or arbitration with OPTCL with regard to any project or related activity. The bidder should certify/declare the same in unequivocal terms by way of an affidavit duly sworn before a magistrate. Bid furnished by the bidder shall not be eligible for consideration if it is not accompanied by the affidavit. Further, the bid/LOA/LOI shall liable for outright rejection/cancellation at any stage if any information contrary to the affidavit/declaration is detected.

SECTION-II

GENERAL TERMS AND CONDITIONS OF CONTRACT [G T C C]

1. Scope of the contract:

The scope of the contract shall be to design, manufacture, supply of equipments/materials as per the specification at the consignee's site, and rendering services in accordance with the enclosed technical specification and bill of quantity.

2.0 Definition of terms:

For the purpose of this specification and General Terms and Conditions of contract [GTCC], the following words shall have the meanings hereby indicated, except where otherwise described or defined.

2.1 "The Purchaser" shall mean the Senior General Manager [Central Procurement Cell] for and on behalf of ODISHA POWER TRANSMISSION CORPORATION LTD., Bhubaneswar.

2.2 "The Engineer" shall mean the Engineer appointed by the Purchaser for the purpose of this contract.

2.3 "Purchaser's Representative" shall mean any person or persons or consulting firm appointed and remunerated by the Purchaser to supervise, inspect, test and examine workmanship and materials of the equipment to be supplied.

2.4 "The supplier" shall mean the Bidder whose bid has been accepted by the purchaser and shall include the Bidder's executives, administrators, successors and permitted assignees.

2.5 "Equipment" shall mean and include all machinery, apparatus, materials, and articles to be provided under the contract by the suppliers.

2.6 "Contract Price" shall mean the sum named in or calculated the bid.

2.7 "General Condition" shall mean these General Terms and Conditions of Contract.

2.8 "The Specification" shall mean both the technical as well as commercial parts of the specification annexed to or issued with GTCC and shall include the schedules and drawings, attached thereto as well as all samples and pattern, if any.

2.9 "Month" shall mean "Calendar month".

2.10 "Writing" shall include any manuscript, type written, printed or other statement reproduction in any visible form and whether under seal or under hand.

ii.1 "FOR Destination costs" shall mean the cost of equipment and material at the consignee's store/site. The cost is inclusive of Excise duty, Sales tax and other local taxes, packing, forwarding and insurance and freight charges.

2.12 The term "Contract document" shall mean and include GTCC, specifications, schedules, drawings, form of tender, Notice Inviting Tender, covering letter, schedule of prices or the final General Conditions, any special conditions, applicable to the particular contract.

2.13 Terms and conditions not herein defined shall have the same meaning as are assigned to them in the Indian Contract Act, failing that in the Odisha General Clauses Act.

3. Manner of execution:

All equipments/materials supplied under the contract shall be manufactured in the manner, set out in the specification or where not set out, to the reasonable satisfaction of the Purchaser's representative.

4. Inspection and Testing:

[i] The purchaser's representative shall be entitled at all reasonable times during manufacture to inspect, examine and test at the supplier's premises, the materials and workmanship of all equipments/materials to be supplied under this contract and if part of the said equipment is being manufactured in other premises, the supplier shall obtain for the purchaser's representative permission

to inspect, examine and test as if the equipment were being manufactured in the contractor's premises. Such inspection, examination and testing shall not release the supplier from his obligations under the contract.

[ii] The Supplier shall give to the purchaser adequate time/notice (at least clear 15 days for inside the state suppliers and 20 days for outside the state suppliers) in writing for inspection of materials indicating the place at which the equipment/material is ready for testing and inspection and shall also furnish the shop Routine Test Certificate, Calibration certificates of Testing instruments, calibrated in Govt. approved laboratory with authenticity letter of that laboratory along with the offer for inspection. A packing list along with the offer, indicating the quantity which can be delivered in full truck load/Mini truck load to facilitate issue of dispatch instruction shall also be furnished.

[iii] Where the contract provides for test at the Premises of the supplier or any of his sub-vendors, the supplier shall provide such assistance, labour, materials, electricity, fuel and instruments, as may be required or as may be reasonably demanded by the Purchaser's representative to carry out such tests efficiently. The supplier is required to produce shop routine test Certificate, calibration certificates of Testing Instruments before offering their materials/equipment for inspection & testing. The test house/laboratory where tests are to be carried out must be approved by the Govt. A letter pertaining to Govt. approved laboratory must be furnished to the purchaser along with the offer for inspection.

[iv] After completion of the tests, the Purchaser's representative shall forward the test results to the Purchaser. If the test results conform to the specific standard and specification, the Purchaser shall approve the test results and communicate the same to the supplier in writing. The supplier shall provide at least five copies of the test certificates to the Purchaser.

[v] The Purchaser has the right to have the tests carried out at his own cost by an independent agency whenever there is dispute regarding the quality of supply.

5. Training facilities.

The supplier shall provide all possible facilities for training of Purchaser's Technical personnel, when deputed by the Purchaser for acquiring first-hand knowledge in assembly of the equipment, its erection, commissioning and for its proper operation and maintenance in service, wherein it is thought necessary by the purchaser.

6. Rejection of Materials.

In the event any of the equipments/materials, supplied by the manufacturer is found defective due to faulty design, bad workmanship, bad materials used or otherwise not in conformity with the requirements of the Specification, the Purchaser shall either reject the equipment or ask the supplier in writing to rectify or replace the defective equipment free of cost to the purchaser. The contractor on receipt of such notification shall either rectify or replace the defective equipment free of cost to the purchase within 15 days from the date of issue of such notification by the purchaser. If the supplier fails to do so, the Purchaser may:-

[a] At its option replace or rectify such defective equipments/materials and recover the extra costs so involved from the supplier plus fifteen percent and/or.

[b] Terminate the contract for balance work/supplies, with enforcement of penalty Clause as per contract for the undelivered goods and with forfeiture of Performance Guarantee/Composite Bank guarantee.

[c] Acquire the defective equipment/materials at reduced price, considered equitable under the circumstances.

7. Experience of Bidders:

The Bidders should furnish information regarding experience particularly on the following points:

[i] Name of the manufacturer:

[ii] Standing of the firm and experience in manufacture of equipment/material quoted:

[iii] Description of equipment/material similar to that quoted, supplied and installed during the last **five** years with the name(s) of the Organization's to whom supplies were made wherein; at least one (1) certificate shall be from a **state/central P.S.U.**

[iv] Details as to where installed etc.

[v] Testing facilities at manufacturer's works.

[vi] If the manufacturer is having collaboration with another firm [s], details regarding the same.

[vii] A list of purchase orders of identical material/equipments/materials offered as per technical specification executed during the last two years along with users certificate. User's certificate shall be legible and must indicate user's name, address, designation, place of use, and satisfactory performance of the equipment/materials for at least two years from the date of commissioning. Wherein at least one (1) certificate shall be from a State/Central or P.S.U. Bids will not be considered if the past manufacturing experience is found to be un-satisfactory or is of less than **2 (two) years** on the date of opening of the bid and bids not accompanying user's certificate will be rejected.

8. Language and measures:

All documents pertaining to the contract including specifications, schedule, notices, correspondence, operating and maintenance instructions, drawings or any other writing shall be written in English language. The metric system of measurement shall be used exclusively in this contract.

9. Deviation from specification:

It is in the interest of the Bidders to study the specification, specified in the tender schedule thoroughly before tendering so that, if any deviations are made by the Bidders, (both commercial and Technical), the same are prominently brought out on a separate sheet under heading "Deviations Commercial" and "Deviations Technical".

A list of deviations shall be enclosed with the tender. Unless deviations in scope, technical and commercial stipulations are specifically mentioned in the list of deviations, it shall be presumed that the Bidder has accepted all the conditions, stipulated in the tender specification, notwithstanding any exemptions mentioned therein.

10. Right to reject/accept any tender:

The purchaser reserves the right either to reject or to accept any or all tenders if the situation so warrants in the interest of the purchaser. Orders may also be split up between different Bidders on individual merits of the Bidder. The purchaser has exclusive right to alter the quantities of materials/equipment at the time of placing final purchase order. After placing of the order, the purchaser may defer the delivery of the materials. It may be clearly understood by the Bidder that the purchaser need not assign any reason for any of the above action [s]

11. Supplier to inform himself fully:

The supplier shall examine the instructions to Bidders, general conditions of contract, specification and the schedules of quantity and delivery to satisfy himself as to all terms and conditions and circumstances affecting the contract price. He shall quote price [s] according to his own views on these

matters and understand that no additional allowances except as otherwise provided there in will be admissible. The purchaser shall not be responsible for any misunderstanding or incorrect information, obtained by the supplier other than the information given to the supplier in writing by the purchaser.

12. **Patent rights Etc.**

The supplier shall indemnify the Purchaser against all claims, actions, suits and proceedings for the infringement of any patent design or copy right protected either in the country of origin or in India by the use of any equipment supplied by the manufacturer. Such indemnity shall also cover any use of the equipment, other than for the purpose indicated by or reasonably to be inferred from the specification.

13. **Delivery:-**

[a] Time being the essence of the contract; the equipment shall be supplied within the delivery period, specified in the contract. The Purchaser, however, reserves the right to reschedule the delivery and change the destination if required. The delivery period shall be reckoned from the date of placing the Letter of Intent/Purchase order, as may be specified in LOI/Purchase order.

[b] The desired delivery period shall be as indicated at **Annexure-III (Quantity & Delivery Schedule) of Section-IV (Technical Specification).**

14. **Despatch instructions.**

I] Equipment/material should be securely packed and dispatched directly to the specified site at the supplier's risk by Road Transport only.

II] **Loading & unloading of Ordered Materials.**

It will be the sole responsibility of the supplier for loading and unloading of materials both at the factory site and at the destination site/store.

The Purchaser shall have no responsibility on this account

15. **Supplier's Default Liability.**

[i] The Purchaser may, upon written notice of default to the supplier, terminate the contract in circumstances detailed hereunder.

[a] If in the judgement of the Purchaser, the supplier fails to make delivery of equipment/material within the time specified in the contract or within the period for which if extension has been granted by the Purchaser in writing in response to written request of the supplier.

[b] If in the judgement of the Purchaser, the supplier fails to comply with any of the provisions of this contract.

[ii] In the event, Purchaser terminates the contract in whole or in part as provided in **Clause-15 (i)** of this section, the Purchaser reserves the right to purchase upon such terms and in such a manner as he may deem appropriate in relation to the equipment/material similar to that terminated and the supplier will be liable to the Purchaser for any additional costs for such similar equipment/material and/or for penalty for delay as defined in **clause-22** of this section until such reasonable time as may be required for the final supply of equipment.

[iii] In the event the Purchaser does not terminate the contract as provided in **clause 15(i)** of this Section, supplier shall be liable to the Purchaser for penalty for delay as set out in **Clause-22** of this section until the equipment is accepted. This shall be based only on written request of the supplier and written willingness of the Purchaser.

16. **Force Majeure:**

The supplier shall not be liable for any penalty for delay or for failure to perform the contract for reasons of force majeure such as acts of god, acts of the public enemy, acts of Govt., Fires, floods, epidemics, Quarantine restrictions, strikes, Freight Embargo and provided that the supplier shall within **Ten (10)days** from the beginning of delay on such account notify the

purchaser in writing of the cause of delay. The purchaser shall verify the facts and grant such extension, if facts justify.

17. Extension of time:-

If the delivery of equipment/material is delayed due to reasons beyond the control of the supplier, the supplier shall without delay give notice to the purchaser in writing of his claim for an extension of time. The purchaser on receipt of such notice may or may not agree to extend the contract delivery date as may be reasonable but without prejudice to other terms and conditions of the contract.

18. Guarantee period: -

- [i] The stores covered by this specification should be guaranteed for satisfactory operation and against defects in design, materials and workmanship for a period of at least 24 [twenty four] months from the last date of delivery/demonstration. The above guarantee certificate shall be furnished in triplicate to the purchaser for his approval. Any defect noticed during this period should be rectified/replaced by the supplier free of cost to the purchaser provided such defects are due to faulty design, bad workmanship or bad materials used, within one month upon written notice from the purchaser failing which provision of **clause 22 (ii)** shall apply. The guarantee period for the rectified/replaced equipment shall be further guaranteed for 24 [twenty four] from the date of rectification/replaced.
- [ii] Equipment/material failed or found defective during the guarantee period shall have to be guaranteed after repair/replacement for a further period of 24 [twenty four] from the date of commissioning from the date of receipt at the store/site after such repair/replacement. The Bank Guarantee is to be extended accordingly. Date of delivery as used in this clause shall mean the date on which the materials are received in OPTCL'S stores/site in full & good condition which are released for Despatch by the purchaser after due inspection.

19. B.G. towards security deposit, 100% payment and performance guarantee:

- [i] For manufacturers situated inside & outside the state of Odisha.
A Composite Bank Guarantee as per the Proforma enclosed at Annexure-VII of the specification for **10% [ten percent]** of the total FORD cost of the purchase order, shall be furnished from any nationalized/scheduled bank having a place of business at Bhubaneswar, to the office of **Sr. General Manager [Central Procurement Cell] OPTCL** within 15 days from the date of issue of the purchase order,. The BG shall be executed on non-judicial stamp paper worth of Rs.29.00 [Rupees twenty nine] only or as per the prevalent rules, valid for a period of 26 [twenty six] month from the last date of stipulated delivery period, for scrutiny and acceptance, failing which the supply order will be liable for cancellation without any further written notices. The BG should be accompanied by a confirmation letter from the concerned bank and should have provision for encashment at Bhubaneswar, before the Bank Guarantee is accepted and all concerned intimated. The Composite Bank Guarantee shall be valid for 26 [twenty six] from the last date of stipulated delivery period. The BG should be re validated as and when intimated to you to cover the entire guarantee period.
- (ii) No interest is payable on any kind of Bank Guarantee.
- [iii] In case of non-fulfillment of contractual obligation, as required in the detailed purchase order/Specification, the composite Bank guarantee shall be forfeited.

20. Import License

In case imported materials are offered, no assistance will be given for release of Foreign Exchange. The firm should arrange to import materials from their own quota. Equipment of indigenous origin will be preferred.

21. (A) Terms of Payment.(Supply)

- (i) 100% value of each consignment with 100% Excise duty, Entry Tax, if any, and sales tax in full shall be paid/reimbursed by OPTCL at the applicable rate at the time of despatch, schedules or actual, whichever is lower along with freight & Insurance charges will be paid on receipt of materials in good condition at stores/desired site and verification thereof, subject to furnishing and approval of Composite Bank Guarantee at the rate of 10% (Ten percent) of the cost of supplied materials, as stipulated under clause-19 of this specification & on prior approval of guarantee certificate & Test certificate by the Purchaser.

Any imposition of new tax or revision of tax shall be paid/reimbursed at the time of dispatch, scheduled or actual whichever is lower (i.e. If delivery is within schedule period, tax variation is applicable, and if delivery is made beyond schedule date, any additional financial implication due to statutory variation in tax shall be to bidder's account).

(B) Terms of Payment (Erection, Testing & Commissioning)

(a) ERECTION, TESTING & COMMISSIONING OF MATERIALS:

The erection price component will be paid on progressive basis depending on the actual work done i.e. on completion of erection, testing and commissioning of the respective items and on certification of the same by the owner after deduction of TDS as applicable.

(C) Payment & Penalty for AMC shall be as per the details indicated under PART-V (a) for AMC.

(D) Payment of Freight & Insurance charges and Entry Tax.

Freight & Insurance Charges & Entry Tax, incorporated in the Purchase contract shall be paid after receipt of materials at stores/desired site in good condition and on production of authenticated documentary evidence, otherwise no Freight, Insurance charges & entry taxes shall be payable.

(E) The supplier shall furnish Composite Bank Guarantee of appropriate amount to OPTCL covering 10% of F.O.R. Destination cost of the purchase order well in advance (within 15 days from the date of issue of the purchase order) before despatch of materials.

22. Penalty for Delay in Completion of Contract

- l) If the Supplier fails to deliver the materials/equipments/materials within the delivery schedule, specified in the contract including delivery time extension, if any, granted thereto, the Purchaser shall recover from the Supplier, penalty for a sum of half percent (0.5 percent) of the Ex-works price of the un-delivered equipment for each calendar week of delay or part thereof. For this purpose, the date of receipted challan shall be reckoned as the date of delivery. The total amount of penalty shall not exceed five percent (5%) of the ex-works price of the unit or units so delayed. Equipment will be deemed to have been delivered only when all its components and accessories as per technical Specification are also delivered. If certain components & accessories are not delivered in time, the equipment will be considered delayed until such time as the missing parts are delivered.

II) If the Supplier fails to rectify /replace the equipment/material within 30 days from the date of intimation of the defect, so noticed by the purchaser within the guarantee period then the penalty for sum of one half of the one percent (0.5%) of the total Purchase order amount for each calendar week of delay shall be recovered by the purchaser within the guarantee period. For this purpose, penalty date will start from the 30th day from the date of issue of letter on defectiveness of equipment/material, so supplied, by the purchaser. The total amount of penalty in this case shall not exceed 10% (TEN PERCENT) of the purchase order amount. The purchase order amount shall mean ex-works price + freight & insurance and all taxes & duties. If the defects so intimated will not be rectified by the supplier within the guarantee period, then whole of the B.G. will be forfeited by the purchaser, without any intimation to the Supplier.

III) **For A.M.C purpose the Penalty shall be levied as per clauses indicated under SECTION-V (a) elsewhere in the T.S.**

23. Insurance

The Supplier shall undertake insurance of stores covered by this Specification unless otherwise stated. The responsibility of delivery of the stores at destination in good condition rests with the Supplier. Any claim with the Insurance Company or transport agency arising due to loss or damage in transit has to be settled by the supplier. The Supplier shall undertake free replacement of materials damaged or lost, which will be reported by the consignee within 30 days of receipt of the materials at destination without waiting for the settlement of their claims with the carriers and underwriters.

24. Payment Due from the Supplier. All costs and damages, for which the supplier is liable to the purchaser, will be deducted by the purchaser from any money, due to the supplier, under any of the contract (s), executed with OPTCL.

25. Sales Tax clearance certificate and Balance sheet and profit & Loss Account:

- i. Sales Tax clearance certificate for the previous year shall be enclosed with the tender.
- ii. Audited Balance Sheet and Profit & Loss Account of the Bidder for the previous three years shall be enclosed to assess the financial soundness of the Bidder(s).

26. Certificate of Exemption from Excise Duty/Sales tax.

Offers with exemption from Excise duty including sales tax shall be accompanied with authenticated proof of such exemption. Authenticated proof for this clause shall mean attested Photostat copy of exemption certificate. Any claim towards Excise duty/ Sales Tax shall be paid on actual basis subject to production of authenticated documentary evidence.

27. Contractors/Supplier's Responsibility.

Notwithstanding anything mentioned in the Specification or subsequent approval or acceptance by the Purchaser, the ultimate responsibility for design, manufacture, materials used and satisfactory performance shall rest with the Bidders. The Supplier(s) shall be responsible for any discrepancy noticed in the documents, submitted by them along with the bid(s)

28. Validity

Prices and conditions contained in the offer should be kept valid for a minimum period of **180(one hundred eighty)** days from the date of opening of the tender, failing which the tender shall be rejected.

29. **EVALUATION.**

(I) Evaluation of bids for **D G set 82.5 KVA** will be on the basis of the FOR DESTINATION PRICE (By Road Transport) including Excise Duty, sales Tax & other levies as may be applicable.

The FORD PRICE shall consist of the following components

- a) Ex-works price.
- b) Packing & Forwarding charges.
- c) Freight
- d) Insurance.
- e) Excise Duty.
- f) Sales Tax.
- g) Other levies.
- h) Mandatory spares, if any for maintenance of equipment. (At the discretion of the purchaser)
- i) Test charges, if any.
- j) Supervision of erection, testing and commissioning charges, if any.
- k) Any other items, as deemed proper for evaluation by the purchaser.
- l) Loading factors will be taken in to account during evaluation if the prices of some of the items not quoted.
- m) Any imposition of new tax or revision of tax shall be considered at the time of price bid evaluation.

(II) Evaluation for Erection, Testing & Commissioning of **D G set 82.5 KVA**

(III) Evaluation of Bids for AMC of **D G set 82.5 KVA** shall be on the basis of Total (Full cost) basis.

* The Final Ranking of the eligible Bidders for **D G set 82.5 KVA** shall be on the basis of
Total cost at (I) + Total cost at (II) + Total cost at (III), as indicated above.

(IV) **Weightage shall be given to the Following factors in the Evaluation & Comparison of Bids.**

In comparing bids and in making awards, the Purchaser will consider other factors such as compliance with Specification, **minimum qualification criteria as per clause-30, outright rejection of tenders clause-34 of this tender**, relative quality, adaptability of Supplies or services, experience, financial soundness, record of integrity in dealings, performance of materials/equipments/materials earlier supplied, ability to furnish repairs and maintenance services, the time of delivery, capability to perform including available facilities such as adequate shops, plants, equipment and technical organisation.

30. **Qualification Criteria of Bidders.**

(The following supersedes any other criteria indicated elsewhere in the document)

QUALIFYING REQUIREMENTS

This section covers the requirements with respect to experience, capability and other particulars of the bidder to be considered eligible for participation in the bid for the proposed work. The BIDDER shall become eligible to bid on satisfying the following "BID QUALIFICATION REQUIREMENTS" and on production of the required documentary evidences along with the Tender.

1. The bidder should have manufacture and supply experience of above rated or higher capacity equipments for a minimum period of 2 (two) years as on the date of opening of the tender.
2. At least 50% of the tendered quantity of above rated or higher capacity equipment should have been supplied within the above-stipulated period. At least one of the performance certificates shall be submitted from Govt. of India/State Govt.(s) or their undertakings
3. The Bidder must possess bureau of Indian Standard Certification (ISI mark).
4. The bidder must possess valid ISO 9001:2008 certification for Manufacturer/Supplier.

5. The Bidder should have adequate infrastructural facility for “After sales service”
6. Copies of documents, defining the constitution or legal status, place of registration and principal place of business of the company or firm or partnership or collaborator or parent Company etc. shall be furnished along with the bid.
7. The Bidder should have conducted type tests on the tendered equipments/materials in Government approved laboratory within five years from the date of opening of the tender.
8. Even though the Bidders meet the above qualifying criteria, they are subject to be disqualified if they have
 - a) Made misleading or false representations in the forms, statements and attachments, submitted in proof of qualification requirements and/ or
 - b) Record of poor performance such as not properly completing the contract, inordinate delays in completion of supply, litigation history or financial failure etc.
9. Notwithstanding anything stated above, the purchaser reserves the right to assess the Bidder’s capability and capacity to perform the contract within the scheduled time, should circumstances warrant such assessment in the overall interest of the Purchaser.

NOTE: The offers of bidders not satisfying any of the above “bid qualification requirements” are likely to be rejected.

31. Jurisdiction of the High Court of Odisha.

Suits, if any, arising out of this contract shall be filed by either Party in a court of Law to which the jurisdiction of High court of Odisha extends.

32. Correspondences.

- i) Any notice to the supplier under the terms of the contract shall be served by Registered Post or by hand at the Supplier’s Principal Place of Business.
- ii) Any notice to the Purchaser shall be served at the Purchaser’s Principal Office in the same manner.

33. Official Address of the Parties to the Contract

The address of the parties to the contract shall be specified:-

[i] **Purchaser:** Senior General Manager (Procurement)(CPC) OPTCL

Bhubaneswar-751022 (Odisha) Telephone No. 0674 – 2541801 FAX No. 0674 – 2542964

[ii] **Supplier:** Address

Telephone No

Fax No.

34. Outright Rejection of Tenders

Tenders shall be out rightly rejected if the followings are not complied with.

- [i] The tenderer shall submit the bid in electronic mode only and shall submit the tender cost on or before the date and time of opening of technical bid.
- [ii] The tenderer shall submit the bid in electronic mode only
- [iii] The Tender shall not be submitted telegraphically or by FAX.
- [iv] The prescribed EMD shall be submitted on or before the date and time of opening of technical bid.
- [v] The Tender shall be kept valid for **a minimum period of 180 days** from the date of opening of tender.
- [vi] The Tender shall be submitted in two parts as specified.
- [vii] The Tenders shall be accompanied by a list of major supplies affected prior to the date of opening of tender. Data of at least 3 (three) years shall be furnished.
- [viii] The tenderer shall upload the scanned copy of latest type test certificates (for the tests, carried out on the tendered equipments, being offered). Such type tests should have been conducted within last five years from the date of opening of this tender in a Government approved laboratory/CPRI in presence of any Government Organization’s representative(s).

- [ix] The schedule of prices should be filled up fully to indicate the break-up of the prices including taxes and duties. Incomplete submission of this schedule will make the tender liable for rejection. Vide Clause-4(ii) of Part-II.
- [x] The Tenderer should quote 'FIRM' price only and the price should be kept valid for a minimum period of 180 days from the date of opening of the tender.
- (xi) The tenderer shall upload the scanned copy legibly written user's certificate to prove the satisfactory operation of the offered equipments/materials for a minimum period of 3 (three) years from the date of commissioning/use as per the tender specification. User's certificate shall include the detailed address of the user with Equipment/Material, Name and type as per this specification, number of years of satisfactory use/operation & date of issue of this user's certificate with official seal written in English only & clearly visible must be furnished. At least one of the user's certificates shall be from state or Central Govt. or their Undertakings.
- (xii) **Guaranteed Technical particulars & Abstract of terms and Conditions should be filled in completely.**
- (xiii) The bidder should not have any pending litigation or arbitration with OPTCL with regard to any project or related activity. The bidder should certify/declare the same in unequivocal terms by way of an **affidavit** duly sworn before a **Magistrate**. Bid furnished by the bidder shall **not be eligible** for consideration, if it is not accompanied by the affidavit. Further the bid/LOA/LOI shall be liable for **outright rejection/cancellation** at any stage if any information contrary to the affidavit/declaration is **detected**.

At least one of the user's certificates shall be from state or Central Govt. or their Undertakings.

35. Documents to be treated as confidential.

The supplier shall treat the details of the specification and other tender documents as private and confidential and these shall not be reproduced without written authorization from the Purchaser.

36. Scheme/Projects

The materials/equipment covered in this specification shall come under "O&M WORKS & CONSTRUCTION WORKS"

37. EMPANELMENT OF BIDDERS:- OPTCL may consider for empanelment of such Bidders and for such Equipments for which the Bidders will be found to be techno-commercially responsive against this Tender Specification. Such empanelment should be valid for a period of 02(two) years from the date of opening of techno-commercial bids against this Tender. During the above period, OPTCL may ask for price bids as and when required by OPTCL. The Bidders are required to give their consent in their offers against the above tender for such empanelment. However, the Bidders are to note that such empanelment is not binding on the purchaser and the purchaser is free to take any other decision under the prevailing circumstances in the interest of OPTCL.

38. CONTACTING THE PURCHASER: -

(a) Subject to Clause No.4 (opening of bids) of part-I, Section-I (Instruction to Bidder), no Bidder shall contact the purchaser on any manner, relating to its bid, from the time of bid opening to the time of the contract is awarded.

(b) No effort shall be made by a Bidder to influence the purchaser in the purchaser's bid evaluation.

[PAGE 01 TO]
SECTION – III
[LIST OF ANNEXURES]

The following schedules and proforma are annexed to this specification and contained in Section-III as referred to in the relevant clauses.

1	Declaration form	ANNEXURE-I
2	Abstract of terms and conditions to accompany Section-II of Part-I	ANNEXURE-II
3	Schedule of Quantity and Delivery	ANNEXURE-III
4	Abstract of price component [to accompany Part-II of this specification]	ANNEXURE-IV
5	Schedule of prices to accompany Part-II	ANNEXURE-V
6	Bank Guarantee form for earnest money deposit	ANNEXURE-VI
7	Composite Bank Guarantee form for security deposit, payment and performance	ANNEXURE-VII
8.	Chart showing particulars of E.M.D.	ANNEXURE – VIII
9.	Data on Experience	ANNEXURE – IX
10.	Schedule of Installations.	ANNEXURE-X
11.	Deviation from specification(Technical)	ANNEXURE-XI(A)
12.	Deviation from specification(Commercial)	ANNEXURE-XI(B)
13	Affidavit of Bidder	ANNEXURE-XII
14	Litigation history Affidavit	ANNEXURE-XIII

ANNEXURE - I
DECLARATION FORM

To

The Sr. General Manager (CPC)

OPTCL Head Qrs. BBSR, 751022

Sub: - Tender Specification No-_____

Sir,

1. Having examined the above specification together with terms & conditions referred to therein * I/We the undersigned hereby offer to supply the materials/equipments covered therein complete in all respects as per the specification and General conditions, at the rates, entered in the attached contract schedule of prices in the Tender.
2. * I/We hereby undertake to have the materials/equipments delivered within the time specified in the Tender.
3. * I/We hereby guarantee the technical particulars given in the Tender supported with necessary reports from concerned authorities.
4. * I/We certify to have submitted the bid electronically by remitting *cash/money order/D.D./ remitting the cost of tender, herewith and this has been acknowledged by your letter/ money receipt No.
Dated,
5. In the event of Tender, being decided in *my/our favour, * I/We agree to furnish the Composite B.G. in the manner, acceptable to ODISHA POWER TRANSMISSION CORPORATION LTD., and for the sum as applicable to *me/us as per clause-19 of section-II of this specification within 15 days of issue of letter of intent/purchase order failing which *I/We clearly understand that the said letter of Intent/Purchase order will be liable to be withdrawn by the purchaser, and the EMD deposited by us shall be forfeited by OPTCL.

Signed this day of 2014

Yours faithfully

Signature of the Tenderer
with seal of the company

[This form should be dully filled in by the tenderer and uploaded at the time of submission of tender.]

* (Strikeout whichever is not applicable).

ANNEXURE-II

ABSTRACT OF GENERAL TERMS AND CONDITIONS OF CONTRACT [COMMERCIAL] TO ACCOMPANY PART-I

1(a)	(a) The tenderer shall submit the bid in electronic mode only and shall submit the tender cost on or before the date and time of opening of technical bid. In case of local Micro and small Enterprises(MSEs) registered with respective DICs, Khadi, Village, Cottage & Handicrafts Industries, OSIC and NSIC participating in the tender they have to submit notarized hard copy of valid registration as local MSE as above on or before the date and time of opening of technical bid. (b) Earnest money furnished. (A) Bank Guarantee, (B) Bank Draft.	
2	Manufacturer's supply experience including user's certificate furnished or not.[As per clause No.7 of Section-II.]	Yes/No
3(a)	Deviations to the specification if any[list enclosed or not] Commercial [As per clause-9 of the Section-II]	Yes/No
3(b)	Deviations to the specification if any [list enclosed or not] Technical. [As per clause-9 of the Section-II]	Yes/No
4	Delivery: - Whether agreeable to OPTCL's desired delivery period as indicated at Appendix-I (Quantity & Delivery Schedule) of Section-IV (Technical Specification).	Yes/No
5	Guarantee: - Whether agreeable to OPTCL's terms. [As per clause-18 of Section-II]	Yes/No
6	Whether agreeable to furnish Composite B.G. in case his tender be successful [As per clause-19 of Section-II]	Yes/No
7.	Terms of payment:- Whether agreeable to OPTCL's terms or not [As per clause-21 of Section-II]	Yes/No.
8.	Nature of price:- FIRM	Yes/No
9.	Penalty:- Whether agreeable to OPTCL's terms or not (As per clause-22 of Section-II)	Yes/No
10.	Whether STCC/ P&L A/C, Balance Sheet for the required period are furnished as per clause-25 of Section-II	Yes/No
11.	Validity: - Whether agreeable to OPTCL's terms or not [As per clause-28 of Section-II]	Yes/No
12.	Whether recent type test certificates from any Government approved laboratory are furnished or not. [As per clause-34[viii] of section-II]	Yes/No
13.	Whether guaranteed technical particulars in complete shape are furnished or not	Yes/No
14.	Whether dimensional design/drawings furnished or not	Yes/No
15.	Whether materials are ISI/ISO marked	Yes/No
16.	Manufacturer's name and its trademark.	Yes/No
17.	Whether registered under ODISHA Sales Tax Act. 1947	Yes/No
18.	Whether declaration form duly filled in furnished or not.	Yes/No.

Place: -

Date: -

Signature of the Tenderer
with seal of the company

ANNEXURE-III
SCHEDULE OF QUANTITY AND DELIVERY
 (To be filled up by the tenderer)

Sl.No.	Description of materials	PHASES	Quantity required	Desired Delivery	Destination	Remarks.
1	D G Set 82.5 KVA	Phase-1	21			
		Phase-2	21			
		Phase-3	21			

Place:

Signature of Tenderer
with seal of Company.

Date:

ANNEXURE-IV
ABSTRACT OF PRICE COMPONENT [TO ACCOMPANY PRICE BID]

1	Price basis	F.O.R. Purchaser's destination Stores/sites.
2	Packing & forwarding	
3	Rate of Insurance charges	
4	Rate of Freight charges	
5	Rate of excise duty	
6	Rate of sales Tax	
7	Rate of other taxes/levies /duties etc.	
8	Rate of entry tax.	
9.	Rate of Service Tax on supervision of erection testing and commissioning	
10.	Nature of price.	
11.	Whether MODVAT benefit if any, has been fully passed on to the purchaser.	Yes / No.

Place

Date:

Signature of Tenderer
With seal of company

NB: - Abstract of price component shall be done for equipment/material offered, for testing & commissioning charges, if any. All the above prices will be taken during bid price evaluation.

ANNEXURE-V

SCHEDULE OF PRICES

TENDER SPECIFICATION No.

Item Name	Item Description	Qty	UOM	Supply in INR Rs					
				Unit (Ex Works/ Basic) Price in Rs.	Unit Packing & Forwarding Charges in Rs.	% E.D (Including cess)	% CST against C Form/VAT	Unit Freight in Rs.	Unit Insurance in Rs.
1	2	3	4	5	6	7	8	9	10

Supply in INR Rs								Erection cost in INR Rs		Grand Total amount in Rs
Unit Exit Tax in Rs	% Entry Tax	Unit E.D	Unit CST/VAT	Unit Entry Tax	Unit Landing Cost	(A)Total Landing Cost	Unit Erection cost in Rs	Unit Service Tax	(B)Total Erection cost in Rs.	(A+B) 17+20
11	12	13	14	15	16	17	18	19	20	21

Signature of Tenderer
Name, Designation and Seal

ANNEXURE- V (a)

1) SCHEDULE OF PRICES TENDER SPECIFICATION No.

Year	Unit rate of AMC in Rs.	% Service Tax (considering abatement applicable)	Unit Service Tax (considering abatement applicable)	Total amount AMC in a year in Rs.
1 st year				
2 nd year				
3 rd year				
4 th year				
5 th year				
Grand Total				

NB: -

1. The tenderer should fill up the schedule properly and in full in **Excel file in e-tender mode**. The tender will be rejected, if the schedule of price is submitted in incomplete form. No post tender correspondence will be entertained on break-up of prices. Also, the supplier should agree for delivery at sub-station site.
2. In case, where F&I components are not specifically indicated in this schedule, 5% of the ex-works price shall be taken towards F&I components for the purpose of comparison of price.
3. The Tenderer shall certify in the price bid that MODVAT benefit, if any, has been fully passed on to the purchaser while quoting the tender price.
4. Conditional offers will not be acceptable.
5. The bidder is to clearly indicate the period up to which the tax holidays are available to them.
6. Price bid in any other format will not be acceptable and the offer will be rejected.
7. Test charges (Routine/type) if any, mandatory spares, if any, maintenance equipment charges, if any, as per Technical Specification, supervisory charges, if any, (in case of equipments by taking 30 Man days) shall be indicated separately, row-wise.
8. All the above charges will be taken into account, during bid price evaluation.

ANNEXURE-VI

PROFORMA FOR BANK GUARANTEE FORM FOR EARNEST MONEY DEPOSIT

1. Ref _____ Date _____ Bank Guarantee No: _____
In accordance with invitation to Bid No. _____ Dated _____ of ODISHA POWER TRANSMISSION CORPORATION LTD. [OPTCL][herein after referred to as the OPTCL for the purchase of _____ Messers _____
Address _____
_____ wish/wished to participate in the said tender and as a Bank Guarantee for the sum of Rs. _____ [Rupees _____]
Valid for a period of 240 days [Two hundred forty days] is required to be submitted by the Tenderer. We the _____
[Indicate the Name of the Bank]
[Hereinafter referred to as 'the Bank'] at the request of M/S _____
[Herein after referred to as supplier (s)] do hereby unequivocally and unconditionally guarantee and undertake to pay during the above said period, on written request by the Sr. General Manager [Procurement] ODISHA POWER TRANSMISSION CORPORATION LTD. _____
[Indicate designation of the purchaser] an amount not exceeding Rs. _____ to the OPTCL, without any reservation. The guarantee would remain valid up to 4.00 PM of _____ [date] and if any further extension to this is required, the same will be extended on receiving instructions from the _____ on whose behalf this guarantee has been issued.
2. We the _____ do hereby, further undertake
[Indicate the name of the bank]
to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the OPTCL stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the OPTCL by reason of any breach by the said supplier [s] of any of the terms or conditions or failure to perform the said Bid. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____
3. We undertake to pay the OPTCL any money so demanded notwithstanding any dispute or disputes so raised by the contractor [s] in any suit or proceeding instituted/pending before any Court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the supplier(s) shall have no claim against us for making such payment.
4. We, the _____ further agree that the guarantee
[Indicate the Name of the Bank]
herein contained shall remain in full force and effect during the aforesaid period of 240 days [two hundred forty days] and it shall continue to be so enforceable till all the dues of the OPTCL under or by virtue of the said Bid have been fully paid and its claims satisfied or discharged or till Managing Director, ODISHA POWER TRANSMISSION CORPORATION LTD. certifies that the terms and conditions of the said Bid have been fully and properly carried out by the said Supplier [s] and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the _____ we shall be discharged from all liability under this guarantee thereafter.

5. We, the _____ further agree with the OPTCL that
 [Indicate the name of the Bank]
 the OPTCL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Bid or to extend time of performance by the said Supplier [s] from time to time or to postpone for any time or from time to time any of the powers exercisable by the OPTCL against the said supplier [s] and to forbear or enforce any of the terms and conditions relating to the said bid
 and we shall not be relieved from our liability by reason of any such variation, postponement or extension being granted to the said Supplier [s] or for any forbearance act or omission on the part of the OPTCL or any indulgence by the OPTCL to the said Supplier[s] or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
6. This guarantee will not be discharged due to the change in the name, style and constitution of the Bank or the supplier [s].
7. We, _____ lastly undertake not revoke this
 [Indicate the name of the Bank]
 Guarantee during its currency except with the previous consent of the OPTCL in writing.
8. We the _____ Bank further agree that this guarantee shall also be invocable at our place of business at ----- Branch of Bhubaneswar (indicate the name of the branch)in the state of ODISHA.
 Notwithstanding anything contained herein.
- 1) Our liability under this bank guarantee shall not exceed Rs. ----- (Rupees-----).
 - 2) The bank guarantee shall be valid up to dt.-----
 - 3) We are liable to pay the guaranteed amount or any part thereof under this bank guarantee only & only if you serve upon us at -----branch at Bhubaneswar a written claim or demand on or before dt.-----.
- Dated _____ Day of _____
 For _____
 [Indicate the name of Bank]

Witness((Signature, names & address)

- 1.
- 2.

ANNEXURE-VII

PROFORMA FOR COMPOSITE BANK GUARANTEE FOR SECURITY DEPOSIT PAYMENT AND PERFORMANCE

This Guarantee Bond is executed this _____ day of _____
2015 by us the _____ Bank at _____

P.O. _____ P.S. _____
District _____ State _____

1. WHEREAS the ODISHA POWER TRANSMISSION CORPORATION LTD., a body corporate constituted under the Electricity Act, 2003 [hereinafter called "the OPTCL" which shall include its successors and assigns has placed orders No. _____ Date _____ [hereinafter called "The Agreement"] on M/s. _____ [Here in after called "The Supplier"] which shall include its successors & assigns for supply of materials?

AND WHERE AS the supplier has agreed to supply materials to the OPTCL in terms of the said agreement AND

WHEREAS the OPTCL has agreed [1] to exempt the supplier from making payment of Security [2] to release 100% payment of the cost of materials as per the said agreement and [3] to exempt from performance guarantee on furnishing by the Supplier to the OPTCL, a Composite bank Guarantee of the value of 10 % [ten percent] of the contract price of the said agreement.

NOW THEREFORE, in consideration of the OPTCL having agreed [1] to exempt the Supplier from making payment of Security [2] releasing 100% payment to the Supplier and [3] to exempt from furnishing performance guarantee in terms of the said agreement as aforesaid, we, the _____ [Bank][hereinafter referred to as 'the Bank'] do hereby undertake to pay to the OPTCL an amount not exceeding Rs. _____ [Rupees _____] against any loss or damage caused to or suffered by or would be caused to or suffered by the OPTCL by reason of any breach by the said Supplier [s] of any of the terms or conditions contained, in the said agreement.

2. We the (_____ Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on demand from the OPTCL stating that the amount claimed is due by way of loss or damage caused to or suffered by the OPTCL by reason of any breach by the said Supplier [s] of any of the terms or conditions, contained in the said agreement or by reason of the supplier's failure to perform the said agreement. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____ [Rupees _____]

3. We the _____ Bank} also undertake to pay to the OPTCL any money so demanded not withstanding any dispute or disputes raised by the supplier [s] in any suit or proceeding instituted/pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Supplier [s] shall have no claim against us for making such payment.

4. We, (_____ Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to do so enforceable till all the dues of the OPTCL under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Managing Director, ODISHA POWER TRANSMISSION CORPORATION LTD. certifies that the terms and conditions of the said agreement have been fully and properly carried out by the said Supplier [s] and accordingly discharges this Guarantee.

Unless a demand or claim under this guarantee is made on us in writing on or before the [Date _____], we shall be discharged from all liability under this guarantee thereafter.

5. We, (_____ Bank) further agree that the OPTCL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Supplier [s] and we shall not be relieved from our liability by reason of any such variations or extension being granted to the said supplier [s] or for any forbearance, act or omission on the part of the OPTCL or any indulgence by the OPTCL to the said Supplier [s] or by any such matter or thing whatsoever which under the law relating to sureties would but these provisions have effect of so relieving us.
6. This guarantee will not be discharged due to the change in the name, style and constitution of the Bank and supplier [s].
7. We, [_____ Bank] lastly undertake not to revoke this guarantee during its currency except with the previous consent of the OPTCL in writing.
8. We the _____ Bank further agree that this guarantee shall also be invocable at our place of business at ----- Branch of Bhubaneswar (indicate the name of the branch) in the state of ODISHA.
Notwithstanding anything contained herein.
- 1) Our liability under this bank guarantee shall not exceed Rs. ----- (Rupees-----).
 - 2) The bank guarantee shall be valid up to dt. -----
 - 3) We are liable to pay the guaranteed amount or any part thereof under this bank guarantee only & only if you serve upon us at -----branch at Bhubaneswar a written claim or demand on or before dt.-----.

Dated _____ Day of _____

For _____
[Indicate the name of Bank]

Witness((Signature, names & address)

- 1.
- 2.

ANNEXURE-VIII

CHART SHOWING PARTICULARS OF EARNEST MONEY DEPOSIT FURNISHABLE BY TENDERERS

1.	Central and State Government Undertakings	Exempted
2.	All other inside & outside state units.	The amount of EMD as specified in the specification /Tender Notice in shape of bank guarantee /DD.

NB: - REFUND OF E.M.D.

- [a] In case of unsuccessful tenderers, the EMD will be refunded immediately after the tender is decided. In case of successful tenderer, this will be refunded only after furnishing of Composite Bank Guarantee referred to in clause No.19 of Section-II of this specification. Suits, if any, arising out of EMD shall be filed in a court of law to which the jurisdiction of High Court of ODISHA extends.
- [b] Earnest Money will be forfeited if the tenderer fails to accept the letter of intent/purchase order, issued in his favour or revises the bid price[s] within the validity period of Bid.

ANNEXURE-IX

DATA ON EXPERIENCE

- [a] Name of the manufacturer.
- [b] Standing of the firm as manufacturer of equipment quoted.
- [c] Description of equipment similar to that quoted [supplied and installed during the last two years with the name of the organizations to whom supply was made].
- [d] Details as to where installed etc.
- [e] Testing facilities at manufacturer's works.
- [f] If the manufacturer is having collaboration with another firm, details regarding the same and present status.
- [g] A list of purchase orders, executed during last three years.
- [h] A list of similar equipments of specified MVA rating, voltage class, Impulse level, short circuit rating, Designed, manufactured, tested and commissioned which are in successful operation for at least two years from the date of commissioning with legible user's certificate. User's full complete postal address/fax/phone must be indicated. (Refer clause No.7 of the Part-I, Section-II of the specification).

Place:

Date:

Signature of tenderer
Name, Designation, Seal

ANNEXURE-X

SCHEDULE OF SPARE PARTS FOR FIVE YEARS OF NORMAL OPERATION &
MAINTENANCE

SL. No	Particulars	Quantity	Unit delivery rate	Total price

Place:

Date:

Signature of Tenderer

Name, Designation, Seal

ANNEXURE-XI
SCHEDULE OF INSTALLATIONS

Rated MVA	Rated Voltage	Place of installation and complete postal address	Year of commissioning

Place: -

Date

Signature of Tenderer:

Name, Designation, Seal

ANNEXURE-XII(A)

Deviation from the condition of contract (Technical)

The tenderer shall enter below, deviation if any, from the conditions of contract as herein.

Sl. No.	Clause No. of Specification	Particulars of deviation

Date:

Place:

SIGNATURE OF TENDERER

NAME:

DESIGNATION:

(SEAL)

ANNEXURE-XII(B)

Deviation from the condition of contract (commercial)

The tenderer shall enter below, deviation if any, from the conditions of contract as herein.

Sl. No.	Clause No. of Specification	Particulars of deviation

Date:

Place:

SIGNATURE OF TENDERER

NAME:

DESIGNATION:

(SEAL)

ANNEXURE – XIII

LITIGATION HISTORY

Name of the Bidder:

Bidder should provide information on any history of litigation or arbitration resulting from contracts executed in the last five years or currently under execution.

Year.	Award for or against bidder	Name of client, cause of litigation and matter in dispute	Disputed amount (current value in Rs.)
-------	-----------------------------	---	--

Place: -

Date

Signature of Tenderer:

Name, Designation, Seal

ANNEXURE-XIV

AFFIDAVIT OF BIDDER

(To be submitted in a non-judicial stamp paper of appropriate value)

BEFORE Sri/ , Notary, At-.....
.....

Affidavit

WHEREAS the Odisha Power Transmission Corporation Ltd., Bhubaneswar(OPTCL) has floated its Tender No.....inviting bids from eligible bidder to execute the work of.....

AND WHEREAS M/s (Briefly "Bidder") has offered its bid onin response to the said Tender No.....of the OPTCL expressing its interest to execute the work as specified therein.

AND WHEREAS the said Tender No..... of OPTCL requires the Bidder to solemnly affirm the correctness of the document and information furnished in its bid, so offered to OPTCL.

NOW THEREFORE, in response to the requirement, the Tender No..... of OPTCL, and having been duly authorized by the Bidder, I Sri/ Mrs. aged about years, Son/Daughter/Wife of Sri/Mrs., At present working as..... of M/s..... (The Bidder) do hereby solemnly affirm and state as follows:

1. That I am competent and have been duly authorized by the Bidder M/s..... to swear this affidavit on its behalf.
2. That the documents and information furnished by the Bidder in its bid offered in respect to the said Tender No.....of OPTCL are true and correct.
3. That in the event any document and information as furnished by the Bidder in response to the said Tender No of OPTCL is found/ considered by the OPTCL at any time as to be not correct/ wrong, the OPTCL shall be competent and at liberty without any show cause to the Bidder to terminate its contract/ agreement With the Bidder, if any.
4. The OPTCL shall also be competent, without any reference to the Bidder, to black list the Bidder and debar the Bidder from participating in any other Tender of OPTCL pursuant to its consideration/ finding that the Bidder has furnished any incorrect/ wrong document and information tendered/made pursuant to Tender No..... of OPTCL.
5. That the affirmation made herein above is/are correct and true and nothing Stated herein is false.

Identified by

DEPONENT

ADVOCATE

SECTION: - IV
TECHNICAL SPECIFICATION of DIESEL GENERATOR SET

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SECTION: DIESEL GENERATOR SET

1.1. SCOPE OF SUPPLY.

1.1.1 The scope covers supply of Diesel Generator set of stationary type having a net electrical output of 82.5 KVA capacity at specified site conditions of 50° C ambient temperature and 100% relative humidity on FOR site basis. DG set shall be equipped with:

- (i) Diesel engine complete with all accessories.
- (ii) An alternator directly coupled to the engine through coupling, complete with all accessories.
- (iii) Automatic voltage regulator.
- (iv) Complete starting arrangement, including two nos. batteries & chargers.
- (v) Base frame, foundation bolts etc.
- (vi) Engine Cooling and lubrication system.
- (vii) Engine air filtering system.
- (viii) Exhaust silencer package.
- (ix) All lubricants, consumable, touch up paints etc. for first filing, testing & commissioning at site. The fuel oil for sit commissioning will also be provided by the contractor.
- (x) AMF panel for control, metering and alarm.
- (xi) Enclosure for silent type D.G. Set.
- (xii) 40 metre of 3 ^{1/2} core power cable is to be supplied as mentioned in clause no **1.4.6.8**
- (xiii) Installation of 04 numbers of earth pits.

1.2 SCOPE OF SERVICE.

1.2.1 The Contractor shall provide following services:

- a) Design manufacture, shop testing including assembly test.
- b) Despatch, transportation to site.
- c) Erection, testing & commissioning with all equipments/material required for the purpose.
- d) Drawings, data, design calculations and printed erection, operation & maintenance manual.
- e) Certification and compliance for meeting noise level & emission parameters and other requirements in accordance with latest Notification of MOEF.
- f) The firm has to get necessary approval from CEI, ODISHA (license issuing authority) before commissioning of DG set.
- g) The firm has to provide appropriate 3 ϕ meter along with CT & temper proof box as per requirement of electrical Inspector.

1.3 TECHNICAL REQUIREMENT:

The rating of DG sets is as follows:

1.3.1.1 DG set net output after considering duration for engine and alternator separately due to temperature rise in side the enclosure and on account of power reduction due to auxiliaries shall be 82.5 kVA, 1500RPM, 0.8Pf, 415V, 3 Phase, 50Hz. The above rating is the minimum requirements.

1.3.1.2 DG sets shall also be rated for 110% of full load for 1 hour in every twelve hours of continuous running.

1.3.2 The output voltage, frequency and limits of variation from open circuit to full load shall be as follows:

- a) Voltage variation $\pm 5\%$ of the test value. Provision shall exist to adjust the set value between 90% to 110% of nominal Generator voltage of 415 V.
- b) Frequency 50Hz $\pm 2\%$

1.3.3 The Diesel Generator and other electrical equipments shall be designed for **H class**, but the temperature rise will be limited to **Class-F** for temperature rise consideration.

1.3.4 NOISE LEVEL & EMISSION PARAMETERS: These shall be as per latest Notification of MOEF.

1.4 PLANT DESIGN

1.4.1 DIESEL ENGINE

1.4.1.1 The engine shall comply with the IS 10002/BS 5514/ISO 3046: latest edition.

1.4.1.2 Diesel engine shall be turbo charged multi cylinder V-type in line type with mechanical fuel injection system.

1.4.1.2 The engine with all accessories shall be enclosed in an enclosure to make it work silently (with permissible noise level) without any degradation in its performance.

1.4.1.5 The fuel used shall be High Speed Diesel oil (HSD) or Light Diesel Oil (LDO) as per IS: 1460.

1.4.2 Air Suction & Filtration

1.4.2.1 Suction of air shall be from in-door for ventilation and exhaust flue gasses will be let out to outside atmosphere, Condensate traps shall be provided on the exhaust pipe.

1.4.2.2 Filter shall be dry type air filter with replaceable elements.

1.4.2.3 Fuel tank capacity should be sufficient to run for 12 hours continuous with full load as specified

1.4.3 FUEL AND LUBRICATING OIL SYSTEM.

1.4.3.1 The engine shall have closed loop lubricating system. No moving parts shall require lubrication by hand prior to the start of engine or while it is in operation.

1.4.4 ENGINE STARTING SYSTEM.

1.4.4.1 Automatic electric starting by DC starter motor shall be provided.

1.4.5 FUEL INJECTION AND REGULATOR

1.4.5.1 The engine shall be fitted with electronic governor suitable for class A- 1 as per IS 10000.

1.4.5.2 The engine shall be fitted with a heavy, dynamically balanced fly wheel suitable for constant speed governor duty.

1.4.6 ALTERNATOR:

1.4.6.1 The alternator shall comply with BS 2613/IS 4722/IEC 34: Latest edition.

1.4.6.2 The alternator shall be of continuously rated duty, suitable for 415 V, 3 phases, 50Hz, power development having brush-less, synchronous, self-excited, self-regulating system.

1.4.6.3 The alternator shall be drip-proof, screen protected as per IP-23 degree of protection.

1.4.6.4 The rotor shall be dynamically balanced to minimize vibration.

1.4.6.5 The alternator shall be fitted with shaft mounted centrifugal fan.

1.4.6.6. It shall have the winding of class H but limited to Class-F for temperature rise consideration.

1.4.6.7 The Alternator regulatory shall be directly coupled to the engine and shall be complete with the excitation system, automatic voltage regulation of +/- 5 %, voltage adjusting potentiometer and under/ over speed protection.

1.4.6.8 Terminal Box.

1.4.6.8.1 Six (6) output terminals shall be provided in alternator terminal box. Terminals shall be suitable for 3½ Core 150 mm² Aluminium cable for 82.5 KVA DG set. The neutral shall be formed in AMF panel. The generator terminal box shall be suitable to house necessary cables and should be made of non-magnetic material. Minimum two (2) no's of earthing terminals are to be provided in the terminal box in addition to the regular earthing points of the generator body.

1.4.6.9 The alternator with all accessories shall be enclosed in an enclosure to make it work silently (within permissible noise level).

1.4.7 COUPLING:

1.4.7.1 The engine and alternator shall be directly coupled by means of self-alignment flexible flange coupling to avoid misalignment.

1.4.7.2. The coupling shall be provided with a protecting guard to avoid accident contract.

1.4.8 MOUNTING ARRANGEMENT:

1.4.8.1 The engine and alternator shall be mounted on a common heavy duty, rigid fabricated steel base frame constructed from ISMC of suitable sections.

1.4.8.2 Adequate number of anti-vibration mounting pads shall be fixed on the common base frame on which the engine and the alternator shall be mounted to isolate the vibration from passing on to the common base frame or the foundation of the D.G. Set.

1.4.9 PERIPHERALS

1.4.9.1 BATTERY AND BATTERY CHARGER:

1.4.9.1.1 Two nos 12V/24 Volt batteries complete with all leads, terminals and stand shall be provided. Each battery set shall have sufficient capacity to give 10 nos. **successive starting** impulse to the diesel engine.

1.4.9.1.2 Each battery shall have its own charger unit. The battery charger shall be complete with transfer, suitable rating (415 V, 3 Ph., 50 Hz. / 230V, 1 Ph., 50Hz) rectifier circuit, charge rate selector switch for "trickle" / boost' charge, D.C. ammeter & voltmeter, annunciation panel for batter charge indication/ loading/ failure.

1.4.9.1.3 The charger shall float and Boost Charge the battery as per recommendation of manufacturer of battery. The charger shall be able to charge a fully discharged battery to a state of full charge in 8 Hrs. with 25% spare capacity.

- 1.4.9.1.4 Manual control for coarse and fine voltage variation shall be provided. Float charger shall have built-in load limiting feature.
- 1.4.9.1.5 Ripple shall not be more than 1% (r m s) to get smooth DC voltage.
- 1.4.9.1.6 Charger shall be provided with out-put Voltmeter & Ammeter.
- 1.4.9.1.7 Changeover scheme for selecting battery and battery charger by changeover switch should be provided.

1.5 CONTROL AND INSTRUMENTATION:

- 1.5.1. Each D.G. Set shall be provided with suitable instruments, interlock and protection arrangement, suitable annunciation and indications etc. for proper start up, control, monitoring and safe operation of the unit. One local AMF control panel along with each D.C. set shall be provided by the Supplier to accommodate these instruments, protective relays, indication lamps etc. The AMF Panel shall have IP-52 degree of Protection as per IS: 12063.
- 1.5.2 The D.G. sets shall be provided with automatic start facility to make it possible to take full load within 30 seconds of Power Supply failure.
- 1.5.3 Testing facility for automatic operation of D.G. Set shall be provided in AMF panel.
- 1.5.4 A three attempt starting facility using two impulse timers and summation timer for engine shall be provided and if the voltage fails to develop within 40 sec., from receiving the first impulse, the set shall block and alarm to this effect shall be provided in the AMF panel.
- 1.5.5 Following instruments shall be provided with Diesel Engine.
 - a) Lub oil pressure gauge.
 - b) Water temperature thermometers.
 - c) Engine tachometer/HR
 - d) **Any other instruments** necessary for DG set operation shall be provided.
- 1.5.6 DG Set shall be capable of being started/ stopped manually from remote as well as local. (Remote START/STOP push button shall be provided in 415V ACDB). However, interlock shall be provided to prevent shutting down operation as long as D.G. Circuit breaker is closed. For remote control – Approximate distance 40mts from the DG Set
- 1.5.7 The diesel generator shall commence a shutdown sequence whenever any of the following conditions appear in the system.
 - a) Over-speed
 - b) Over load
 - c) High temperature of engine and cooling water.
 - d) High temperature inside enclosure.
 - e) Low lube oil pressure
 - f) Generator differential protection.
 - g) Short circuit protection.
 - h) Under voltage
 - i) Over voltage.
 - j) Further interlocking of breaker shall be provided to prevent parallel operation of DG set with normal station supply.
- 1.5.8 Following indication lamps for purposes mentioned as under shall be provided in AMF panel.
- 1.5.8.1 Pilot indicating lamp for the following:
 - a) Mains ON
 - b) Alternator ON
 - c) Charger ON/OFF

- d) Breaker ON/OFF
- e) Main LT Supply ON/OFF
- 1.5.9. Thermostatically controlled space heaters and cubicle illumination operated by Door Switch shall be provided in AMF panel. Necessary isolating switches and fuses shall also be provided.
- 1.5.10 AMF panel shall have facility for adjustment of speed and voltage including fine adjustments in remote as well as in local mode. Specification of AMF panel should be suitable for the DG set offered.
Following shall also be provided in AMF panel:
 - a) Frequency meter.
 - b) 3 Nos. single phase CT's for metering
 - c) 3 Nos. single phase CTs with KPV 300V & RCT 0.25 ohm for differential protection of DG Set on neutral side.
 - d) One (1) DC Ammeter (0-40A)
 - e) One (1) DC Voltmeter (0.30V)
 - f) One (1) Voltmeter Selector switch
 - g) One (1) AC Ammeter (as per ratings)
 - h) One (1) AC Voltmeter (0-600 volts)
 - i) Three (3) Timers (24V DC)
 - j) Two (2) Auto / Manual Selector Switch
 - k) Two (2) Auto/ Test/ Manual Selector Switch.
 - l) Eleven (11) Aux. Contactors suitable for 24V DC.
 - m) One (1) Motorised potentiometer for voltage adjustment
 - n) Two (2) Set Battery chargers as specified in Technical Specification. Both chargers should have provision for Trickle & Boost facility
 - o) One (1) Set Phase & Neutral bus bars.
 - p) Any other item required for completion of Control scheme shall be deemed to be included.

1.6 **D.G. SET Enclosure**

1.6.1 **General requirement**

- 1.6.1.1. Diesel engine, alternator, AMF panel, Batteries and Chargers shall be installed outdoor in a suitable weather-proof enclosure which shall be provided for protection from rain, sun, dust etc. Further, in addition to the weather proofing, acoustic enclosures shall also be provided such that the noise level of acoustic enclosure DG set shall meet the requirement of MOEF. The diesel generator sets should also conform to Environment (Protection) Rules 1986 as amended. An exhaust fan with louvers shall be installed in the enclosure for temperature control inside the enclosure. The enclosure shall allow sufficient ventilation to the enclosed D.G. Set so that the body temperature is limited to 60°C during maximum ambient temperature of 50°C & full load. The air flow of the exhaust fan shall be from inside to the outside the shelter. The exhaust fan shall be powered from the DG set supply output so that it starts with the starting of the DG set and stops with the stopping of the DG set. The enclosure shall have suitable viewing glass to view the local parameters on the engine.
- 1.6.1.2 Fresh air intake for the Engine shall be available abundantly; without making the Engine to gasp for air intake. A chicken mess shall be provided for air inlet at suitable location in the enclosure.
- 1.6.1.3. The Enclosure shall be designed and the layout of the equipment inside it shall be such that there is easy access to all the serviceable parts.
- 1.6.1.4 Engine and Alternator used inside the Enclosure shall carry their manufacturer's Warranty for their respective Models and this shall not degrade their performance.

1.6.1.5. Exhaust from the Engine shall be let off through silencer arrangement to keep the noise level within desired limits. Interconnection between silencer and engine should be through stainless steel pipe.

1.6.2. All the Controls for Operation of the D.G. Set shall be easily accessible. There should be provision for **emergency shutdown** from outside the enclosure.

1.6.3 Arrangement shall be made for housing the Battery set of (02 nos) in a tray inside the Enclosure.

1.6.4. Constructional Features:

1.6.4.1. The enclosure shall be fabricated from at least 14 Gauge CRCA sheet steel and of Modular construction for easy assembling and dismantling. The sheet metal components shall be pre-treated by Seven Tank Process and Powder coated (PURO Polyester based) both-inside and outside for long life. The hard-ware and accessories shall be high tensile grade. Enclosure shall be given a lasting anti-rust treatment and finished with pleasant environment friendly paint. All the hardware and fixtures shall be rust proof and able to withstand the weather conditions.

1.6.4.2 Doors shall be large sized for easy access and provided with long lasting gasket to make the enclosure sound proof. All the door handles shall be lockable type. There should be provision for separate additional locking facility with the normal door lock.

1.6.4.3. The Enclosure shall be provided with anti-vibration pads (suitable for the loads and vibration they are required to carry) with minimum vibration transmitted to the surface the set is resting on.

1.6.4.4. High quality rock wool of required density and thickness shall be used with fire retardant thermo-setting resin to make the Enclosure sound proof.

1.6.5. Provision for Neutral / Body Earthing at two (2) points.

1.6.5.1. Points shall be available at two side of the enclosure with the help of flexible copper wires from alternator neutral, and electrical panel body respectively. The earthing point shall be isolated through insulator mounted on enclosure.

1.7 INTALLATION ARRANGEMENT

1.7.1. DG set enclosed in enclosure shall be installed on Concrete Pedestal 300 mm above FGL.

1.8. DOCUMENTS

1.8.1. Following drawings and data sheet shall be submitted for approval:

- (i) DG Set test certificate
- (ii) GA drawing of DG set
- (iii) Layout of DG set in the enclosure along with sections.
- (iv) GA and schematic of AMF panel.
- (v) Electrical drawings for control panel.
- (vi) Arrangement of inclined roof and pedestal.

1.8.2. The DG Set shall be supplied with

- (i) DG Set test certificate
- (ii) Alternator/ Engine Operational cum Maintenance Manual & List of Spare Parts Operation
- (iii) Engine PARTS Catalogue.
- (iv) Alternator test certificate.

1.9. TESTS:

(a) The Diesel generator sets shall be tested for routing and acceptance tests including

i) Measurement of vibration

The vibration shall be measured at load as close to maximum achievable load and shall not exceed 250 microns.

ii) **Noise Level** test check as per the relevant IS/IEC standards.

- b) The type test report for diesel engine and alternator are required to be submitted as per relevant standard shall be submitted for purchaser's approval.

1. Load Test

The engine shall be given test run for a period of at least 6 hours. The set shall be subjected to the maximum achievable load as decided by Purchaser without exceeding the specified DG Set rating:

During the load test, half hourly records of the following shall be taken:

- a) Ambient temperature.
 - b) Exhaust temperature if exhaust thermometer is fitted.
 - c) Cooling water temperature at a convenient point adjacent to the water output from the engine jacket.
 - d) Lubricating oil temperature where oil cooler fitted.
 - e) Lubricating oil pressure.
 - f) Colour of exhaust gas.
 - g) Speed.
 - h) Voltage, wattage and current output.
 - i) Body temperature, if body thermometer is fitted.
 - j) Oil tank level
2. Insulation resistance in mega-ohms between the coils and the frame of the alternator when tested with a 500V Insulation tester shall not be less than
 $IR = 2x (\text{rated voltage in KV}) + 1.$
3. Check of Fuel Consumption.

A check of the fuel consumption shall be made during the load run test. This test shall be conducted for the purpose of proper turning of the engine.

4. Insulation Resistance Wiring.
Insulation resistance of control panel wiring shall be checked by 500V Insulation Tester. The IR shall not be less than one mega ohm.
5. Functional Tests
- a) Functional tests on control panel.
 - b) Functional test on starting provision on the engine.
 - c) Functional tests on all field devices.
 - d) Functional tests on AVR and speed governor.
6. The tests shall be carried out with the DG set operating at rated speed and at maximum achievable load. Necessary correction for Test environment conditions & background noise will be applied as per IS: 12065.

N: B The necessary load test shall be done at suppliers' premises.

1.10. Commissioning Checks

In addition to the checks and test recommended by the manufacturer, the Contractor shall carryout the following commissioning tests to be carried out at OPTCL site.

1. During commissioning of the DG set at OPTCL site, the supplier has to perform the load change over test with maximum achievable load at the particular site without exceeding the rated capacity to

ascertain the load change over capacity of the associated auxiliary equipments along with other commissioning checks.

2. Ten (10) nos. successive starting impulse to the diesel engine (test) at site.

1.11 Annual maintenance contract for **5 (five)** years

SECTION – V

COMPREHENSIVE AMC of D G sets

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SCOPE OF AMC (Comprehensive) for Diesel Generator-82.5 KVA

I) Annual Maintenance Contract (Comprehensive) for the DG sets to be provided in different Grid substations, where the DG sets will be commissioned for a period of **05(five) years** beyond the Guarantee period (24 months from the date of commissioning) and shall have following scope:

(a) **Preventive Maintenance** [Quarterly (every three months)]: Contractor to Check Properly to ascertain the performance to the satisfaction of OPTCL in every quarter for Diesel Generator sets. Both OPTCL Engineer and representative from the Firm have to witness the Inspection. A report on inspection & testing along with the status of Diesel Generator sets to be jointly signed for reference and record. In case any defects are noticed during Preventive Maintenance, such defects are to be rectified within 15 days. The materials/equipments required to rectify the defects are to be supplied by the Bidder free of cost to OPTCL. In case contractor fails to perform the Preventive maintenance within the scheduled stipulated time, the purchaser shall recover from the supplier/contractor a penalty for the delay as per the Penalty clause indicated below **(IIIA)**.

(b) **Break down maintenance**: In case any defect is noticed, the Contractor shall be intimated by the owner, and Contractor shall attend the spot within 07 days from the date of intimation (Date of issue of Letter) positively and shall ascertain the defects and shall rectify the same within 15 days from the date of intimation (date of issue of Letter) to the Contractor. In case Contractor fails to rectify the defects within the scheduled time, the purchaser shall recover from the supplier/ Contractor a penalty for the delay as per the Penalty clause indicated below **(IIIB)**. The date of intimation to the Contractor regarding the troubles/defects of the D G sets shall be reckoned as the base date for computing the Penalty amount.

II) TERMS OF PAYMENT: (For AMC Contract of D G sets)

The terms of payments under this contract shall be governed as per the following:

1. Your unconditional acceptance of this order.

2. A performance Bank Guarantee as per the proforma enclosed for 10% of the total Maintenance Contract price (for 05 years), which will remain valid for more than two months from the expiry of the contract period i.e. 62 months from the last date of the guarantee period. Initially, the BG shall remain valid for 18 months from the date of award and the same to be revalidated from time to time to cover two months more than the AMC contract period from the last date of the guarantee period.

3. Payment will be made equally at the end of every six months, period starting from the date of contract agreement as per the details below:

(a) Release of payment for the 1st instalment: The payment of 1st instalment of each year are to be paid to you at the end of 6(six) months. All the D G sets need to be Checked Properly under Preventive Maintenance (PM) to ascertain the performance to the satisfaction of OPTCL in every six months. Both OPTCL Engineer and representative from the Firm have to witness the Inspection. A report on inspection & testing along with the status of D G sets should be jointly signed and furnished to the verifying authority (Concerned D.G.M of O&M Division) for verification and onward transmission to the designated Nodal Officer. You have to furnish the draft format for the inspection/testing & Status report of the Bus Bar scheme, which shall be approved by the C.G.M (O&M) OPTCL, Bhubaneswar.

(b) Similarly, the payment of 2nd instalments of each year is to be paid to you at the end of 12(Twelve) months, during which the inspection of D G sets to keep the schemes in a healthy and functional condition shall be carried out by the Bidder, on production of documents as indicated above.

* The payment for other years of AMC shall be as indicated above.

(III) PENALTY:

(A) In the event of failure on your part to comply with the provisions of the contract regarding attending to the **Breakdown** of the DS G sets at various Grid substations, where the firm would supply & commission, a

penalty @0.5% of the total contract value for each day of delay, or part thereof, for such delay, subject to no upper ceiling, will be levied, without prejudice to any other remedies to which OPTCL may also be entitled, under the provisions of the contract/bid specifications.

B) In the event of failure on your part to comply with the provisions of the contract regarding attending to the **Preventive maintenance (PM)** of D G sets at various Grid substations as indicated elsewhere, a penalty @30% of the total AMC value for the period shall be imposed for that quarter.

(IV) PERFORMANCE SECURITY:

(a) You are requested to furnish a composite bank guarantee of 10% of the contract value in our standard bank guarantee format (as enclosed) towards security payment and performance from any Nationalised/Scheduled Bank having a place of business at Bhubaneswar on non-judicial stamp paper worth of Rs. 29.00 (Rupees twenty nine) only or as applicable as per the prevailing laws. The said B.G. shall be accompanied with the confirmation letter from the issuing bank & should be capable of being encased at Bhubaneswar in order that the B.G. is accepted. The B.G. shall be furnished in favour of Senior General Manager (CPC), OPTCL Bhubaneswar-751022 within 15 days from the date of issue of AMC order and shall remain valid for two months more than the expiry of the contract period. Where the contract is extended, the B.G. should also be suitably extended, to cover the entire contract period. Initially, the BG shall remain valid for 18 months and the same to be revalidated from time to time to cover two months more than the AMC contract period from the last date of the guarantee period.

(b) No interest is payable on the Composite Bank Guarantee.

(c) In case of nonfulfillment of contractual obligation in any manner, performance bank guarantee shall be invoked without intimation to you.

(V) GUARANTEE:

It will be contractor's responsibility to maintain the entire D G sets, as described in the scope of the contract in healthy and functional manner. The repair and replacement work will be completed within 15 days from the registering of the complaints by OPTCL Engineers of the concerned Grid substations or AGM/DGM/GM of the concerned Division or Circles respectively failing which the penalty clause as at clause-III shall be applied. The replacement of equipments will be done by using materials from the stock to be kept under contractor's scope. Any equipment removed from the D G sets and taken for rectification will be rectified and returned back to OPTCL at contractor's own risk and expense, within 15 days from the date of such removal. The date of removal will be reckoned as the date of handing over & taking over report jointly signed by OPTCL Engineer of the concerned Grid substations and contractor's representative.

(a) An indemnity bond shall be furnished before receiving materials from OPTCL.

(b) In case the materials are not returned back to OPTCL within 15 days, a penalty shall be levied on the contractor as per clause IIIB. In case the Bidder did not return the materials taken from the D G sets the BG furnished towards the AMC shall be encashed without any intimation to you.

(VI) NODAL OFFICER:

A nodal officer shall be appointed by OPTCL, who will monitor the execution of entire maintenance activities within the scope of this contract. You will furnish all the records, reports, receipts etc., to the Nodal Officer, who will forward the documents, after due verification, for initiation of Half yearly payment activities. The name of the Nodal officer shall be intimated during placement of order to the successful contractor.

(VII) CONTRACT AGREEMENT:

Contractor shall prepare and finalise the Contract Document for signing of the formal Contract Agreement with us, as per the proforma to be provided to you, on non-judicial stamp paper of appropriate value within fifteen days from the date of this order. The contract papers shall be prepared in 2(two) originals and copies shall be 1(one) no for each sub-station.

(VIII) DURATION OF CONTRACT:

This AMC shall be in force for a period of 05 (Five) Years, beyond the Guarantee period of 24 months as stipulated in the Specification.

**** Important Instruction to Bidders:**

Bidders TO FOLLOW THE BELOW DURING FILLING OF BIDDING DOCUMENT:

1. Bidders to quote the rate separately for Design, supply, installation, Erection, testing, commissioning and AMC separately as per the price format provided.
2. Bidders are requested to fill up the GTP's against each parameter positively.
3. **WORK OFF LOADED FROM FIRMS:** Firms from whom, OPTCL have off loaded works due to non-performance, during last seven years, shall not be eligible to participate in any of the OPTCL turnkey tenders.
4. The participant Firms shall submit an undertaking along with the price bid to the effect that any items missing/not quoted in the price bid, shall be executed free of cost by them without any financial liability to OPTCL and that the said undertaking shall cover all the evaluation criterion as recommended above. The condition of rejection of incomplete price bid appearing under the Outright rejection Criterion shall stand deleted.
5. The Bidder should furnish the un-priced schedule (un-priced Bid) along with the techno commercial bid (Part-I of the Bid). All the columns shall be filled by quoting "Quoted" only.
6. Evaluation will be done on the basis of total amount taken together for rates quoted against-

(1) Supply (2) Erection & (3) AMC.

APPENDIX – I

GUARANTED TECHNICAL PARTICULARS DIESEL GENERATOR SET

DG set Specification		Purchaser's Requirement
1	Make	To be stated
2.	Model	To be stated
3.	Prime Power rating KVA/KW	82.5 KVA/66 KW
4.	Voltage	415 volt, 3Φ
5.	Current(Amps)	115 Amp
6.	Power factor	0.8
7.	RPM / Frequency	1500/50 Hz
8.	Noise level	< 75 dB
9.	Governing class	Electronic
10	Fuel consumption (Ltr/Hr) different load with radiator & fan	
i)	At 100% load	To be stated
ii)	At 75% load	To be stated
iii)	At 50% load	To be stated
11.	Integrated Fuel Tank Capacity	150-300
12	DG set dimension with top hood if any (mm) L x W x H	To be stated
13	Battery Starting system (DC)	12 Volt/24 volt

Engine Specification		Purchaser's Requirement
1	Make	To be stated
2	Model	To be stated
3	Rated output (KW/HP) 82.5 KVA	74.8 KW / 102 HP
4	No. of cylinders	04/06
5	Aspiration	Turbo charged(TC) / Turbo After cooled TA)
6	Cooling	To be stated
7	Bore(mm) x Stroke (mm)	To be stated
8	Cubic capacity (82.5 KVA)	To be stated
9	Rated speed	1500
10	Compression Ratio	To be stated
11	Fuel	HSD/Light Diesel Oil (LDO)
12	Fuel Tank capacity (at par with hour consumption)	To be stated
13	Lub oil specification	To be stated
14	Lub oil change period (Hrs)	500
15	Lub oil sump capacity (Ltrs)	10
16	Lub oil consumption (LPH)	To be stated
17	Total coolant capacity (Ltrs)	24

18	Exhaust Pipe size(mm)	100 mm
19	Approximate Weight of DG set (Kg)	To be stated

Alternator		Purchaser's Requirement
1.	Class of Insulation	H class, with temperature rise limited to Class-F
2.	Enclosure (Ingression Protection)	IP 23
3.	RPM	1500
4.	Frequency	50 Hz
5.	Recommended Cable size x Runs (AL armoured 3 ½ core)	* 300 mm ²
6.	Voltage Regulation (Max)	+/- 1%
7.	Time Permitted to build up rated voltage at Rated RPM	< 5 sec
8.	Short Circuit Ratio	0.518
9.	Short Circuit With Stand Time	< 3 sec
10.	Max Voltage Dip at Full Load 0.8 PF Lag	≤ 10 %
11.	Overload With Stand Capacity	10% overload for one hour once in 12 hours
12.	Alternator Efficiency <u>82.5 KVA</u> (at 100% load) 0.8 PF (at 75% load) 0.8 PF	91.4 93.0

DEVIATION FROM SPECIFICATION

All deviations from the specification shall be separately listed in the technical deviation sheet, in the absence of which it will be presumed that the provisions of these specifications are complied with by the tenderer

**APPENDIX – II
QUANTITY AND DELIVERY SCHEDULE**

Delivery Phases	Description of materials	UOM	Desired Delivery	Destination
Phase-1	D G Set 82.5 KVA	21 No's	4 months from the date of PO	Any store/site within Odisha State, which will be indicated in the purchase order/release order
Phase-2		21 No's	6 months from the date of PO	
Phase-3		21 No's	8 months from the date of PO	

END OF SPECIFICATION