



सेन्टर फॉर मेटिरियल्स फॉर इलेक्टॉनिक्स टेक्नोलाजी (सी-मेट)
CENTRE FOR MATERIALS FOR ELECTRONICS TECHNOLOGY (C-MET)
(Scientific Society, Ministry of Electronics and Information Technology (MeitY), Govt. of India)
IDA PHASE – III, CHERLAPALLY, HCL (PO), HYDERABAD – 500 051
Phone: +91-40-27265587, 27267006 Fax: +91-40-27261658 Web: www.cmet.gov.in

No. C-MET/HD/SP-41/DGSET/10/2019-20/11620

Date:11.02.2020

Centre for Materials for Electronics Technology (C-MET), Hyderabad invites Tenders against Tender No. C-MET/HD/SP-41/DGSET/10/2019-20/11620, dated 11.02.2020. Closing Date/Time **13.03.2020 at 17:00 Hrs.** Bidders will be able to submit their original/revised bids upto closing date and time only.

2. ITEM: 200 KVA DIESEL GENERATOR SET

Supply, Installation and Commissioning of 200 KVA Diesel Generator Set.

Tender Type : **OPEN TENDER**
Pre-Bid Meeting : **26.02.2020 from 16:00 – 17:00 Hrs.**
Closing time : **13.03.2020 at 17:00 Hrs.**

Note: Bidders who downloaded tender documents from our web site shall send an email to venkatesan@cmet.gov.in immediately giving the tender reference number, date of downloading, your full address and contact details. This will help us post any corrigendum or addendum to the tender taken place after the bidder downloaded it. Addendum/corrigendum will be posted in our website as well as in CPP portal only. It will also be sent to bidder who had informed after downloading of the document from our website.

Pre-Bid Meeting:

The Pre-bid tender meeting will be held on date & time and specified above in the Laboratory premises. Interested firms are requested to attend the pre-bid meeting and inform their attendance to the e-mail id: venkatesan@cmet.gov.in. The clarifications/queries, if any in this regard, should reach the lab on or before 22.02.2020 at 17:00 Hrs to discuss the same in the pre-bid meeting.

NOTE:

- (i) The Technical bid & Financial bid should be in separate sealed covers
- (ii) The quotation should be submitted in the enclosed format only.
- (iii) The Enquiry Letter No. & date should be clearly indicated in the quotation, otherwise quotation will be rejected.
- (iv) Firms or their authorized representatives are requested to attend the opening of Technical bids on 17.03.2020 at 12:00 hours. If there is any delay in opening of technical bids will be intimated to the bidder.
- (v) These details are also available in our website: <http://www.cmet.gov.in> & CPP Portal
- (vi) The offer should be valid for a period of 120 days from the date of opening of Tender.

- (vii) C-MET is registered under Department of Scientific and Industrial Research (DSIR) and eligible for concessional GST rates @ 5% for Research Institutions as per Notification No 45/2017-Central Tax (Rate) dated 14.11.2017 and Notification No. 10/2018-Integrated tax (Rate) dated 25.01.2018. The requisite certificate for availing concessional GST Rate along with documents will be provided.

3. Bid Security Declaration: The bidder has to sign a Bid Security declaration accepting that if the bidder withdraw or modify its bid during the period of validity i. e., not less than 120 (one hundred twenty) days from the bid due date or if the bidder is awarded the contract and fail to sign the contract or to submit a performance security before the deadline defined in the request for bid documents, the bidder will be suspended for participation in the tendering process for the tenders of C-MET, Hyderabad for a period of one year from the bid due date of this tender. The bid securing declaration shall be submitted as per format (Format for Bid Security Declaration).

4. SUBMISSION OF BIDS

(i) Sealing and Marking of Bids

- (i) The Bidders shall seal the two envelopes in separate inner envelopes, duly marking the envelopes as Technical Bid and Commercial Bid. Tender Reference No. and name and address of the Bidder should be marked on each of Technical Bid Envelope and Commercial Bid Envelope. These two envelopes should be placed inside an outer envelope. The outer envelope shall be sealed and indicate Tender Reference No. and name and the name and address of the bidder.
- (ii) The inner and outer envelopes shall be addressed to the Administrative Officer, Centre for Materials for Electronics Technology, IDA Phase-III, Cherlapally, HCL (Post), Hyderabad-500 051, Telangana State, INDIA.
- (iii) The inner envelope shall also indicate the name and address of the Bidder to be returned unopened in case it is declared "LATE".
- (iv) If the outer envelope is not sealed and marked as specified, C-MET will assume no responsibility for Bid's misplacement of premature opening.
- (v) E-mail, FAX bids will be rejected.

(ii) CLARIFICATION OF BIDS

During evaluation of bids, C-MET, at its discretion, may ask the Bidder for clarifications of its bid. The request for clarifications and the responses shall be in writing and no change in prices or substance of the bid shall be sought, offered or permitted. However, no post bid clarification at the initiative of the bidder shall be entertained.

5. Deadline for Submission of Bids

- (i) Bids must be received by C-MET at its address mentioned above not later than **17:00 Hrs. on 13.03.2020**. Bids may be sent through courier/speed post or dropped in the Tender Box available in the Laboratory. In the event of the specified date for the submission of Bids

being declared as a Holiday for C-MET, the bids will be received upto the appointed time on the next working day.

- (ii) C-MET may, at its discretion, extend this deadline for submission of bids by amending the tender document, in which case all rights and obligations C-MET and Bidders will thereafter be subject to the deadline as extended.

6. Late Bids

Any bid inadvertently received by C-MET after the deadline for submission of bids prescribed by C-MET, will not be considered and returned unopened to the Bidder.

7. Contacting C-MET

No Bidder shall contact C-MET, Hyderabad on any matter relating to its bid, from the time of the bid opening to the time of contract is awarded. If he wishes to bring additional information to the notice of C-MET, it should do so in writing. C-MET reserves its right as to whether such additional information should be considered or otherwise.

Any effort by a Bidder to influence C-MET in its decision on bid evaluation, bid comparison or contract award shall result in disqualification of the Bidders Bid.

IN CASE OF ANY LEGAL DISPUTE, THE JURISDICTION WILL BE HYDERABAD (INDIA) ONLY.

CLARIFICATION ON BIDDING DOCUMENTS

A prospective Bidder requiring any clarification of the bidding documents may notify to

Administrative Officer
IDA Phase-III
Cherlapally, HCL (Post),
Hyderabad-500 051
TELANGANA STATE, INDIA
Tel No.:+91-40 27265587 / 27267006
Fax: +91-40-27261658

8. TERMS AND CONDITIONS

F.O.R: C-MET, HYDERABAD

Delivery Period

The System should be supplied within 4 (Four) Weeks from the date of placing Purchase Order.

LIQUIDATED DAMAGES: – The delivery period quoted should be realistic. The delivery period so quoted and mentioned in the order is the essence of the order/contract. In case of delay in delivery of material as per the

delivery schedule, Liquidated Damage @ 0.5% per week or part thereof on the undelivered portion subject to a maximum of 10% of the contract value shall be levied. Wherever, installation and commissioning is also involved, the supply will be deemed to have been completed only when the entire stores is supplied, installed and accepted.

9. PERFORMANCE SECURITY DEPOSIT (PSD)

- Within 21 days of receipt of the notification of award/PO, the Supplier shall furnish Performance Security (PS) [also known as Bank Guarantee] in the amount specified in the purchase order. It is an option to the Purchaser either to submit single Bank Guarantee/FD etc as detailed to cover both supply, installation and commissioning (as indicated in PO/WO) and warranty/extended warranty period or two BGs one each to cover supply and warrant/extended warranty separately. The validity shall be as stipulated in PO plus 60 days.
- The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- The Performance Security shall be denominated in Indian Rupees for the offers received for supplies within India and denominated in the currency of the contract in the case of offers received for supply from foreign countries or in equivalent Indian Rupees in case the Performance Security is submitted by the Indian Agent.
- In the case of imports, the PS may be submitted either by the principal or by the Indian agent and, in the case of purchases from indigenous sources, the PS may be submitted by either the manufacturer or their authorized dealer/bidder.
- The Performance security shall be in one of the following forms: (a) A Bank guarantee or stand-by Letter of Credit issued by a Nationalized/ Scheduled bank located in India or a foreign bank with preferably its operating branch in India in the form provided in the bidding documents. Or (b) A Banker's cheque or Account Payee demand draft in favour of the purchaser. Or, (c) A Fixed Deposit Receipt pledged in favour of the Purchaser.
- The performance security will be discharged by the Purchaser and returned to the Supplier not later than 60 days following the date of completion of the Supplier's performance obligations, including any warranty/extended warranty obligations, unless specified otherwise, without levy of any interest.
- In the event of any contract amendment, the supplier shall, within 21 days of receipt of such amendment, furnish the amendment to the performance security, rendering the same valid for the duration of the contract, as amended for further period of 60 days thereafter.
- The performance security must be received within 21 days. However, the Purchaser has the powers to extend the time frame for submission of Performance Security (PS). Even after extension of time, if the PS is not received, the contract is liable to be cancelled provided that the purchaser, on being satisfied that it is not a case of cartelization and the integrity of the

procurement process has been maintained, may, for cogent reasons, offer the next successful bidder an opportunity to match the financial bid of the first successful bidder, and if the offer is accepted, award the contract to the next successful bidder at the price bid of the first successful bidder.

- Whenever, the bidder chooses to submit the Performance Security in the form of Bank Guarantee, then he should advise the banker issuing the Bank Guarantee to immediately send by Registered Post (A.D.) an unstamped duplicate copy of the Guarantee directly to the Purchaser with a covering letter to compare with the original BG for the correctness, genuineness, etc.

10. PAYMENT TERMS

Our standard payment term is 100% payment within 30 days against receipt, installation, commissioning, training and acceptance of material in good condition by NEFT/RTGS subject to submission of BG for 10% of basic cost covering warranty period including extended warranty period. However, in deserving cases it will be considered as per Rule 172 (1) of GFR-2017 by the competent authority.

Special Condition: The stipulated delivery date for completion of all activities to be performed by the supplier under contractual obligations i.e., supply of equipment/machinery and erecting & commissioning including all the civil, electrical works, if any under the contract.

S. No.	Description
1	The tenderer shall quote the rate by taking into account all the existing statutory duties/taxes up to the date of opening of tender and provide details in respect of this break up at the time of tendering. Any New Import or revision in the duties, taxes during the original currency of the contract will be to the purchasers account subject to production of Govt. notification and documentary evidence. This will also be applicable for the relevant quantity supplied during the extended delivery period, if such extension is on purchase’s account. However, if the extension of delivery period is on account of failure of supplier, no compensation shall be made towards upward revision or imposition of any new taxes. Any benefit on account of downward revision of duty either in original Delivery Period or during extended Delivery Period shall be passed on by the supplier to C-MET.

11. STATUTORY VARIATION CLAUSE:

S. No.	Description
1	Statutory Variation in taxes and duties, or fresh imposition of taxes and duties by State/Central Governments in respect of the items stipulated in the contract (and not the raw materials thereof), within the original delivery period stipulated in the contract, or last unconditionally extended delivery period shall be to C-MET’s account. Only such variation shall be admissible which takes place after the submission of bid. No claim on account of statutory variation in respect of existing tax/duty will be accepted unless the tenderer has clearly indicated in his offer the rate of tax/duty considered in

	his quoted rate. No claim on account of statutory variation shall be admissible on account of misclassification by the supplier/contractor.
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12. Standard Governing Conditions

S. No.	Description
1	Tenderers must accept the C-MET conditions of contract, Instructions to the Tenderers, General Conditions and Special conditions of contract

13. CONDITIONS FOR ELIGIBILITY OF TENDERER

S. No.	Description	Confirmation Required
1	The tenderer must have supplied the same or similar items/Equipments to other organizations and documentary evidence must be furnished alongwith their offer evidencing the execution of such Purchase Orders. Tenderer's with past performance of satisfactory execution of contracts before the date of tender opening as mentioned above for the supply of the subject or similar items in last three (3) years from date of tender opening may be considered as responsive to C-MET requirements for placement of regular order.	YES

14. (i) The Tenderer shall furnish along with his offer the details of past performance of the machines, same or similar to those offered in the tender in the following proforma during the last 3 years:

S. No.	Name of Machine	Name of customer	Purchase Order No. & Dt.	Delivery due date as per PO	Actual date of delivery	Whether customer's certificate in respect of past performance of the machine is enclosed
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(ii) Certificates from the customers to whom such machines have been supplied in the past, regarding performance of the machines shall be enclosed with the above information failing which the offer shall not be considered. Certificates from Central/State Govt. Departments & Public Sector Undertaking only shall be accepted, and performance from at least two such customers should be submitted. Same/Similar refers to function and capacity within reasonable range.

(iii) If the tenderer is not a manufacturer, but only an agent/trader, a certificate from the manufacturer authorizing him as agent shall be attached with the offer failing which the offer shall not be considered.

(iv) The tenderer shall submit with his offer particulars plant and machinery installed at his works as well as equipment for ensuring quality control and inspection. Details like make, capacity, quality, horse power of all plant and machinery shall be given. In case of an agent/dealer, the above details of their principal manufacturer shall be given.

(v) The tenderer shall submit with his offer details of man-power available with him showing the designation, no. of men, qualification & experience separately for each section like management, shop floor, inspection and quality control etc.,

(vi) C-MET has the option to verify the above information by physical inspection or otherwise by any authorized representative of C-MET at any time.

15. ELEMENT OF FREIGHT FOR INDIGENOUS PURCHASE

- a) In case where the consignees are more (say more than 4 or so), Tenderers are required to quota for the FOR station of dispatch prices with an average freight for all consignees, which will be added to FOR station for dispatch price to get FOR destination prices.
- b) In case where the consignees are 4 or less, Tenderers are required to quota FOR station of dispatch price with an actual freight for each individual consignee, which will be added to FOR station for dispatch price to get FOR destination prices for each individual consignee.

16. TIMELY COMMISSIONING:

In the event of contractors failure to have commissioned by the time or times respectively specified in the letter of acceptance or contract, purchaser shall levy Liquidated damages for the delay:

S. No.	Description	Confirmation Required
1	200 KVA DG Set Technical Specifications is to be read before quoting	YES

17. COMPLIANCE CONDITIONS

Commercial-Compliance

S. No.	Description	Confirmation Required
1	Please enter the percentage of local content in the material being offered. Please enter 0 or fully imported item, and 100 for fully indigenous items. The definition and calculation of local content shall be in accordance with the Make in India policy as incorporated in the tender conditions.	

18. SUBMISSION OF BID

1	Technical Bid	Documents should be serially arranged as per CHECK LIST WITH PAGE NUMBERING. This will be opened on 17.03.2020 at 12:00 hours
2	Commercial Bid (Price Bid)	Should contain only Price Bid. Date of opening of Price bid will be informed to those whose bid technically qualified.

CRITERIA FOR PRE-QUALIFICATION OF TENDER AND NEGOTIATIONS

Specifications conforming to the requirement or better than that, Past Performance, Financial Soundness, Technical Competence, Total Cost and Organizational Capability of the Tenderer to provide installation, commissioning, after sale service and spare parts supply shall be some of the crucial parameters for pre-qualification of Tenderer's.

RE-TENDERING

On finding inadequate response to Tender Notice or if the Prices quoted are substantially high and negotiations with the Tenderer's have not resulted in any positive response C-MET may not accept and Re-tender.

In case cartel is suspected, re-tendering will normally be resorted to.

CORRUPT OR FRAUDULENT PRACTICES

C-MET requires that the bidders/suppliers/contractors under this tender, observe the highest standards of ethics during the procurement and execution of such contracts. In pursuance of this policy, the following is defined for the purposes of this provision, the terms set forth as follows:

- a) "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of the public official in the procurement process or in contract execution and
- b) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or an execution of a contract to the detriment of C-MET, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive C-MET of the benefits of the free and open competition;

C-MET Will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.

C-MET will declare a firm ineligible, either indefinitely or for a stated period of time to be awarded a contract if it at any time determines that the firm has engaged in corrupt and fraudulent practices in competing for, or in executing, a contract.

INTERPRETATION OF THE CLAUSES IN THE TENDER DOCUMENT

In case of any ambiguity in the interpretation of any of the clauses in Tender Document, the interpretation of the Director, C-MET shall be final and binding on all parties.

IN CASE OF ANY LEGAL DISPUTE THE JURISDICTION WILL BE HYDERABAD (INDIA) ONLY.

C-MET shall have the right to issue addenda to tender documents to clarify, amend, modify, supplement or delete any of the conditions, clauses or delete any of the conditions clauses or items stated therein. Each addendum so issued shall form part of **ORIGINAL INVITATION TO THE TENDER**. *Addendum/corrigendum will be posted in our website as well as in CPP portal only.*

FORCE MAJEURE

The Supplier shall not be liable for forfeiture of its performance security, penalty or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

For purposes of this clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

If a Force Majeure situation arises, the Supplier shall promptly notify C-MET in writing of such conditions and the cause thereof. Unless otherwise directed by C-MET in writing, the Supplier shall continue to perform its obligations under the Supply as far as it is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure.

CANCELLATION OF ORDER

C-MET reserves the right to cancel the order without any liability in case the stores/goods/equipments is not supplied within the stipulated period and for non-fulfillment of specifications.

ARBITRATION

Any dispute between the parties on the purchase would be settled by arbitration. The Place of arbitration proceedings shall be at the place decided by C-MET. Applicable laws shall be laws of Union of India.

19. GENERAL INSTRUCTIONS

S. No.	Description	Confirmation Required
1	All conditions shall be as per tender document	
2	The bidder confirms that Rates and other financial terms quoted in relevant columns of financial bid will only be ruling terms for acceptance, and such terms quoted anywhere else should be ignored. [Denial of this condition not recommended]	
3	The bidder agrees to supply the tendered stores at the rates quoted by him in accordance with C-MET conditions of Contract and [OR] Special Conditions and [OR] other Conditions specified/attached with the tender	
4	Pre-despatch Inspection - By nominated C-MET official at Destination	
5	In case the date of bid opening falls on a gazette holiday or is subsequently declared as such, the bids will be opened on the next working date at the appointed time	

20. SPECIAL CONDITIONS

S. No.	Description	Confirmation Required
1	<p>Taxes/Duties</p> <ol style="list-style-type: none"> 1. Tenderer should clearly indicate Basic rate and applicable rate of GST & HSN Code 2. Tenderer's should ensure that they are GST compliant and their quoted tax structure/rates are as per GST law. 3. In case the successful tenderer is not liable to be registered under CGST/IGST/UTGST/SGST Act, C-MET shall deduct the applicable GST from his/their bills under reverse charge mechanism [RCM] and deposit the same to the concerned tax authority 4. While submitting offer, it shall be the responsibility of the bidder to ensure that they quote correct GST rate and HSN Code. 5. Wherever the successful bidder invoices the goods at GST rate or HSN Code which is different from that incorporated in the Purchase Order, payment shall be made as per GST rate which is lower of GST rate incorporated in the Purchase Order or billed. 6. Any amendment to GST rate or HSN Code in the contract shall be as per the contractual conditions and statutory amendments in the quoted GST rate and HSN Code. 7. Vendor is informed that he/she would be required to adjust his/her basic price to the extent required by higher tax billed as per invoice to match the all 	

	inclusive price as mentioned in the Purchase Order.	
2	Bidders are requested to refer Special Conditions of Contract while submitting their offers	

21. DOCUMENTS ATTACHED WITH TENDER

S. No.	Document Name	Document Description
1	Technical Specifications	200 KVA Diesel Generator Set

22. RESPONSIVENESS

S. No.	Description
1	Validity of the Offer: No deviation from the offer validity period stipulated in the tender is permitted
2	Payment Terms: No deviation from the Payment Terms stipulated in the tender is permitted.

**CENTRE FOR MATERIALS FOR ELECTRONICS TECHNOLOGY (C-MET)
HYDERABAD**

Technical Specifications of 200 KVA Diesel Generator Set

SCOPE:

The Scope of this specification covers Supply, Installation, Testing and Commissioning of diesel engine driven generating set of rating specified in the Bill of Quantities together with accessories, as per specifications.

STANDARD: ISO3046/BS: 5514

GENERAL REQUIREMENTS:

Criteria:

The engine generator system and accessories described herein shall be fully capable of operation as specified in the following environmental conditions:

- Maximum ambient Temperature : 40 deg. C
- Humidity: 85%

RATING:

The Diesel Engine generator set shall be capable of producing the power specified in the Bill of Quantities at 0.8 power factor continuously for standby applications at the ambient conditions. Rated voltage 415 volts; voltage regulated should be less than 1%; voltage adjustment of $\pm 5\%$.

ENGINE:

The engine shall be of standard design of the original manufacturers. It should be 4 stroke cycles, water cooled, naturally aspirated/ turbo charged (as per manufacturer standard), diesel engine developing suitable BHP for giving a power rating as per ISO 8528- Part-1 in KVA at the load terminals of alternator at 1500 rpm at actual site conditions.

The engine shall be capable for delivering specified Prime Power rating at variable loads for PF of 0.8 lag. The engine shall have 10% overload capacity for one hour in any period of 12 hours continuous run. Fuel consumption of the engine generator shall be substantiated by means of manufacturer's published curves. The engine shall accept full load within 15 seconds from the receipt of signal to start.

The engine shall conform to ISO 3046/ BS 5514 amended up to date.

Engine Instrumentation:

The engine shall be provided with Electronic or hydraulic governor as per manufacture's standard to control the engine speed within 5 % of its rated speed under all conditions of load up to full load. The governor shall be set to maintain the rated speed of the generator at maximum load of the generator.

- i) Engine instrumentation shall include the following;
 - Lube oil pressure gauge
 - Lube oil temperature gauge

- Water pressure gauge
 - Water temperature gauge
 - Tachometer
 - Hour meter
- ii) The instrumentation panel shall be mounted on the engine.
 - iii) Air cleaner (dry/ oil bath type) as per manufacturer standard,
 - iv) A electronic governor to maintain engine speed at all conditions of load
 - v) Suitable self-starter for 12 V/ 24 V DC
 - vi) Daily fuel service tank of minimum capacity from 250-500 Ltr, fabricated from M.S. sheet with inlet, outlet connections air vent tap, drain plug and level indicator (gauge) M.S. fuel piping from tank to engine with valves, unions, reducers, flexible hose connection and floor mounting pedestals, twin fuel filters and fuel injectors. The location of the tank shall depend on standard manufacturers design.
 - vii) Battery charging alternator unit and voltage regulator, suitable for starting batteries, battery racks with interconnecting leads and terminals.
 - viii) Necessary gear driven oil pump for lubricating oil, priming of engine bearing as well as fuel systems as per manufacturer recommendations.
 - ix) Naturally aspirated/ turbo charger (as per manufacturer standard)
 - x) Lubrication oil cooler
 - xi) Lubrication oil filters with replaceable elements
 - xii) Crank case heater as per manufacturer recommendations
 - xiii) Fuel injection: Engine should have suitable fuel injection system in order to achieve low fuel consumption
 - xiv) Fuel control solenoid
 - xv) Fuel pump with engine speed adjustment
 - xvi) Engine Control Panel: fitted and having digital display for following:

(a) Start/stop key switch.	(f) Battery charging indication
(b) Lube oil pressure indication	(g) Low lub. Oil trip indication
(c) Water temp. indication	(h) High water temp. indication
(d) RPM indication	(i) Over speed indication.
(e) Engine Hours indications	
 - xvii) Any other item not included/ specified but is a standard design of the manufacturer

Battery starting system:

The battery systems of each generator set shall consist of Lead Acid batteries/ Sealed Maintenance Free (SMF) and an automatic constant voltage charger unit for the engine starting motor and control circuit of the diesel generator sets.

The capacity of the batteries shall be sufficient for the starting requirements.

The batteries and automatic charger unit shall be installed be side generator control panel devices and alarm indicator lamps.

Engine cooling system:

- Coolant should be used mixed with additive (in suitable proportion) as per recommendation of OEM /Manufacturer for various engine models.
- The engine cooling system shall be radiator water cooled system. Radiator fan flow should be free from any obstruction.

- For radiator cooled DG Set, proper room ventilation should be planned at the time of construction of DG room.
- Remote Radiator can be used in case of basement installation where fresh air may not be available. The proper location of remote radiator is very essential for the successful and efficient operation of remote radiator. In this the cooling media is ambient air.

Air intake and exhaust system:

- An air cleaner / silencer shall be furnished as recommended by the engine manufacturer. Air cleaners shall be dry type with replaceable elements.
- Engine exhaust outlets shall be coupled to the exhaust silencer(s) by means of an adequately sized section of stainless steel corrugated flex, and shall decrease the exhaust noise level to 70-75 dB (A scale) measured at 1 Mtr. away from exhaust end Flex. The exhaust pipe shall be covered by glass wool with 50 mm thickness, and density in range of 25 -35 kg/m³.

Governor

Electronic governor of class A1/A2 for capacity 200 KVA, as per ISO 3046/ BS 5514 with actuator shall be provided as per standard design of manufacturer. Governor shall be a self contained unit capable of monitoring speed.

Frequency variation

The engine speed shall be so maintained that frequency variation at constant load including no load shall remain within a band of 1% of rated frequency.

Fuel system

It shall be fed through engine driven fuel pump. A replaceable element of fuel filter shall be suitably located to permit easy servicing. The daily service tank shall be complete with necessary supports, gauges, connecting pipe work etc. In case of Top Mounted tanks, non return valves are must in fuel supply and return line of specified value. Pipe sealant should be used for sealing for all connections. No Teflon tape to be used. If piping length is more than 10 meters, detail engineering is required in consultation with OEM/ Manufacturers.

Lubricating Oil System

Forced feed Lube Oil system shall be employed for positive lubrication. Necessary lube oil filters shall be provided. It shall be so designed that when the engine starts after a long shut down lubrication failure does not occur. Necessary priming pump for the lub. oil circuit as per recommendation of manufacturer shall be installed, located suitably for convenient servicing. This pump shall be normally automatically operative on AC/ DC supply available with the set.

Starting System

This shall comprise of necessary set of heavy duty batteries 12V/ 24V DC (as per manufacturer standard), and suitable starter motors, axial type gear to match with the toothed ring on the fly wheel. A timer in the control panel to protect the starter motor from excessively long cranking runs shall be suitably integrated with the engine protection system and shall be included within the scope of the work. Battery

capacity shall be suitable for meeting the needs of starting system (as three attempt starting), as well as the requirements of control panel, indications and auxiliaries such as priming pump as applicable etc.

Battery Charger

The battery charger shall be suitable to charge required numbers of batteries at 12V/ 24 volts complete with, transformer, rectifier, charge rate selector switch, indicating ammeter & voltmeter etc. Connections between the battery charger & batteries shall be provided with suitable copper leads with lugs etc.

Common Bed Plate

Engine and alternator shall be directly coupled or coupled by means of flexoplate/ flexible coupling as per manufacturer standard design and both units shall be mounted on a common bed plate together with all auxiliaries to ensure perfect alignment of engine and alternator with minimum vibrations. The bed plate shall be suitable for installation on suitable anti-vibration mounting system.

Piping Work

MS piping of adequate size shall be used for lube oil, exhaust and fuel oil piping. The pipe work shall be inclusive of all fittings and accessories such as valves, bends, reducers, elbows, flanges, flexible connections necessary hard ware etc,. The installation shall cover clamps, supports, hangers etc, as are necessary for completing the work. Welding/brazing shall be permitted in the installation. However the work shall be sectionalized with flanged connections as are necessary for easy isolation. All MS pipe shall be heavy class. For measurement purposes the length of run shall include all the accessories and fittings excluding valves / silencer. Those runs forming part of factory assembly on the engine shall however be excluded.

ALTERNATOR

The alternator shall be Self excited, screen protected, self regulated, brush less, double bearing construction conforming to specifications given below: -

- i. Rated voltage : 415 volts
- ii. Rated KVA : 200 kVA under site conditions
- iii. Rated power factor : 0.8
- iv. No. Of phases : 3
- v. Frequency: 50Hz.
- vi. Percentage regulation : +/- 5%
- vii. Type of excitation : Brushless, Self-regulated and separately Excited
- viii. Insulation class : Class H
- ix. Type of enclosure : Screen protected drip proof – IP23
- x. Type of AVR: Electronic
- xi. Wave form : Less than 3% deviation

- xii. Overload duration/capacity : 10% for one hour in every 12 hours of continuous use
- xiii. Frequency variation: As defined by the Engine Governor (+/- 1%)
- xiv. Voltage regulation: Less than 1% (max 1 %)
- xv. Voltage adjustment : $\pm 5\%$
- xvi. Type of Bearing and Lubrication arrangement: Anti-friction bearings with Grease lubrication
- xvii. Standard: IS 4722 & IEC:34 as amended upto date.

CONTROL PANEL

Type of Control Panel: **AMF Control Panel with IP rating of IP 53/54**

The electronic Microprocessor based AMF module shall contain the following Control and monitoring features.

- Automatic/manual start-stop engine control with programmable safety Shutdowns and associated flashing LED indicators for low oil pressure, High coolant temperature, over speed, over crank /rest Periods
- Cycle cranking adjustable.
- Cool down timer.
- Energized to run or shut shown fuel control system.
- The control panel shall have metering and measuring features like,
 - Total real power
 - Total reactive power
 - % of rated power
 - Power factor (average)
 - Total energy output
 - Real power each phase
 - Total apparent power
 - Power factor each phase
 - Total reactive energy output
 - Phase selector switch
 - Auto starts / stops control
 - Cycle crank and cool down timer
 - Digital DC Voltmeter
 - Tachometer, Hour meter
 - Emergency stop push button
 - Engine control switch for 6
 - Auto, Start / run, off / reset, stop
 - Engine speed adjust potentiometer
 - Voltage adjust potentiometer
 - Digital oil pressure and water temp gauge
 - Shutoffs with visual indicators for:
 - Low oil pressure
 - High water temperature
 - Over speed
 - Over crank
 - Low coolant level
 - System diagnostic codes
 - Programmable protective relays

- LCD digital readout for Engine oil pressure, Coolant temperature, Engine RPM, System DC volts, Engine running hours, Generator AC volts, AC Amps and frequency.
- Engine control switch
- Ammeter voltmeter phase selector switch.
- Emergency stop push button.
- Voltage adjustable potential meter.
- Speed adjust potential meter.
- Protective relay functions.
 - Over voltage
 - Under voltage
 - Over frequency
 - Under frequency
 - Over current
 - Reverse power
- The scope also includes all necessary components which are required for full filament of the system for Auto start, Auto synchronization and load sharing.

PREFERRED MAKES

- a. Engine –Greaves Power/ CUMMINS/KOEL Green/ JCB or Equivalent
- b. Alternator - STAMFORD/CGL/MECCALTE/KOEL Green or Equivalent
- c. Control Fuses - GE CONTROLS/SIEMENS/C & S
- f. Battery – Approving type

ASSEMBLY AND INSTALLATION

Components shall be assembled in factory over the trailer foundation prepared from other agencies.

The necessary fuel and exhaust piping shall be installed as per Bill of quantity. While, the fuel piping shall be carried out using medium gauge (class B) MS Pipes, and Approved makes of fittings, the exhaust piping shall be fabricated out of Medium gauge pipes of required diameter. The exhaust gas line shall be insulated up to height 2.5M above the floor level. **The pressure loss through Exhaust system does not exceed the value recommended by the manufacturer. Silencers in the exhaust system to maintain the external noise level specified by the manufacturer.**

The D.G. set shall be installed over the Anti-vibration mounts and the alignment shall be carried out. The alignment shall be well within the limits specified by the manufacturer. The installation of cabling and earthing up to the control panel shall be carried out and this shall comply with the statutory requirements. Any improvement/Modification called for the electrical inspectorate shall be carried out.

FIELD TESTING

After the assembly the unit shall be tested in the present of the client. The following tests shall be conducted on the engine and alternator.

- a) Full load test for 8 hours
- b) Over loading test on engine as per standards
- c) Fuel & Oil consumption checks
- d) Determining efficiency
- e) Meager test on alternator
- f) Checking regulation
- g) Testing of control wiring.
- h) Any other tests as may be required to satisfy the Owner/Electrical inspectorate of the performance of the Unit.

(in the company letter head)

CHECK LIST

Documents to be submitted along with the bids
(TECHNICAL BID)

S No	Description	Yes/No	Page No
1	Covering/introduction letter from the Firm referring to C-MET's tender enquiry No and date towards participation in the tender.		
2	Details of EMD (Bid Security declaration)		
3	Acceptance of terms & conditions of tender enquiry		
4	Signed copy of tender enquiry		
5	Price Reasonability Certificate		
6	Bid form and Price schedule with commercial terms WITHOUT PRICE		
7	Previous experience details alongwith documents like PO/WO etc. (not more than 3 years old)		
8	Undertaking and declaration		
9	Technical compliance statement with/without deviation		
10	Technical brochure of the Product offered or drawings		
11	GST Registration certificate or No		
12	Bank details for NEFT/RTGS		
13	Warranty		

**Documents to be submitted alongwith Commercial bids
(PRICE BID)
(Separate sealed cover)**

S No	Description	Page No
1	Bid form and Price schedule with commercial terms WITH PRICE	

(in the company letter head)

BIDDER'S DETAILS

1	Name of the supplied/party/firm	
2	Name of the authorized representative	
3	Communication address	
4	Telephone Nos.	
5	Mobile Nos.	
6	Fax and e-mail address	
7	Web address	
8	Bank details for payment through NEFT/RTGS	
9	Name of Bank	
	Branch	
	Account No	
	IFSC No	
	MICR No	
	Cancelled cheque for verification of above details	

Signature of Tenderer_____

Name_____

Business Address_____

Seal of the Tenderer_____

(in the company letter head)

**PREVIOUS EXPERIENCE DETAILS
(LAST 3 YEARS)
{01.01.2017 to 31.12.2019}**

S. No.	Name of System	Name, address, e-mail and mobile no.	Purchase Order No. & Dt.	Delivery due date as per PO	Actual date of delivery	Date of installation and commissioning
(1)	(2)	(3)	(4)	(5)	(6)	(7)

Signature of Tenderer _____

Name_____

Seal of the tenderer_____

Date:

Place:

(in the company letter head)

DETAILS ABOUT THE PRODUCT OFFERED

The following are the particulars about the Product offered:
200 KVA DIESEL GENERATOR SET

S No	Description	Product details	
1	Model/Make/Part No		
2	Year of launch of the model/Make		
3	Year of manufacturer of the model/make now offered to C-MET		
4	No of 200 KVA DG Set of the model now offered to C-MET were sold during last 1 year upto 31.12.2019 India/Hyderabad	India	
		Hyderabad	
5	Feedback (if any) from the end user of the Product on model supplied		
6	Any other information supplier would like to offer about the Product offered		

Signature of Tenderer _____

Name _____

Business Address _____

Seal of the Tenderer _____

Date:

Place:

NOTE: 1) Where there is no deviation, the statement should be returned duly signed with an endorsement indicating "No Deviations".

(in the company letter head)

PRICE REASONABILITY CERTIFICATE

It is certified that the rates quoted _____ are not more than as charged to other Govt. /PSU's for similar supplies made in recent past. Copies of the supply orders received from other Govt/PSU's are enclosed alongwith the technical bid.

Signature of Tenderer _____

Name _____

Business Address _____

Seal of the Tenderer _____

Date:

Place:

(TO BE SUBMITTED ALONG WITH TECHNICAL BID)

(in the company letter head)

UNDERTAKING/ DECLARATION

I/We having our office at _____ declare that I/we have never been blacklisted by any State Government/Central Government or any State/Central PSU.

2. I/We, _____ hereby declare that the particulars furnished by me/us in this offer are true to the best of my/our knowledge and I/We understand and accept that, if at any stage the information furnished by me/us are found to be incorrect or false, I/We am/are liable for disqualification from this tender and also liable for any penal action that may arise due to the above, besides being black listed.

3. I/We _____ hereby accept to provide warranty/ guarantee and Free Service for a period of minimum one year from the date of supply/ installation of the materials.

4. I/We _____ of _____ hereby agree on the acceptance of this tender by Director, C-MET to _____, in accordance with the terms and conditions of contract and at the rates or price specified in financial bid.

5. This is also certified that the rates quoted in the financial bid are not more than the rates charged from any other Institution/Department/ Organization in the last six months. No Other charges would be payable by the Institute.

6. I/We _____ have gone through the terms and conditions and will abide by them as laid down above. I hereby undertake that the information provided above and elsewhere in the tender is true and the tender is liable to rejection if the same is found to be false or the information is found to have been suppressed by me.

Name & Signature of the Supplier/Contractor/
Authorized signatory with Official stamp/seal

(TO BE SUBMITTED ALONG WITH TECHNICAL BID)
(in the company letter head)

To,

Date:

The Administrative Officer
C-MET, IDA Phase III
Cherlapally,
Hyderabad 500 051

Sub: Acceptance of Terms & Conditions of Tender.

Tender Reference No. _____ dated _____

Name of the Tender/Work:

Sir/Madam,

I/We have downloaded/obtained the tender document(s) for the above mentioned 'Tender/Work' for the web site(s) namely:

_____ as per your advertisement, given in the mentioned website(s)/enquiry letter.

2. I/we hereby certify that I/we have read the entire terms & conditions of the tender documents from Page No. _____ to _____ (including all documents like Annexure(s), schedules(s), etc.) which form part of the contract agreement and I/We shall abide hereby by the terms/conditions/clauses contained therein.

3. The corrigendum(s) issued from time to time by your department/organization too have all been taken into consideration, while submitting this acceptance letter.

4. I/We hereby unconditionally accept the tender conditions of above mentioned tender document (s)/Corrigendum(s) in its totally/entirely.

5. In case any provisos of this tender are found violated, then your Department/Organizations shall without prejudice to any other right or remedy be at liberty to reject this tender/bid including the forfeiture of the full said earnest money deposit absolutely.

Yours faithfully,

Name & Signature of the Supplier/Contractor/
Authorized signatory with Official stamp/seal

(in the company letter head)

BID FORM AND PRICE SCHEDULE

Tender Reference No. : ENQ. NO.: C-MET/HD/SP-41/DGSET/10/2019-20/
11620, Date : 11.02.2020

Name of the Stores/
Goods/Equipment : SUPPLY, INSTALLATION AND COMMISSIONING OF
200 KVA DIESEL GENERATOR SET

Sl. No.	Description	HSN/SN CODE	Qty.	Amount(₹)
1	SUPPLY, INSTALLATION AND COMMISSIONING OF 200 KVA DIESEL GENERATOR SET		1 No.	
	Freight charges			
	Insurance			
	Installation charges			
	Taxable value			
	GST			
	GRAND TOTAL			

(Rupees _____ only)

Signature of Tenderer _____

Name _____

Seal of the Tenderer _____

Date:

Place:

(in the company letter head)

COMPLIANCE STATEMENT IN R/O COMMERCIAL TERMS

Tender Reference No. : ENQ. NO.: C-MET/HD/SP-41/DGSET/10/2019-20/
11620, Date : 11.02.2020

Name of the Stores/
Goods/Equipment : SUPPLY, INSTALLATION AND COMMISSINING OF
200 KVA DIESEL GENERATOR SET

Sl. No.	Description	C-MET Terms	Accepted / Not Accepted	Remarks
1	Payment Terms	100% payment within 30 days against receipt, installation, commissioning, training and acceptance of material in good condition by NEFT/RTGS subject to submission of BG for 10% of basic cost covering warranty period including extended warranty period		
2	Bid Validity	120 days		
3	Delivery Schedule	Within 4 weeks from the date of placing PO		
4	Place of delivery	C-MET, Hyderabad		
5	Warranty	System supplied shall be covered under a warranty period of not less than 24 months from the date of receipt of the material at our sites with extended warranty of 36 more months		
6	Any other relevant information			

Signature of Tenderer _____

Name_____

Seal of the Tenderer_____

Date:

Place:

(TO BE SUBMITTED ALONG WITH TECHNICAL BID)

(in the company letter head)

Technical compliance statement in r/o 200 KVA DIESEL GENERATOR SET

1. SCOPE OF WORK

DESCRIPTION	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
Supply, Installation, Testing and Commissioning of 1 No. of outdoor type 200 kVA DG set including all accessories as per the detailed specifications			

2. GENERAL REQUIREMENT

DESCRIPTION	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
Standard: The Diesel Engine shall be of 'Generator set' application type & shall generally confirm to ISO 3046 / BS 5514 / IS 4722 with amendments respectively.			
Nominal Rated Capacity of 200 KVA			
No of Phase : Three Phase			
Rating: The Diesel Engine generator set shall be capable of producing the power specified in the Bill of Quantities at 0.8 power factor continuously for standby applications at the ambient conditions. Rated voltage 415 volts; voltage regulated should be less than 1%; voltage adjustment of $\pm 5\%$			
The engine generator system and accessories described herein			

shall be fully capable of operation at i) maximum ambient temperature of 40 °C and 85% of humidity.			
The engine shall have Cold starting capability up to 0 deg. C and shall have capability to start directly to RUN speed (1500 RPM) without any interim warm up speed (Idle speed). Smart starting control system to be provided.			
AMF control panel			
Electronic type of governer			
Liquid type of Engine cooling			

3. ACOUSTIC ENCLOSURE

DESCRIPTION	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
An air cleaner / silencer shall be furnished as recommended by the engine manufacturer. Air cleaners shall be dry type with replaceable elements.			
Engine exhaust outlets shall be coupled to the exhaust silencer(s) by means of an adequately sized section of stainless steel corrugated flex, and shall decrease the exhaust noise level to 70-75 dB (A scale) measured at 1 Mtr. away from exhaust end Flex. The exhaust pipe shall be covered by glass wool with 50 mm thickness, and density in range of 25 -35 kg/m3.			
Shall be suitable for housing 200 kVA model engine with 200 kVA Alternator with adopter box for Differential CT mounting and terminations of Power Cables.			
Designed to have optimum serviceability			
Fuel filling arrangement inside the enclosure			

Powder coating of all parts to withstand extreme environment			
Fluid drains for lube oil and fuel			
Govt. Approval details to be furnished			
High quality noise absorbant and fire-retardant grade acoustic insulation material complying to IS 8183			

4. BASE FRAME

DESCRIPTION	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
The diesel engine & alternator shall be perfectly aligned & assembled on sturdily fabricated adequately machined integral base frame made out of high quality MS channels. The base frame shall be provided with lifting facility & predrilled foundation holes for installation on anti-vibration mounting (AVM pads).			

5. CONTROL PANEL

The general operating parameters of each generator set are to be monitored using the state-of-the-art technology. It shall have the facility like monitoring, metering and controlling of DG set with PC interface facility. The unit shall be environmentally sealed; solid state and microprocessor based and shall have following minimum features.

Features	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
Type of Control Panel: AMF Control Panel with IP rating of IP 53/54			
❖ Make/Model of the power command control PCC: PCC 3100 or Upgraded version			

Features	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
❖ Automatic/manual start-stop engine control with programmable safety Shutdowns and associated flashing LED indicators for low oil pressure, High coolant temperature, over speed, over crank /rest Periods			
❖ Cycle cranking adjustable.			
❖ Cool down timer.			
❖ Energized to run or shut shown fuel control system.			
❖ Digital governing, voltage regulation, synchronizing and load sharing controls			
❖ Make/Model of the power command control PCC: PCC 3100 or Upgraded version with following metering and measuring features like, <ul style="list-style-type: none"> • Total real power • Total reactive power • % of rated power • Power factor (average) • Total energy output • Real power each phase • Total apparent power • Power factor each phase • Total reactive energy output • Phase selector switch • Auto starts / stops control • Cycle crank and cool down timer • Digital DC Voltmeter • Tachometer, Hour meter • Emergency stop push button 			

Features	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
<ul style="list-style-type: none"> • Engine control switch Auto, Start / run, off / reset, stop • Engine speed adjust potentiometer • Voltage adjust potentiometer • Digital oil pressure and water temp gauge • Shutoffs with visual indicators for Low oil pressure, High water temperature, Over speed, Over crank, Low coolant level • Programmable protective relays 			
❖ Quality assurance to ISO			
❖ Dust, water and Oil resistant			
❖ Key type Mode switch			

Accurate digital display of engine parameters

Digital Display of engine parameters	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
Battery voltage			
Coolant temperature			
Lube oil pressure			
Engine speed			
Engine running hours			
Frequency			
Exhaust temperature			
AC Volts / Line to line & Line to Neutral			
AC Amps - 3 phase			
KW / KWH, PF and frequency			
%age governing and regulation (site settable)			

Diagnostic and engine protections

Diagnostic and engine protections	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
High coolant temperature (trip/alarm)			
Over speed (trip/alarm)			
Low oil pressure (trip)			
Battery Over/Under/Weak Volts			
Fail to start/crank,			
Sensor failure			
Low coolant level (trip/alarm)			

Alternator protections

Alternator protections	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
Over load / Over current / Short Circuit current			
Over and Under voltage			
Over and Under Frequency			
Earth Fault			
Reverse Power			
Loss of field/Excitation			

Facilities

Facilities	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
Manual Scan			
Remote start / stop			
Panel lights			
Emergency Stop Push Button			

6. STARTING

DESCRIPTION	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
Mode of starting: by electrical-12V/ 24V DC (as per manufacturer standard) motor powered by Starting Batteries (as per manufacturer standard). Type: 12V/ 24V DC Hi pulse (latest model) makes for generator application. Batteries have to be charged by the inbuilt charger/External charger.			
The battery systems of each generator set shall consist of Lead Acid batteries/ Sealed Maintenance Free (SMF) and an automatic constant voltage charger unit for the engine starting motor and control circuit of the diesel generator sets.			

7. FUEL SYSTEM

External Fuel Tank	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
<p>Tank shall have inlet & outlet pipe connections with inlet and outlet ball valves, filling cap drain plug, level indication, level sensor & floor mounting pedestal. It shall be fed through engine driven fuel pump. A replaceable element of fuel filter shall be suitably located to permit easy servicing. The daily service tank shall be complete with necessary supports, gauges, connecting pipe work etc. In case of Top Mounted tanks, non return valves are must in fuel supply and return line of specified value. Pipe sealant should be used for sealing for all connections. No Teflon tape to be used. If piping length is more than 10 meters, detail engineering is required in consultation with OEM/ Manufacturers. 50-mm space clearance shall be left at top of the tank for oil expansion and contraction.</p>			

8. SPECIFICATIONS FOR ENGINE

Sl. No	DESCRIPTION	SPECIFICATION	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
1.	Engine model (preferred make)	Greaves Power/ CUMMINS/KOEL Green/ JCB or Equivalent			
2.	Rating at 0.8 p.f. 50 Hz	200 kVA			
3.	Engine RPM at rated Power	1500 rpm			

Sl. No	DESCRIPTION	SPECIFICATION	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
4.	MOEF certified Gross Engine Brake horsepower (BHP).	256 bhp; Suitable to deliver required alternator output of 200 kVA/160kW			
5.	Output Voltage and Frequency (V and Hz)	415 V, 50 Hz			
6.	Rated RPM of Engine	1500			
7.	Type of cooling	liquid			
8.	Overload capacity for one hour for every 11 hour continuous running at full load (%)	10			
9.	Specific fuel consumption (gm/kWh)	≤ 210-214			
10.	Engine power (KWm)	> 180			
11.	Type of Engine cooling	Liquid cooling			
12.	Type of Governer	Electronic			
13.	Aspiration Of Engine	Turbo charged after cooled			
14.	Max. Over speed allowed (trip set at) RPM	1600 to 1650 rpm			
15.	Reference Standard For the Engine.	BS5514 /ISO3046 or latest amendments			
16.	Vibration level (With & without AVM)	Max 250 microns (amplitude)			
17.	Number of Cylinders (nos)	6 in-line			

Sl. No	DESCRIPTION	SPECIFICATION	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
18.	Number of strokes	4			
19.	Class of Governor	A1/A2 for capacity 200 KVA, as per ISO 3046/ BS 5514			
20.	Starting voltage	12 V/24 V			
21.	Fuel capacity	250-500 litres, 8 Hr operation			
22.	Naturally aspirated/ turbo charger	Required as per manufacturer standard			
23.	Air cleaner (dry/ oil bath type)	Required as per manufacturer standard			
24.	Necessary gear driven oil pump for lubricating oil, priming of engine bearing as well as fuel systems	Required as per manufacturer recommendations			
25.	Crank case heater	Required as per manufacturer recommendations			
26.	Fuel injection	Engine should have suitable fuel injection system in order to achieve low fuel consumption			
27.	Conformity of engine with respect to gas emission and noise	Required as per CPCB norms			

9. SPECIFICATIONS FOR ALTERNATOR

Sl. No	CHARACTERISTICS	TECHNICAL DATA	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
1.	Make (preferred)	STAMFORD/CGL/MECCALTE/KOEL Green or Equivalent			
2.	Model	To suit our spec			
3.	Rated voltage	415 volts			
4.	Rating of AC generator (KVA)	200			
5.	Power factor of AC generator	0.8			
6.	Typical Alternator Efficiency at rated power factor at 75 % of full load	>93			
7.	Type	Self-Regulating. Brushless PMG with digital PCC AVR			
8.	No. Of phases	3			
9.	Frequency	50 Hz			
10.	Compliance of alternator	IS:13364			
11.	Enclosure	IP23			
12.	Voltage regulation (Max)	±1%			
13.	Class of insulation	H class			

Sl. No	CHARACTERISTICS	TECHNICAL DATA	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
14.	Percentage regulation	+/- 5%			
15.	Accessories	i) Space Heaters for alternator ii) Winding & Bearing Temperature sensors with scanner			
16.	Type of AVR	Electronic			
17.	Wave form	Less than 3% deviation			
18.	Overload duration/capacity	10% for one hour in every 12 hours of continuous use			
19.	Speed	1500 RPM			
20.	Unbalance load	Less than or equal to 25 %			

10. EARTHING SYSTEM

Earthing system	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
<p>1. Copper Electrode Maintenance Free Earthing system for neutral as per IS: - Providing Two number of maintenance free copper electrode earthing with Dual pipe-Flat technology of electrode made up of 50 mm dia 3Mtr. long 2mm thick copper tube as outer shell and copper tube of 40 mm dia 3Mtr. long 2 mm thick as inner shell and also with terminal flat of 32x6mm 3.1Mtr. Length copper flat with 2nos. of 12 mm dia holes for strip interconnections and the entire annual space of electrode shall be filled with highly conductive crystalline compound, top & bottom sealed with copper plate and also supply and providing of all other materials, necessary tools as required also providing suitable size earth pit including excavation and refilling of earth for installing this entire electrode in ground.</p>			
<p>2. GI Electrode Maintenance Free Earthing system for body: - Providing Two number of maintenance free GI electrode Earthing with Dual pipe-Flat technology of electrode made up of 2Mtr long, 50 mm dia outer GI pipe, 25 mm dia inner GI pipe, terminal flat of 30 x 10/ 12 x 12mm, the entire construction processed with Hot Dip Galvanization, outer surface upto 100 microns, and all inner surface up to 300 microns and the flat with 2nos. of 12 mm dia holes for strip interconnections.</p>			

11. EXHAUST PIPING

	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
Exhaust piping along with support structure should be provided as per CPWD norms			

12. WARRANTY

	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
System supplied shall be covered under a warranty period of not less than 24 months from the date of receipt of the material at our sites with extended warranty of 36 more months.			

13. ASSEMBLY AND INSTALLATION

	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
<p>Components shall be assembled in factory over the trailer foundation prepared from other agencies.</p> <p>The necessary fuel and exhaust piping shall be installed as per Bill of quantity. While, the fuel piping shall be carried out using medium gauge (class B) MS Pipes, and Approved makes of fittings, the exhaust piping shall be fabricated out of Medium gauge pipes of required diameter. The exhaust gas line shall be insulated up to height 2.5M above the floor level. The pressure loss through Exhaust system does not exceed the value recommended by the manufacturer. Silencers in the exhaust system to maintain the external noise level specified by the manufacturer.</p> <p>The D.G. set shall be installed over the Anti-vibration mounts and the alignment shall be carried out. The alignment shall be well within the limits specified by the manufacturer. The installation of cabling and earthing up to the control panel shall be carried out and this shall comply with the statutory requirements. Any improvement/Modification called for the electrical inspectorate shall be carried out.</p>			

14. FIELD TESTING

	Compliance whether "YES" OR "NO"	Deviation, if any, to be indicated in unambiguous terms	Remarks
<p>1. Pre delivery inspection (PDI)</p> <p>2. The following tests shall be conducted on the engine and alternator.</p> <ul style="list-style-type: none"> i) Full load test for 8 hours j) Over loading test on engine as per standards k) Fuel & Oil consumption checks l) Determining efficiency m) Meager test on alternator n) Checking regulation o) Testing of control wiring. <p>p) Any other tests as may be required to satisfy the Owner/Electrical inspectorate of the performance of the Unit.</p>			

Signature of Tenderer _____

Name _____

Business Address _____

Seal of the tenderer _____

Place:

Date:

(in the company letter head)

BID SECURITY DECLARATION

I hereby submit a declaration that the bid submitted by the undersigned, on behalf of the bidder. *[Name of the bidder]*, either sole or in JV, shall not be withdrawn or modified during the period of validity i. e., not less than 120 (one hundred twenty) days from the bid due date.

I, on behalf of the bidder, *[Name of the bidder]*, also accept the fact that in case the bid is withdrawn or modified during the period of its validity or if we fail to sign the contract in case the tender is awarded to us or we fail to submit a performance security before the deadline defined in clause 9 of the Tender Document, then *[Name of the bidder]* will be suspended for participation in the tendering process for the tenders of C-MET, Hyderabad for a period of one year from the bid due date of this tender.

(Signature of the authorized signatory)
Official Seal

Date:

Place:

BANK GUARANTEE FORM FOR PERFORMANCE SECURITY DEPOSIT

To

The Administrative Officer
C-MET, IDA Phase-III
Cherlapally, HCL Post
Hyderabad – 500 051
TELANGANA STATE
INDIA

WHEREAS _____ (Name and address of the supplier) (Hereinafter called "the supplier") has undertaken, in pursuance of contract no _____ dated _____ to supply (description of goods and services) (herein after called "the contract").

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of _____ (Amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

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

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

This guarantee shall be valid up to (In words) months from the date of Notification of Award i.e up to ----- (indicate date)

.....
(Signature with date of the authorized officer of the Bank)

.....
Name and designation of the officer

.....
Seal, name & address of the Bank and address of the Branch