

No. 10(61)/2009-NICSI

NATIONAL INFORMATICS CENTRE SERVICES INC.

(A Government of India Enterprise under NIC)

**6th Floor, Hall No. 2 & 3, NBCC Tower,
15, Bhikaji Cama Place, New Delhi – 110066.
Tel –2610 5054, Fax -26105212**

TENDER NO.NICSI/GENSET/2009/43

Tender Document

For

**Empanelment of vendor for
Supply, Installation and Commissioning
of
Diesel Generator Set**

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NATIONAL INFORMATICS CENTRE SERVICES INC.
(A Government of India Enterprise under NIC)
TENDER NO. NICSI/DIESEL GENERATOR/2009/43

EMPANELMENT OF VENDORS FOR THE SUPPLY, TESTING AND INSTALLATION OF Diesel GENERATOR SET.

1. Introduction

National Informatics Centre Services Inc., a Government of India Enterprise, under NIC, Department of Information Technology, Ministry of Communication and Information Technology, undertakes projects on total IT solutions involving the supply of Hardware, Software provision of Training and Support Services to various Government organizations spread throughout the country.

NICSI invites sealed bids, valid for 120 days from the date of opening from the original diesel generator manufacturers, for the supply, testing, installation and commissioning of diesel generators of capacities 5KVA, 7.5KVA, 10KVA, 15KVA and 20KVA as per annexure-A.

The empanelment of vendors for each capacity of genset will be for an initial period twelve month from the date of empanelment on the rates finalized through this tender. The empanelment can be extended for a further period of one year through mutual consent.

Bidders are requested to clearly understand the tender terms and conditions. Bids not conforming to the tender terms will not be considered.

2. AVAILABILITY OF TENDER

On-Line bidding through NICSI E-Procurement System.

The tender document is available at NICSI e-procurement site <http://eproc-nicsi.nic.in> Prospective bidders desirous of participating in this tender may view and download the tender document free of cost from above mentioned website. However bidders need to submit the tender fee of Rs. 500/- (Rupees Five hundred only) through demand draft / pay order from a schedule commercial bank drawn in favour of National Informatics Centre Services Incorporation New Delhi along with the bid.

3. IMPORTANT DATES

Date of publication	17.12.2009 at NICSI e-procurement site http://eproc-nicsi.nic.in
Start of Sale of Tender Document:	17.12.2009
Seek clarification start date	19.12.2009
Seek Clarification end date	29.12.2009
Pre-bid Meeting:	05.01.2010 at 11:30 Hrs at National Informatics Centre Services Inc., Hall No. 2 & 3, 6 th Floor, 15 NBCC Tower, 15 Bhikaji Cama Place, New Delhi
Bid submission start date	13.01.2010 at 11.30AM onwards
Bid submission end date:	21.01.2010 upto 11:00 Hrs
Opening of Tender Bids (Eligibility & Technical):	21.01.2010 at 11:30 Hrs

Annexure-A

S. No.	Component Description	Detailed specification at
1	5KVA Diesel Generator rated for 0.8 PF power.	Annexure-I
2	7.5KVA Diesel Generator rated for 0.8 PF power.	Annexure-II
3	10KVA Diesel Generator rated for 0.8 PF power.	Annexure-III
4	15KVA Diesel Generator rated for 0.8 PF power.	Annexure-IV
5	20KVA Diesel Generator rated for 0.8 PF power.	Annexure-V

4 **Eligibility Criteria**

- 1 The bidder must be a **manufacturer of Diesel Generators**.

Each capacity of genset will be treated as a Separate Tender for the purpose of evaluation, processing, empanelment and ordering. Bidders may quote any or all capacity of genset.

- 2 Annual sales turnover should be:
Genset OEM: from sale of DG sets within India At least Rs. **15 (fifteen) crores**.
Engine OEM: 300 (three hundred) crores.
Alternator OEM: 200 (two hundred) crores.

Bidders should submit audited balance sheet for all the above to substantiate their claim.

- 3 Bidder should be an ISO 9001:2000 certified Company.
- 4 The bidder must have country wide infrastructure support in the form of direct service centre or authorized service centre in major cities like Delhi, Mumbai, Hyderabad, Chennai, Bangalore, Kolkatta, Pune, Bhuwneswar etc. across the country including north eastern states however he should be capable to provide service support up to block level across the country as per defined service level during warranty/AMC support. The information should be furnished as per format given in the Technical Details Performa (Annexure-B). In case of authorized service centre, the bidders must submit the agreement copy of service support for quoted product between authorized service provider & bidders. If agreement not submitted along with the bid, tender bid may be rejected.
- 5 The bidders should have a valid VAT/ST/CST, Service Tax registration number and PAN for the bidder's firm.
- 6 Attested copies of Articles of Association (in case of registered firm), Byelaws and certificates for registration (in case of registered co-operative Societies), partnership deed (in case of partnership firm) also must be submitted along with the technical bid.
- 7 The bidder shall submit a certificate (self certified on letter head) that the firm has not been black listed by any institution of the State/Central Government in the past.
- 8 The bidders must submit signed copy of tender document and corrigendum if any or self declaration letter the he/she has read and understood all tender terms & conditions and all tender conditions are acceptable to him/her, as token of acceptance of all tender terms & conditions.
- 9 The bidders must submit copy of at least three orders executed of a value of 50 lakhs each.

The Bidders are requested to furnish documents to establish their eligibility for each of the above clauses. Relevant portions, in the documents submitted in pursuance of eligibility criterion mentioned above, should be highlighted. If tender were not accompanied by all the above documents mentioned, the same would be rejected. Undertaking for subsequent submission of any of the above document will not be entertained. However NICS reserves the right

to seek fresh set of documents or seek clarifications on the already / submitted documents. All documents should be submitted electronically in PDF format. However, Financial Bid should be submitted in XLS format.

Upon verification, evaluation / assessment, if in case any information furnished by the Bidder is found to be false / incorrect, their bid shall be summarily rejected and no correspondence on the same shall be entertained.

THE BID SUBMITTED BY ANY BIDDER NOT FULFILLING THE ELIGIBILITY CONDITIONS / CRITERIA STIPULTED ABOVE, WILL NOT BE CONSIDERED

5. TERMS & CONDITIONS

5.1 Pre-Bid Meeting

NICSI shall hold a pre bid meeting with the prospective bidders at 11:30 AM on **05.01.2010** in the NICSI conference hall. Queries received, from the bidders, two days prior to the pre bid meeting shall be addressed. The queries can be sent to NICSI through email at tender-nicsi@nic.in or faxed on **26105212**.

5.2 Bid Submission

5.2.1 Online bids (complete in all respect) must be uploaded on <http://eproc-nicsi.nic.in> latest by **11:00 hours on 21.01.2010**.

5.2.2 The Online bids should be submitted as under:

EN-1 Bank Draft(s) towards EMD and TENDER FEE in one cover sealed and superscripted "EMD and Tender Fee - NICSI tender for **"Diesel Generators"** due on **21.01.2010** at 11:00 Hrs." A letter specifying the draft details should be submitted physically. However the scanned copy of Bank drafts must be uploaded (PDF format) electronically on <http://eproc-nicsi.nic.in>.

EN-2 The PDF file, containing the following information, should be titled as

"Eligibility Criteria - NICSI tender for "Diesel Generators".

- a. Bidder's profile as per Annexure-B.
- b. Compliance sheet as per Annexure-C and the supporting documents.
- c. All the relevant documents justify eligibility mentioned in eligibility criteria.

EN-3 The PDF file, containing the following information, should be titled as

Technical Bid- NICSI tender for "Diesel Generators".

- a. Diesel Generators being quoted as per annexure-A and their technical compliance as per annexure-I to V.
- b. Deviations as per Annexure-D. Separate sheet for each configuration.
- c. Technical literature about the diesel generators offered and comparative studies available should be enclosed.

This PDF file not containing the above documents or containing the financial bid in explicit/implicit form will lead to rejection of the bid.

EN-4 The XLS file titled as 'FIN_A' for "**Financial Bid- NICSI tender for "Diesel Generators"**" and should contain the Financial Bid as per Annexure-E.

- 5.2.3 **Earnest Money Deposit (EMD)** of Rs. 10,00,000 (Rupees Ten Lakh only) has to be submitted. The EMD is to be submitted through Demand Draft / Pay Order of any Scheduled Commercial Bank drawn in favour of National Informatics Centre Services Inc., New Delhi physically **before 11:00 Hrs on 21.01.2010. Otherwise bids will be rejected. However the scanned copy of Bank drafts must be uploaded (PDF format) electronically on <http://eproc-nicsi.nic.in>.** No Bank Guarantee towards EMD will be acceptable. EMD of unsuccessful bidders will be returned, without any interest, on tender finalization. EMD of successful bidders for any annexure will be converted into bank guarantee for the period of empanelment/extended empanelment. The BG will be released after the empanelment or execution of all pending orders whichever is later.
- 5.2.4 All the bids documents should be digitally signed by the authorized signatory.
- 5.2.5 All pages of the bid being submitted must be sequentially numbered by the bidder.
- 5.2.6 NICSI will not be responsible for any delay on the part of the vendor in obtaining the terms and conditions of the tender notice or submission of the online bids.
- 5.2.7 The bids submitted by telex/ telegram/ fax/ E-mail / manually etc. shall not be considered. No correspondence will be entertained on this matter.
- 5.2.8 The rates are to be quoted in strict compliance to the financial bid otherwise the bid is liable to be rejected.**
- 5.2.9 Percentage (%) of taxes etc. if any to be claimed shall be indicated in the Price bid, otherwise it will be presumed that rates are inclusive of all taxes and no plea would be accepted in this regard after opening of the tenders.
- 5.2.10 The basic prices in Indian rupees should be quoted separately for each generator set as given in **Annexure-E Financial Bid Performa** inclusive of all accessories, Documentations of sub assemblies of quoted item and Operating Manuals, Packing, Forwarding, Freight, Insurance, Installation & commissioning charges at sites and Warranty etc. Certificates for Exemption of Octroi charges / entry tax shall be furnished by NICSI users. **It shall be the exclusive responsibility of the vendor to collect these Forms/Documents from the NICSI users.** In the absence of exemption certificates from NICSI users towards octroi / entry tax, the bidder will be re-imbursed actual charges paid by them.
- 5.2.11 The selected bidders shall be empanelled with NICSI for a period of 12 months, which can be extended for a further period of 12 months through mutual consent. Rates quoted shall be valid for the period of empanelment and the extended period, unless revised as per the provisions of clause 5.11.
- 5.2.12 The rates are to be quoted by the bidders in Indian Currency and payment shall be made to successful bidders in Indian currency only.
- 5.2.13 The price shall be for delivery at desired destination in India including installation/commissioning and complete operationalization. Installation includes making required concrete platform, input/output cables and switchgear, earthing etc. complete as required at site for operationalization of the machine.
- 5.2.14 The bidder should certify support for the supplied genset, in case NICSI/NIC or its users decide to go in for in-house maintenance or through a third party after warranty support, the vendor shall supply the spare parts to NICSI users/NICSI or a party designated by NICSI to give the complete support of minimum ten years after warranty period of supplied product.

5.2.15 Conditional tenders shall not be accepted on any ground and shall be rejected straightway. If any clarification is required, the same should be obtained before submission of the bids.

5.2.16 Bidder shall furnish a compliance statement (Point-wise) of specifications & features of offered equipments with the Technical Bid. Deviations from technical specifications should be furnished as per **Annexure-D**. Deviation on lower side of specifications will not be considered. **No deviations in terms & conditions** of the tender document will be accepted in any case.

5.3 Bid Opening:

Online bids (complete in all respect) received along with Demand Draft of tender fee & EMD (Physically) will be opened at **11:30 hours on 21.01.2010** in presence of bidders representative if available. Bid received without tender fee & EMD will be rejected straight way.

5.4 EVALUATION OF BIDS

5.4.1 Technical Evaluation

5.4.1.1 A duly constituted Technical Evaluation Committee (TEC) will first select Bidders on the basis of eligibility criteria of this tender. The Bids conforming to the eligibility criterion will be considered for further evaluation.

5.4.1.2 The TEC will evaluate the quoted gensets with respect to the technical parameters specified in this tender document. The short listed Bidders may be asked to offer each quoted capacity as per specifications set out in the annexure, along with their own test and measuring instruments and the 0.8 p.f. load for demonstration/evaluation at NICS I HQ or any other site as may be finalized by NICS I, as per schedule to be intimated to them. Alternatively TEC may visit the bidder's premises for technical evaluation, if required. During Technical Evaluation the quoted product shall be physically verified for the required tender specifications, tested for reliability, functionality, efficiency and other features as decided by the TEC. In case the bidder fails to offer the quoted products for evaluation within the prescribed limit given by the NICS I for evaluation, the bid shall be rejected. In case TEC decides to inspect the items at Bidder's/OEM's premises, the expenditure on travel etc. will be borne by NICS I.

5.4.1.3 If during the technical evaluation, any of the quoted genset fails then no subsequent chance will be given to the Bidder. However, alternate item (1) of already quoted make and model or (2) improved latest model of same make on account of technological trends which meets all the tendered technical specifications and superior in specifications then the quoted model, if available instantly on the spot could be considered by TEC for evaluation only once. Based on the demonstration/evaluation test results, Bidders will be short listed further and the names of short listed Bidders will be informed to only those Bidders who's Technical Bids qualify for opening the Financial Bids.

In their own interest the bidders are advised to ensure that the quoted Gensets offered by them for evaluation confirm to all tendered technical parameters/specifications and are functional. Quoted Genset brought/produced for evaluation not meeting complete tender specifications or lower in specification will not be considered for evaluation.

5.4.1.4 **For Technical Evaluation, Bidders have to ensure the availability of appropriate specialist, along with every type of documentation and consumable required, from their organization for interacting with TEC and evaluation team. If the required specialist along with proper documentation is not made available by**

Bidders, then such defaulting Bidders will automatically be debarred from the tender evaluation process.

5.4.2 Financial Evaluation

- 5.4.2.1 The Financial Bids of only technically qualified bidders will be opened electronically in the presence of their representatives on a specified date and time duly notified. The financial bids will then be passed on to a duly constituted Financial Evaluation Committee (FEC) for evaluation. If NICS I considers necessary, revised Financial Bids can be called, before opening the original Financial Bids. In that case, the revised bids should not be higher than the original bids.
- 5.4.2.2 L1 bidder will be worked out as per the procedure given in financial bid Annexure-E1 & E2.
- 5.4.2.3 To have a penal of bidders NICS I may ask other bidders to match the L1 rates, in case their quote is less than or equal to 120% of L1 rates. In case none of the bidder's quote falls within 120% of L1 quote, then by way of successive opportunity a panel of maximum three bidders will be formed for each capacity. The decision of NICS I arrived at, as above, will be final for empanelment and no representation of any kind shall be entertained. If none of the bidders agree to match L1 rates then L1 alone shall be on the panel.
- 5.4.2.4 The maximum period allowed for matching the L1 rates by any Bidder will not be more than 7 working days from the date of issuance of offer letter from NICS I. If the Bidder fails to match the L1 rates within stipulated time as stated above, the offer will be treated as withdrawn and will then be extended to next Bidder in the order of their bids.
- 5.4.2.6 The above process of financial evaluation and empanelment will be followed separately for all categories of gensets separately.

5.5 EMPANELMENT OF BIDDERS

- 5.5.1 The panel will be valid for a period of 12 (Twelve) months in the first instance from the date of empanelment. It may be extended for a further period of 12(Twelve months) depending upon the need of NIC / NICS I's project requirements with mutual consent.
- 5.5.2 All empanelled Bidders shall have to enter into a written agreement with NICS I for honoring all tender conditions and adherence to all aspects of fair trade practices in executing the purchase orders placed by NIC/NICS I on behalf of its clients. Empanelment letter will be issued to selected bidders on submission of required BG at the rate of Rs. 1,00,000/- (Rupees one lakh) per empanelled capacity of generator set.
- 5.5.3 In the event of an empanelled Company or the concerned division of the Company is taken over /bought over by another company or name changed, all the obligations and execution responsibilities under the agreement with the NICS I, should be passed on for compliance to the new company in the negotiation for their transfer.
- 5.5.4 If the name of the product is changed, the renamed product should have equivalent or superior in technical specifications.
- 5.5.5 The empanelment under this tender, with all its terms and conditions, can be used by NIC also.
- 5.5.6 In case L1 bidder refuses to sign empanelment within seven days of communication from NICS I, the offer would be treated as withdrawn and the bidder's EMD will be forfeited and tender for that capacity will be scrapped. If other bidders refuses to sign the empanelment after matching L1 rates, their EMD will be forfeited and offer will be

extended to other qualified bidders to make a penal. The defaulting bidder may also be debarred from participating in NICSIs tenders for a period of three years.

- 5.5.7 In case of empanelled bidder is found in breach of any condition(s) of tender or supply order, at any stage during the course of supply/installation or warranty period, the legal action as per rules/laws, shall be initiated against the bidder and EMD/Security Deposits shall be forfeited, besides debarring and blacklisting the bidder concerned for at least three years, for further dealings with NICSIs.
- 5.5.8 The bidder should not assign or sublet the empanelment or any part or it to any other vendor in any form. Failure to do so shall result in termination of empanelment and forfeiture of Security deposit,
- 5.5.9 NICSIs may, at any time, terminate the empanelment by giving written notice to the empanelled vendor without any compensation, if the empanelled vendor becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to NICSIs.

5.6 PRE-DELIVERY INSPECTION AND ACCEPTANCE OF ITEMS

- 5.6.1. The generator set must be offered in full as per ordered configuration for testing and acceptance. No genset with short supply or with different technical specifications shall be accepted for conduct of acceptance testing under any circumstances. The acceptance tests will include the verification of specifications of ordered genset, functional testing and reliability test. The genset must give same performance results as shown during initial demonstration/evaluation tests. **The delivered items, in addition to meeting the performance results as per evaluation tests,** should also contain the same sub-component (Brand/Manufacturer), design and shape as were given at the time of initial evaluation tests. Failure to fulfill any of the above-mentioned conditions will entail cancellation of the Purchase Order along with forfeiture of the EMD/Security Deposit.
- 5.6.2 The schedule for acceptance testing dates shall be provided **at least 25 days before the last date of delivery**. This needs to be strictly followed.
- 5.6.3 Normally, testing and acceptance of the generator set will be done at the bidder's premises where it will be tested as per ordered specifications. NICSIs/NIC reserves the right to reject any genset, if found unsuitable and / or not conforming to the approved / tender specifications. The rejected genset, if any, shall have to be taken back and replaced by good genset forthwith at the cost of the vendor. No payment will be made for rejected genset. The gensets which are accepted after testing should be packed and then sent along with the packing list giving serial numbers and part numbers of all possible items and copy of the acceptance test report to the actual sites of installation & commissioning. NICSIs will have the option to test and accept an item at user's premises in case of emergency situations.

5.7 DELIVERY & PENALTY

- 5.7.1 The schedule to be given for delivery at site is to be strictly adhered to in view of the strict time schedule for implementation of various Projects. Any unjustified and unacceptable delay in delivery beyond the delivery schedule as per Purchase Order (which shall not be more than **70 (Seventy) days for North-eastern States including Sikkim, J&K, Lahual-Spiti & Kinnaur in HP, Andaman Nicobar and Lakshdweep Islands and 56 (Fifty Six) days** for the rest of the locations across India from the date of Purchase Order) will render the vendor liable for liquidated damage at the rate of 0.2% (point two percent) of the purchase order value per day subject to a **maximum of 30 days**. Proof of Delivery duly signed by the user/NIC/NICSIs Project Coordinator, with his name, date of delivery, designation and office seal, legibly recorded, should reach NICSIs Head Quarters, New Delhi within 4

weeks of the delivery except for delivery in North-eastern States including Sikkim, J&K, Lahual-Spiti & Kinnaur in HP, Andaman Nicobar and Lakshdweep Islands locations. Delivery note of these locations should reach within six weeks of delivery date

- 5.7.2 If the delivery, of whole or in part, is delayed beyond 30 days from last date of delivery as given in the purchase order, NICS I will have option to cancel the purchase order to the extent of unfulfilled part of the purchase order. NICS I will be free to procure the remaining items from alternate sources at the cost and risk of the defaulting vendor, by forfeiting the EMD/Security Deposit of the Vendor. In addition, NICS I will impose a cancellation charge of 8.5% of the value of unsupplied items, which will be recovered from the pending bills or EMD/Security Deposit or by raising claims.
- 5.7.3 NICS I will impose penalty on total value of purchase order (as per clause no 5.7.1 of this tender) if the delivery of more than 20% of the total order value is delayed beyond the last date of delivery. If the delivery is delayed for the item(s) whose value is equal or less than 20% of the total order value, the penalty shall be applicable on the delayed equipment only,
- 5.7.4 On the receipt of the purchase orders the vendors within Ten (10) Days shall initiate the process of obtaining all the necessary documents directly from the user for the State Entry Permit in respective States wherever required for complete and safe delivery of the ordered products. However for cases where copy of invoice and GR (Goods Receipt) from the transporter is required for applying for road permit, the process should be so initiated by the vendor that the delivery schedule is met. Proof for the communication sent and duly receipted by the user and/or NICS I/NIC project coordinator with signature, name, designation, telephone number and preferably with office seal should be submitted to NICS I/NIC. If after such proper communication, there is any delay in the issuance of road permit from the user, the vendor will be entitled to get extension for delivery period of two weeks from the date of receipt of the road permit.
- 5.7.5 The vendor shall provide User manual along with each genset, irrespective of the fact that more then one genset may be meant for any location.

5.8 INSTALLATION SCHEDULE & PENALTY

- 5.8.1. The Bidder should install & commission (Including preparation of minimum 9 inches height concrete foundation to fix genset, if required) all the genset at specified site without any additional charge. **Installation should be completed within 30 Days (Thirty Days)** from the scheduled or actual date of delivery whichever is later for all locations. If the scheduled date of delivery / installation falls on holiday / non working day (at the delivery location), the next working day shall be treated as due date of delivery / installation. During installation at site if any item is found to be defective or broken, it will be replaced with new one by the Bidders at their own cost and risk within Four weeks. If the items are not installed at site within the stipulated time after delivery due to the 'non-responsiveness' of the vendor, **a penalty at the rate of 0.2% (zero point two percent)** of purchase order value per day subject to a maximum of **15 days** will be imposed on delayed installed items. Thereafter, NICS I holds the option to complete the installation work through alternate sources at the risk and cost of the defaulting vendor. A metallic plate indicating the service support call centre number of the vendor should be pasted on each supplied item. An installation certificate as per format given in annexure-F must be obtained from user or NIC/NICS I project coordinator as then case may be.
- 5.8.2 For Site Not Ready (SNR) cases, vendor requires to submit SNR certificate as per annexure-G signed by NIC/NICS I Coordinator of the project/ User Department. However, regarding readiness of site, the decision of the User Department/NIC/NICS I Project Coordinator will be final. No penalty will be imposed

for SNR cases, however, vendor has to install the genset within 15 days as per clause 5.8.1 of receipt of Site Ready notice from User/NICSI/NIC else it will attract penalty as per above clause- 5.8.1 recoverable from Bill.

5.9 PAYMENT

5.9.1 A pre-receipted bill, along with original excise duty gate pass (if applicable) and acceptance certificate, shall be submitted (Three copies) in the name of user, A/C NICSI, New Delhi-110066 soon after the delivery of the items along with a copy of the duly receipt delivery challan. The Bills/Invoice should be in the format and as per guidelines / instructions given in Rule 52-A, 57GG etc., of the Central Excise Rules, 1944 as amended from time to time for these items for which payment of Excise duty is applicable. **85% (Eighty Five percent)** payment will be made on complete delivery of ordered genset at the designated sites and on the submission of proof of delivery and Performance Bank Guarantee (PBG) equal to 8.5% of total order value valid for 39 months, as the case may be. Payment will be made after deducting penalty amount, if applicable. PBG will have to be renewed for such further periods till satisfactory free warranty support has been provided by the vendor for all the items supplied and installed, and there after the PBG will be returned to the vendor. If bills, complete in all aspect are submitted with all relevant documents as defined above, NICSI will ensure that the payment are made to bidder within twenty one days from the date of bill submission.

5.9.2 The balance 15% (Fifteen percent) payment would be made after submission of installation and commissioning note / certificate duly signed by user/NIC/NICSI Project Coordinator.

5.9.3 If installation is completed within the stipulated period i.e. 30 days from the date of delivery, the vendor must submit one bill for 100% payment rather than submitting two bills (one bill for delivery and one for installation).

5.9.4 In case where site for installation is not ready, NICSI will intimate to vender through a communication for site readiness & the installation should be completed with in two weeks time. In case NICSI receives a complaint from the user that the item was not installed within two week of site readiness report sent to the vendor, penalty for installation will be applicable on the vendor as per clause 5.8.1 for delayed period. In case there is delay (more than 3 months from purchase order date or one month from date of delivery, which ever is later) in site readiness, Vendor may claim balance 15% payment on submission of BG equal to 15% of purchase order value of uninstalled items, valid for period of six month. However if NICSI receive any complaint from user that supplied systems/items were not installed within two weeks of site readiness notice, the bidder will be penalized for late installation as per clause 5.8.1.

5.9.5 Payments shall be subject to deductions of any amount for which the empanelled vendor is liable under the empanelment. Further, all payments shall be made subject to deduction of TDS (Tax deduction at Source) as per the Income-Tax Act, 1961 and any other taxes.

5.9.6 All payments will be made in Indian currency & through RTGS only.

5.10 WARRANTY MAINTENANCE

5.10.1 All Gensets shall be under **three years** on-site comprehensive warranty support from the date of installation or **39 months** from date of delivery whichever is earlier at the site, including free spare parts, kits etc excluding the consumable items.

5.10.2 The vendor should fulfill the following conditions during warranty period: -

- a. Any failure in the Genset should be rectified within maximum period of 24 hours of lodging complaint at locations where bidder has their own or authorized service center. In case site happens to be other than location of service center, an additional 24 hrs will be given for travel/response time.
- b. If any of the Genset is down beyond 24 hours / 48 hours as case may be, penalty will be charged or recovered from out of withheld amount towards warranty or payment due per day per genset at the rate of **0.2% of purchase value** . Maximum Penalty will be limited to purchase order value of the genset.
- c. Any genset failing at sub-component level more than three times in three months, displaying chronic system design or manufacturing defects or Quality Control problem will be replaced by the Vendor at his cost and risk within 30 days, from the date of last failure.

5.10.3 On completion of the Warranty period, the Security Deposit without any interest accrued shall be released after satisfying that proper free warranty support has been provided during warranty period of three years. If considered necessary, suitable amount of penalty shall be recovered from the Vendor out of their due payments or from their Security Deposit or by raising claims, while releasing the Security Deposit.

5.10.4 If NICS/NIC or its user decide to put the procured genset under AMC after warranty as per the rate finalized through this tender, then bidder will have to provide the AMC support as per terms defined under warranty clause. All the clause of warranty support will be applicable during AMC period also.

5.11 PRICE VARIATION CLAUSE

5.11.1 During the validity of the offer, if the Vendor sells same capacity/model of genset to any other department/organization at a price lower than the price fixed for NICS, the vendor shall voluntarily pass on the price difference to NICS. Similarly, in the event of lowering of Government levies subsequent to the finalization of the panel, the Bidder shall automatically pass on the benefits to NICS, and in the event of increasing of Government levies subsequent to the finalization of the panel, NICS shall consider the case on merit and the pro-rata benefits to the vendor may be considered if full reference with documentary evidence is submitted.

5.12 REFUND OF EMD & SECURITY DEPOSIT

5.12.1 The Earnest Money Deposit (EMD) will be refunded as follows.

1. In the case of those bidders who fail to qualify the eligibility criteria, those bidders whose technical bids do not qualify & those bidders who are not empanelled in this tender the EMD will be refunded without any interest accrued within one month after completion of tender process.
2. In case of those bidders whose tender bids are accepted for the empanelment, EMD will be refunded on receipt of **Security Deposit of amount Rs. One lakh for each empanelled capacity (i.e. 5KVA, 7.5KVA, 10KVA, 15KVA, 20 KVA) Genset.** Security Deposit shall be in the form of Bank Guarantee (BG) drawn in the name of National Informatics Centre Services Inc Hall No. 2&3, 6th Floor, NBCC Tower, 15 Bhikaji Cama Place, New Delhi – 110 066, **valid for a period of 12 (twelve months)** and shall be renewed by the bidder till Empanelment lasts or the orders placed are executed, whichever is later. No interest will be payable for the Security Deposit.
3. On completion of the warranty period of ordered genset, the Security Deposit without any interest accrued shall be released after ascertaining that satisfactory support has been provided during the warranty period. In case, it is found that appropriate satisfactory support has not been provided by the Bidder, NICS/NIC

will ensure that the prescribed penalty for the default in service has been realized or shall be recovered from the Bidder out of already due payments.

5.13 INDEMNITY

The selected vendor shall indemnify the NIC/NICSI/User departments against all third party claims of infringement of patent, trademark/copyright or industrial design rights arising from the use of the supplied items and related services or any part thereof. NIC/NICSI/User department stand indemnified from any claims that the vendor's manpower may opt to have towards the discharge of their duties in the fulfillment of the purchase orders. NIC/NICSI/User department also stand indemnified from any compensation arising out of accidental loss of life or injury sustained by the vendor's manpower while discharging their duty towards fulfillment of the purchase orders.

5.14 FORCE MAJEURE

If at any time, during the continuance of the empanelment, the performance in whole or in part by either party of any obligation under the empanelment is prevented or delayed by reasons of any war, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics quarantine restrictions, strikes, lockouts or acts of God (hereinafter referred to as "events"), provided notice of happenings of any such event is duly endorsed by the appropriate authorities/chamber of commerce in the country of the party giving notice, is given by party seeking concession to the other as soon as practicable, but within 21 days from the date of occurrence and termination thereof and satisfies the party adequately of the measures taken by it, neither party shall, by reason of such event, be entitled to terminate the empanelment, nor shall either party have any claim for damages against the other in respect of such nonperformance or delay in performance, and deliveries under the empanelment shall be resumed as soon as practicable after such event has come to an end or ceased to exist and the decision of the purchaser as to whether the deliveries have so resumed or not, shall be final and conclusive, provided further, that if the performance in whole or in part or any obligation under the empanelment is prevented or delayed by reason of any such event for a period exceeding 60 days, the purchaser may at his option, terminate the empanelment.

5.15 TERMINATION FOR DEFAULT

5.15.1 Default is said to have occurred

- I. If the vendor fails to deliver any or all of the services within the time period(s) specified in the purchase order or any extension thereof granted by NICSI.
- II. If the vendor fails to perform any other obligation(s) under the empanelment

5.15.2 If the vendor, in either of the above circumstances, does not take remedial steps within a period of 30 days after receipt of the default notice from NICSI (or takes longer period in spite of what NICSI may authorize in writing), NICSI may terminate the empanelment / purchase order in whole or in part. In addition to above, NICSI may at its discretion also take the following actions:

NICSI may procure, upon such terms and in such manner, as it deems appropriate, goods similar to the undelivered items/products and the defaulting vendor shall be liable to compensate NICSI for any extra expenditure involved towards goods and services to complete the scope of work in totality or 8.5% of the total value of purchase order as cancellation charges whichever is higher.

5.15.3 NICSI may at any time terminate the purchase order / empanelment by giving one month written notice to the Vendor, without any compensation to the Vendor, if the Vendor becomes bankrupt or otherwise insolvent

5.16 ARBITRATION

- 5.16.1 In case any dispute or difference arises out of or in connection with or the carrying out of works (whether during the progress of the works or after their completion & whether before or after the termination, abandonments or breach of contract) except as any of the accepted matters, provided hereunder, the parties hereto, shall first endeavor to settle such disputes of differences amicably.
- 5.16.2 If both the parties fail to reach such amicable settlement, then either party (The Purchaser or Contractor) may (within 20 days of such failure) give a written notice to the other party requiring that all matter in dispute or difference be arbitrated upon. Such written notice shall specify the matters which are in difference or differences of which such written notice has been given and no other shall be reoffered to the arbitration of a single arbitrator, to be appointed by both the parties or in case of disagreement as to the appointment of a single arbitrator, to that of two arbitrators, one to be appointed by each party or in case of said arbitrators not agreeing then, to the umpire to be appointed by the arbitrators in writing before entering upon the references. Provisions of Indian Arbitration & Conciliations Act, 1996 or any statutory modification or re-enactment thereof and rules framed there under from time to time shall apply to such arbitration.
- 5.16.3 Venue of arbitration shall be New Delhi.
- 5.16.4 The arbitrators or arbitrators appointed under this Article shall have the power to extend the time to make the award with the consent of parties.
- 5.16.5 Pending reference to arbitration, the parties shall make all endeavors to complete the work in all respect. Disputes, if any, will finally be settled in the arbitration.
- 5.16.6 Upon every or any such references to the arbitration, as provided herein the cost of and incidental to the reference and Award respectively shall at the discretion of the arbitrator, or the umpire, as case may be.
- 5.16.7 The award of arbitrator or arbitrators, as the case may be, Shall be final and binding on the parties. It is agreed that the Contractor shall not delay the carrying out of the works by reason of any such matter, question or dispute being referred to arbitration, but shall proceed with the works with all due diligence. The Purchaser and the Contractor hereby also agree that arbitration under this clause shall be the condition precedent to any right of action under the contract except for as provided for in the Tender.

5.17 APPLICABLE LAW

- 5.17.1 The vendor shall be governed by the laws and procedures established by Govt. of India, within the framework of applicable legislation and enactment made from time to time concerning such commercial dealings/processing.
- 5.17.2 NICSI reserves the right to cancel this tender or modify the requirement without assigning any reasons. NICSI will not be under obligation to give clarifications for doing the aforementioned.
- 5.17.3 NICSI reserves the right that the work can be allocated to any of the empanelled vendors.
- 5.17.4 NICSI also reserves the right to modify/relax any of the terms & conditions of the tender.
- 5.17.5 NICSI, without assigning any further reason can reject any tender(s), in which any prescribed condition(s) is/are found incomplete in any respect.

- 5.17.6 NICS I also reserves the right to award works/supply order on quality/technical basis, which depends on quality/capability of the system and infrastructure of the firm. Bidder(s) are, therefore, directed to submit the tender carefully along with complete technical features of the products/systems as well as other documents required to access the capability of the firm.
- 5.17.7 All procedure for the purchase of stores laid down in GFR and DFPR shall be adhered-to strictly by the NICS I and subordinates and Bidders are bound to respect the same.

5.18 MISCELLANEOUS

- 5.18.1 The empanelment under this tender is not assignable by the selected vendor. The selected vendor shall not assign its contractual authority to any other third party. As a matter of policy and practice and on the basis of Notification published in Gazette of India dated 14th March, 1998, it is clarified that services and supplies of the vendor selected through this tender can be availed by both National Informatics Center [NIC] and National Informatics Center Services Incorporated [NICS I], as the case may be depending on the project, and the selected vendor shall be obliged to render services / supplies to both or any of these organizations as per the indent placed by the respective organization. In other words, the selection procedure adopted in this tender remains applicable for NIC as well, and in the event of rendering services / supplies to NIC, the selected vendor shall discharge all its obligations under this tender vis-à-vis NIC. Any default or breach in discharging obligations under this tender by the selected vendor while rendering services / supplies to NIC, shall invite all or any actions / sanctions, as the case may be, including forfeiture of EMD, security deposit, invocation of performance guarantee stipulated in this tender document
- 5.18.2 The decision of NICS I/NIC arrived at as above will be final and no representation of any kind will be entertained on the above. Any attempt by any Bidder to bring pressure of any kind, may disqualify the Bidder for the present tender and the Bidder may also be liable to be debarred from bidding for NICS I/NIC tenders in future for a period of at least three years.
- 5.18.3 Any conditions mentioned in their tender bids by the bidders which are not in conformity to the conditions set forth in the tender will not be accepted by NICS I/NIC. All the terms and conditions for the supply, testing and acceptance, payment terms penalty etc. will be as those mentioned herein and no change in the terms and conditions set by the bidders will be acceptable. Alterations, if any, in the tender bid should be attested properly by the bidders, failing which the bid will be rejected.
- 5.18.4 NICS I/NIC may use this tender for executing any projects anywhere in India during the validity of this tender.
- 5.18.5 All terms and conditions governing prices and supply given above, as applicable to NICS I, will be made equally applicable to NIC.
- 5.18.6 NICS I reserves the right to modify and amend any of the above-stipulated condition/criterion depending upon Project priorities vis-à-vis urgent commitments. NICS I also reserves the right to accept /reject any bid, to cancel / abort tender process and / or reject all bids at any time prior to award of empanelment, without thereby incurring any liability to the affected agencies on the grounds of such action taken by the NICS I.
- 5.18.7 Any default by the bidders in respect of tender terms & conditions will lead to rejection of the bid & forfeiture of EMD/Security Deposit.

(Authorized Signatory)
NICS I
(Tender Process Section)

S. No.	Location	Name of Center Full Postal Address with Telephone Nos.	Year of Setup	Own centre Or Franchisee	Whether spares are stocked (Y/N)
1					
2					
-					
-					

g) Please use additional sheets of paper wherever necessary.

h) The technical bid must be submitted as a PDF document with each page numbered and carrying an index of page numbers for the above information.

Date:
Place:

Signature
Name:

SEAL

Compliance sheet

Name of the Bidder:

SI No.	Tender No		Page no. Of the Tender Bid
1	OEM of quoted item	Yes/No	
2	Bidders valid Certificate of ISO 9000:2001	Yes/No	
3	Copies of Audited Balance sheet showing turnover from sale of Diesel Generator for OEM genset, OEM engine, OEM alternator.	Yes/No	
4	List of Service Centers/authorized service centers	Yes/No	
5	Copies of STax/VAT Service Tax PAN	Yes/No	
6	Articles of Association etc.	Yes/No	
7	Not Black listed (Self Certificate)	Yes/No	
8	EMD details, Tender Fee	Yes / No	
9	Certificate of support after expiry of warranty for 10 years	Yes/No	

Date:
Place:

Signature

Name:

SEAL

STATEMENT OF DEVIATIONS FROM TECHNICAL SPECIFICATIONS

S. No.	Component Description	Make	Model	Technically Compliant (Yes / No)	Deviation if any
1	5KVA Diesel Generator rated for 0.8 PF power.				
2	7.5KVA Diesel Generator rated for 0.8 PF power.				
3	10KVA Diesel Generator rated for 0.8 PF power.				
4	15KVA Diesel Generator rated for 0.8 PF power.				
5	20KVA Diesel Generator rated for 0.8 PF power.				

Note: Deviations on the lower side of technical specs will not be accepted.

Signature of the Bidder
Name
Date
Place
Company Seal

FINANCIAL BID PROFORMA FOR DIESEL GENERATORS

Prices in Financial Bid should be quoted in the following format. All prices should be quoted for three years warranty on Diesel Generator.

Vendor:

Description of quoted Diesel Generator	Particulars		With 3 year warranty
(1)	(2)	(3)	(4)
5KVA Diesel Generator rated for 0.8PF power”	A	Cost of Basic Generator	
	B	Excise Duty	
	C	Sales Tax on A (in %)	
	D	Installation & Commissioning Charges of Generator	
	E	Service Tax on D (in %)	
	F	Total Cost of Generator (A+B+C+D+E)	
Additional items for 5KVA capacity of Generator	1	Post Warranty on-site Comprehensive annual maintenance of Generator as % of basic cost of generator	
	2	Supply of 4x10 Sq mm armored aluminum cable per meter	
	3	Laying of above cable (Wall supported / open) per meter	
	4	Laying of above cable (Under ground) per meter	
	5	End termination of above Cable (4 Nos. terminations)	
	6	Exhaust piping with aluminium cladding (where needed) per meter	
7.5KVA Diesel Generator rated for 0.8PF power”	A	Cost of Basic Generator	
	B	Excise Duty	
	C	Sales Tax on A (in %)	
	D	Installation & Commissioning Charges of Generator	
	E	Service Tax on D (in %)	
	F	Total Cost of Generator (A+B+C+D+E)	
Additional items for 7.5KVA capacity of Generator	1	Post Warranty on-site Comprehensive annual maintenance of Generator as % of basic cost of generator	
	2	Supply of 4x16 Sq mm armored aluminum cable per meter	
	3	Laying of above cable (Wall supported / open) per meter	
	4	Laying of above cable (Under ground) per meter	
	5	End termination of above Cable (4 Nos. terminations)	
	6	Exhaust piping with aluminium cladding (where needed) per meter	
10KVA Diesel Generator rated for 0.8PF power”	A	Cost of Basic Generator	
	B	Excise Duty	
	C	Sales Tax on A (in %)	
	D	Installation & Commissioning Charges of Generator	
	E	Service Tax on D (in %)	

	F	Total Cost of Generator (A+B+C+D+E)	
Additional items for 10KVA capacity of Generator	1	Post Warranty on-site Comprehensive annual maintenance of Generator as % of basic cost of generator	
	2	Supply of 4x25 Sq mm armored aluminum cable per meter	
	3	Laying of above cable (Wall supported / open) per meter	
	4	Laying of above cable (Under ground) per meter	
	5	End termination of above Cable (4 Nos. terminations)	
	6	Exhaust piping with aluminium cladding (where needed) per meter	
15KVA Diesel Generator rated for 0.8PF power”	A	Cost of Basic Generator	
	B	Excise Duty	
	C	Sales Tax on A (in %)	
	D	Installation & Commissioning Charges of Generator	
	E	Service Tax on D (in %)	
	F	Total Cost of Generator (A+B+C+D+E)	
Additional items for 15KVA capacity of Generator	1	Post Warranty on-site Comprehensive annual maintenance of Generator as % of basic cost of generator	
	2	Supply of 4x35 Sq mm armored aluminum cable per meter	
	3	Laying of above cable (Wall supported / open) per meter	
	4	Laying of above cable (Under ground) per meter	
	5	End termination of above Cable (4 Nos. terminations)	
	6	Exhaust piping with aluminium cladding (where needed) per meter	
20KVA Diesel Generator rated for 0.8PF power”	A	Cost of Basic Generator	
	B	Excise Duty	
	C	Sales Tax on A (in %)	
	D	Installation & Commissioning Charges of Generator	
	E	Service Tax on D (in %)	
	F	Total Cost of Generator (A+B+C+D+E)	
Additional items for 20KVA capacity of Generator	1	Post Warranty on-site Comprehensive annual maintenance of Generator as % of basic cost of generator	
	2	Supply of 4x35 Sq mm armored aluminum cable per meter	
	3	Laying of above cable (Wall supported / open) per meter	
	4	Laying of above cable (Under ground) per meter	
	5	End termination of above Cable (4 Nos. terminations)	
	6	Exhaust piping with aluminium cladding (where needed) per meter	

1. LQ-1 for genset for each capacity is the bidder quoting least rates in Col (4) row (F) of respective capacity of genset. Where Col (F) stands for “**Total cost of Generator**”.
2. LQ1 rate of additional items will be vendor independent. LQ-1 rate for additional items will be the lowest rate quoted in col (4) for each item. All empanelled bidder shall match the LQ-1 rates of additional items of their empanelled Generator

capacity, failing which their bid for that generator capacity is liable to be rejected. However, for matching the rates, incredibly low or rates quoted by mistake or zero rates wouldn't be considered. Vendors quoting such rates would lose their EMD.

3. Financial bid must be submitted in the exact format as given in XLS file. The bid may be rejected if same format is not used.
4. Excise Duty & Sales Tax must be indicated in % only explicitly.
5. Unit Price should include packing, forwarding, freight, insurance, installation, commissioning, warranty or any other charges for supply at any where in India.
6. Entry Tax / Octroi will be reimbursed as per actual wherever applicable.

Date :
Place:

**Authorized Signatory
Name:**

SEAL

(ANNEXURE-I)

TECHNICAL SPECIFICATIONS FOR DIESEL GENERATORS 5KVA

S. No.	Component Name	Required Specifications
1.	ENGINE:	
	COOLING SYSTEM REQD.	Air cooled, Water/Coolant cooled
	WATER LEVEL MAINTENANCE	The Water cooled system of the engine should be equipped with in built expansion tank so that frequent topping up of water/daily check of water level is not needed. Only a top up at 250 hours should suffice. Engine should have high quality and finish to make it a zero leakage system. Similarly the water system should have seals etc. to ensure no water leakage from the water pump.
	OUTPUT	The ENGINE should be capable of developing sufficient output HP under site temperature conditions of 45 degree C to ensure full output from 5 kVA alternator.
	MINIMUM HP	Not less than 10 B.H.P continuous rated.
	SPEED	1500/3000 rpm
	FUEL PUMP	The pump should be of MONOBLOCK design of MICO or equivalent make to ensure better governing and easy repair in the field.
	GOVERNOR	Mechanical / electronic
	NO. OF CYLINDERS	Multi cylinder, in accordance with is 10001-1981 with latest amendments.
	RECOMMENDED MAKES OF ENGINE	KIRLOSKAR/CUMMINS/MAHINDRA/GREAVES/EICHER/ ESCORTS OR EQUIVALENT.
	FLYWHEEL	Of suitable diameter and weight (indicate the diameter and the weight).
	OVERLOAD CAPACITY	Engine should be capable of providing 10% overload for 1 hour for every 11 hour continuous running at full load
	ENGINE ASPIRATION	Naturally Aspirated
	STANDARD THAT THE ENGINE SHOULD MEET	IS/BS (IS 10000/BS:5514/BS:649).
	RADIATOR	Heavy duty with fan (provide technical details).
	SILENCER	Residential type with exhaust piping with vibration isolators (provide technical details).
	STARTING	Equipment like electric motor, battery, charging alternator etc. Provision for hand start in addition to electric start.
ACCESSORIES	Fuel injection equipment, air cleaner, voltage regulator, anti vibration mounting pads, speed controlling governor, suitable coupling system to the alternator, tachometer, lubricating oil temperature and pressure gauge, rpm indicator and hour meter to indicate number of hrs. of operation, auto trip on low oil pressure, over speed alarm with trip, thermal insulation for exhaust line with glass wool, aluminium sheet, chicken mesh, diesel line of suitable diameter.	
PROTECTION	Against low lubricating oil pressure, high water temperature shall be provided for engine with alarm and fuel shut off.	
2.	ACOUSTIC ENCLOSURE	The enclosure supplied should be fan less ensuring not more than 5-7 degree C temperature rise with natural air circulation. The noise level should not be more than 75 dBA at 1 meter distance.

		Enclosure should be duly type approved by CPCB authorized lab. The enclosure must be fitted with sheet steel of 1.2/1.6 mm thickness, seven tank pretreated and powder coated with pure polyester powder to enable outdoor installation.
3.	FUEL TANK	Fuel tank with capacity of 12 hours continuous running at full load with necessary piping, fuel gauge, drain valve, inlet and outlet connectors complete in all respect.
4.	ENVIRONMENTAL CONDITIONS	Shall meet requirement of rules 1986 as laid down by Ministry of Environment & Forest read with GSR No. 371 (E) dated: 17.05.2002, GSR 520 (E) dated: 01.07.2003 and GSR 448 (E) dated: 12.07.2004 in respect to emission norms for the engine and in respect of noise level for the DG sets.
5.	ALTERNATOR	Self excited and self regulated alternator should be of brushless type with VG-I grade of voltage regulation giving an output of 5 KVA, single phase 230/240 Volts, 50 Hz, 0.8 (lag) power factor, 2 wire close coupled to the Engine. Class of insulation should be Class "H". Alternator should meet IS 13364 (part-I):1992/2003. Alternator should be capable of 10% overload for one hour and 50% overload for one minute in 12 hours. Permissible voltage variation - +/-1.5% of rated voltage.
	PROTECTION	Screen protected drip proof with IP 21 degree of protection as per IS: 4691/85.
	FRAME	Engine and alternator shall be coupled and mounted on sturdy, fabricated, welded construction base frame.
	RECOMMENDED MAKES OF ALTERNATOR	KIRLOSKAR ELECTRIC/CROMPTON/LEROY SOMER/ STAMFORD/Elgi/CGL/KEC or equivalent.
6.	AUTO MAINS FAILURE (AMF) CONTROL PANEL	<p>The AMF control panel shall have the following instruments and accessories:</p> <p>(a) Microprocessor based genset controller with composite meter for digital display Of:</p> <ol style="list-style-type: none"> i) Output voltage/AC Mains voltage. ii) Output Current. iii) Power Factor iv) Frequency. v) kWh vi) Three attempts engine start/engine cranking relay. vii) On-delay timer for load change over. viii) On-delay timer for engine shut off. <p>(b) Mode selector switch for setting the panel on any one position such as OFF/auto/manual/test.</p> <p>(c) Engine ON-OFF switch (Push button type)</p> <p>(d) MCCB of suitable rating shall be provided.</p> <p>(e) Rectangular aluminum bus bars (one number for each phase, neutral and earthing terminal) of adequate ratings duly colour coded with heat shrinkable PVC sleeves.</p> <p>(f) Two contactors of suitable rating (one for DG set & one for AC mains) with over load relay.</p> <p>(g) Under-voltage relay for mains.</p> <p>(h) Battery charger complete with voltage regulator, float or booster selector switch, ON-OFF switch, voltmeter and ammeter for charging the battery from mains. This will be in addition to the battery charging alternator fitted on the engine.</p> <p>(i) Instrument & Control Fuses.</p> <p>(j) Five number indicating lamps to indicate 'mains ON', 'load on mains', 'set running', 'load on set' and 'battery charger on'.</p> <p>(K) Audio visual alarm for 'Low lubricating oil</p>

		<p>pressure', 'High cylinder head temperature', 'Start failure' and 'DG over load'.</p> <p>(l) Any other switch, instrument, relay or contactor etc. essential for smooth and trouble free functioning of DG set with AMF panel is to be specified by the tenderers in their offer with complete detail of the item.</p> <p>The panel should be within the D G set acoustic enclosure. The system should have an inbuilt By PASS Change Over switch to ensure that in case of AMF / D G Set failure the mains can get directly connected to the load. Make of Contactors acceptable - ABB/Siemens/Schneider/LG (LS) / L&T Make of Microprocessor - Procom / Control & Switchgear / Sun Automation/ Minilec and equivalent.</p>
7.	BATTERY	Battery of very low maintenance - 85 AH or higher lead acid type Make – Amron / Standard Furukawa/ Exide / Amco / Prestolite /Panasonic.
8.	SIZE AND WEIGHT	Should be minimum (provide details).
9.	INSTALLATION DETAILS	<p>*2 Nos. of GI plate earthing.</p> <p>*Concrete Cement Foundation of size as per DG set and having a height above ground of at least 9 inches.</p> <p>*Length of input/output cables upto a length of 20 mts. May be included in the installation cost and quote additionally for:</p> <p>*4x10 Sq mm armoured aluminium cable (quote as rate per meter)</p> <p>*Cable laying - wall supported/open a(quote as rate per meter)</p> <p>*Cable laying - under ground (quote as rate per meter)</p> <p>*End termination of Cable - 4 terminations(quote as lumpsum)</p> <p>*Exhaust piping with aluminium cladding (where needed) (quote as rate per meter)</p> <p>*Testing of the DG set at the site for 1 hour and handover</p>
10	ANNUAL MAINTENANCE CONTRACT	
	Scope	After expiry of three years warranty, AMC shall be awarded to the vendor on comprehensive maintenance basis, which includes preventive maintenance, breakdown maintenance and any other required maintenance jobs as per the Terms and Conditions and rates specified in the AMC agreement. Should cover cost of all scheduled and unscheduled maintenance for 1000 hours running per annum including labour charges, servicing and replacement of all types of spares complete as required.
	Probable Items to be covered in AMC, this is not an exhaustive list of all the items but indicative only	Mobile Oil, Filters - All types, Belts, Rubber Parts, Gaskets, AVR's, Contactors & their coils, MCB's, Meters, Coolant, Locks, Hinges, Exhaust Bellows, Control Relays, controller.

(ANNEXURE-II)

TECHNICAL SPECIFICATIONS FOR DIESEL GENERATORS 7.5KVA

S. No.	Component Name	Required Specifications
1.	ENGINE:	
	COOLING SYSTEM REQD.	Air cooled, Water/Coolant cooled
	WATER LEVEL MAINTENANCE	The Water cooled system of the engine should be equipped with in built expansion tank so that frequent topping up of water/daily check of water level is not needed. Only a top up at 250 hours should suffice. Engine should have high quality and finish to make it a zero leakage system. Similarly the water system should have seals etc. to ensure no water leakage from the water pump.
	OUTPUT	The ENGINE should be capable of developing sufficient output HP under site temperature conditions of 45 degree C to ensure full output from 7.5 kVA alternator.
	MINIMUM HP	Not less than 12 B.H.P continuous rated.
	SPEED	1500/3000 rpm
	FUEL PUMP	The pump should be of MONOBLOCK design of MICO or equivalent make to ensure better governing and easy repair in the field.
	GOVERNOR	Mechanical / electronic
	NO. OF CYLINDERS	Multi cylinder, in accordance with is 10001-1981 with latest amendments.
	RECOMMENDED MAKES OF ENGINE	KIRLOSKAR/CUMMINS/MAHINDRA/GREAVES/EICHER/ESCORT OR EQUIVALENT.
	FLYWHEEL	Of suitable diameter and weight (indicate the diameter and the weight).
	OVERLOAD CAPACITY	Engine should be capable of providing 10% overload for 1 hour for every 11 hour continuous running at full load
	ENGINE ASPIRATION	Naturally Aspirated
	STANDARD THAT THE ENGINE SHOULD MEET	IS/BS (IS 10000/BS:5514/BS:649).
	RADIATOR	Heavy duty with fan (provide technical details).
	SILENCER	Residential type with exhaust piping with vibration isolators (provide technical details).
STARTING	Equipment like electric motor, battery, charging alternator etc. Provision for hand start in addition to electric start.	
ACCESSORIES	Fuel injection equipment, air cleaner, voltage regulator, anti vibration mounting pads, speed controlling governor, suitable coupling system to the alternator, tachometer, lubricating oil temperature and pressure gauge, rpm indicator and hour meter to indicate number of hrs. of operation, auto trip on low oil pressure, over speed alarm with trip, thermal insulation for exhaust line with glass wool, aluminium sheet, chicken mesh, diesel line of suitable	

		diameter.
	PROTECTION	Against low lubricating oil pressure, high water temperature shall be provided for engine with alarm and fuel shut off.
2.	ACOUSTIC ENCLOSURE	The enclosure supplied should be fan less ensuring not more than 5-7 degree C temperature rise with natural air circulation. The noise level should not be more than 75 dBA at 1 meter distance. Enclosure should be duty type approved by CPCB authorized lab. The enclosure must be fitted with sheet steel of 1.2/1.6 mm thickness, seven tank pretreated and powder coated with pure polyester powder to enable outdoor installation.
3.	FUEL TANK	Fuel tank with capacity of 12 hours continuous running at full load with necessary piping, fuel gauge, drain valve, inlet and outlet connectors complete in all respect.
4.	ENVIRONMENTAL CONDITIONS	Shall meet requirement of rules 1986 as laid down by Ministry of Environment & Forest read with GSR No. 371 (E) dated: 17.05.2002, GSR 520 (E) dated: 01.07.2003 and GSR 448 (E) dated: 12.07.2004 in respect to emission norms for the engine and in respect of noise level for the DG sets.
5.	ALTERNATOR	Self excited and self regulated alternator should be of brushless type with VG-I grade of voltage regulation giving an output of 7.5 KVA, single phase 230/240 Volts, 50 Hz, 0.8 (lag) power factor, 2 wire close coupled to the Engine. Class of insulation should be Class "H". Alternator should meet IS 13364 (part-I):1992/2003. Alternator should be capable of 10% overload for one hour and 50% overload for one minute in 12 hours. Permissible voltage variation - +/-1.5% of rated voltage.
	PROTECTION	Screen protected drip proof with IP 21 degree of protection as per IS: 4691/85.
	FRAME	Engine and alternator shall be coupled and mounted on sturdy, fabricated, welded construction base frame.
	RECOMMENDED MAKES OF ALTERNATOR	KIRLOSKAR ELECTRIC/CROMPTON/LEROY SOMER/STAMFORD/Elgi/CGL/KEC or equivalent.
6.	AUTO MAINS FAILURE (AMF) CONTROL PANEL	<p>The AMF control panel shall have the following instruments and accessories:</p> <p>(a) Microprocessor based genset controller with composite meter for digital display Of:</p> <ol style="list-style-type: none"> i) Output voltage/AC Mains voltage. ii) Output Current. iii) Power Factor iv) Frequency. v) kWh vi) Three attempts engine start/engine cranking relay. vii) On-delay timer for load change over. viii) On-delay timer for engine shut off. <p>(b) Mode selector switch for setting the panel on any one position such as OFF/auto/manual/test.</p> <p>(c) Engine ON-OFF switch (Push button type)</p> <p>(d) MCCB of suitable rating shall be provided.</p> <p>(e) Rectangular aluminum bus bars (one number for each phase, neutral and earthing terminal) of adequate ratings duly colour coded with heat shrinkable PVC sleeves.</p> <p>(f) Two contactors of suitable rating (one for DG set & one for AC mains) with over load relay.</p> <p>(g) Under-voltage relay for mains.</p>

		<p>(h) Battery charger complete with voltage regulator, float or booster selector switch, ON-OFF switch, voltmeter and ammeter for charging the battery from mains. This will be in addition to the battery charging alternator fitted on the engine.</p> <p>(i) Instrument & Control Fuses.</p> <p>(j) Five number indicating lamps to indicate 'mains ON', 'load on mains', 'set running', 'load on set' and 'battery charger on'.</p> <p>(K) Audio visual alarm for 'Low lubricating oil pressure', 'High cylinder head temperature', 'Start failure' and 'DG over load'.</p> <p>(l) Any other switch, instrument, relay or contactor etc. essential for smooth and trouble free functioning of DG set with AMF panel is to be specified by the tenderers in their offer with complete detail of the item.</p> <p>The panel should be within the D G set acoustic enclosure. The system should have an inbuilt By PASS Change Over switch to ensure that in case of AMF / D G Set failure the mains can get directly connected to the load. Make of Contactors acceptable - ABB/Siemens/Schneider/LG (LS) / L&T Make of Microprocessor - Procom / Control & Switchgear / Sun Automation/ Minilec and equivalent.</p>
7.	BATTERY	Battery of very low maintenance - 85 AH or higher lead acid type Make - Amron/ Standard Furukawa/ Exide / Amco / Prestolite/Panasonic.
8.	SIZE AND WEIGHT	Should be minimum (provide details).
9.	INSTALLATION DETAILS	<p>*2 Nos. of GI plate earthing.</p> <p>*Concrete Cement Foundation of size as per DG set and having a height above ground of at least 9 inches.</p> <p>*Length of input/output cables upto a length of 20 mts. May be included in the installation cost and quote additionally for:</p> <p>*4x16 Sq mm armoured aluminium cable (quote as rate per meter)</p> <p>*Cable laying - wall supported/open a(quote as rate per meter)</p> <p>*Cable laying - under ground (quote as rate per meter)</p> <p>*End termination of Cable - 4 terminations(quote as lumpsum)</p> <p>*Exhaust piping with aluminium cladding (where needed) (quote as rate per meter)</p> <p>*Testing of the DG set at the site for 1 hour and handover.</p>
10	ANNUAL MAINTENANCE CONTRACT	
	Scope	After expiry of three years warranty, AMC shall be awarded to the vendor on comprehensive maintenance basis, which includes preventive maintenance, breakdown maintenance and any other required maintenance jobs as per the Terms and Conditions and rates specified in the AMC agreement. Should cover cost of all scheduled and unscheduled maintenance for 1000 hours running per annum including labour charges, servicing and replacement of all types of spares complete as required.
	Probable Items to be covered in AMC, this is not an exhaustive list of all the items but	Mobile Oil, Filters - All types, Belts, Rubber Parts, Gaskets, AVR's, Contactors & their coils, MCB's, Meters, Coolant, Locks, Hinges, Exhaust Bellows, Control Relays, controller.

	indicative only	
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(ANNEXURE-III)

TECHNICAL SPECIFICATIONS FOR DIESEL GENERATORS 10KVA

S. No.	Component Name	Required Specifications
1.	ENGINE:	
	COOLING SYSTEM REQD.	Air cooled, Water/Coolant cooled
	WATER LEVEL MAINTENANCE	The Water cooled system of the engine should be equipped with in built expansion tank so that frequent topping up of water/daily check of water level is not needed. Only a top up at 250 hours should suffice. Engine should have high quality and finish to make it a zero leakage system. Similarly the water system should have seals etc. to ensure no water leakage from the water pump.
	OUTPUT	The ENGINE should be capable of developing sufficient output HP under site temperature conditions of 45 degree C to ensure full output from 10 kVA alternator.
	MINIMUM HP	Not less than 12 B.H.P continuous rated.
	SPEED	1500/3000 rpm
	FUEL PUMP	The pump should be of MONOBLOCK design of MICO or equivalent make to ensure better governing and easy repair in the field.
	GOVERNOR	Mechanical / electronic
	NO. OF CYLINDERS	Multi cylinder, in accordance with is 10001-1981 with latest amendments.
	RECOMMENDED MAKES OF ENGINE	KIRLOSKAR/CUMMINS/MAHINDRA/GREAVES/EICHER/ESCORT OR EQUIVALENT.
	FLYWHEEL	Of suitable diameter and weight (indicate the diameter and the weight).
	OVERLOAD CAPACITY	Engine should be capable of providing 10% overload for 1 hour for every 11 hour continuous running at full load
	ENGINE ASPIRATION	Naturally Aspirated
	STANDARD THAT THE ENGINE SHOULD MEET	IS/BS (IS 10000/BS:5514/BS:649).
	RADIATOR	Heavy duty with fan (provide technical details).
	SILENCER	Residential type with exhaust piping with vibration isolators (provide technical details).
STARTING	Equipment like electric motor, battery, charging alternator etc. Provision for hand start in addition to electric start.	
ACCESSORIES	Fuel injection equipment, air cleaner, voltage regulator, anti vibration mounting pads, speed controlling governor, suitable coupling system to the alternator, tachometer, lubricating oil temperature and pressure gauge, rpm indicator and hour meter to indicate number of hrs. of operation, auto trip on low oil pressure, over speed alarm with trip, thermal insulation for exhaust line with glass wool, aluminium sheet, chicken mesh, diesel line of suitable diameter.	
PROTECTION	Against low lubricating oil pressure, high water temperature shall be provided for engine with alarm and fuel shut off.	
2.	ACOUSTIC	The enclosure supplied should be fan less ensuring not more than

	ENCLOSURE	5-7 degree C temperature rise with natural air circulation. The noise level should not be more than 75 dBA at 1 meter distance. Enclosure should be duly type approved by CPCB authorized lab. The enclosure must be fitted with sheet steel of 1.2/1.6 mm thickness, seven tank pretreated and powder coated with pure polyester powder to enable outdoor installation.
3.	FUEL TANK	Fuel tank with capacity of 12 hours continuous running at full load with necessary piping, fuel gauge, drain valve, inlet and outlet connectors complete in all respect.
4.	ENVIRONMENTAL CONDITIONS	Shall meet requirement of rules 1986 as laid down by Ministry of Environment & Forest read with GSR No. 371 (E) dated: 17.05.2002, GSR 520 (E) dated: 01.07.2003 and GSR 448 (E) dated: 12.07.2004 in respect to emission norms for the engine and in respect of noise level for the DG sets.
5.	ALTERNATOR	Self excited and self regulated alternator should be of brushless type with VG-I grade of voltage regulation giving an output of 10 KVA, single phase 230/240 Volts, 50 Hz, 0.8 (lag) power factor, 2 wire close coupled to the Engine. Class of insulation should be Class "H". Alternator should meet IS 13364 (part-I):1992/2003. Alternator should be capable of 10% overload for one hour and 50% overload for one minute in 12 hours. Permissible voltage variation - +/-1.5% of rated voltage.
	PROTECTION	Screen protected drip proof with IP 21 degree of protection as per IS: 4691/85.
	FRAME	Engine and alternator shall be coupled and mounted on sturdy, fabricated, welded construction base frame.
	RECOMMENDED MAKES OF ALTERNATOR	KIRLOSKAR ELECTRIC/CROMPTON/LEROY SOMER/ STAMFORD/Elgi/CGL/KEC or equivalent.
6.	AUTO MAINS FAILURE (AMF) CONTROL PANEL	The AMF control panel shall have the following instruments and accessories: (a) Microprocessor based genset controller with composite meter for digital display Of: i) Output voltage/AC Mains voltage. ii) Output Current. iii) Power Factor iv) Frequency. v) kWh vi) Three attempts engine start/engine cranking relay. vii) On-delay timer for load change over. viii) On-delay timer for engine shut off. (b) Mode selector switch for setting the panel on any one position such as OFF/auto/manual/test. (c) Engine ON-OFF switch (Push button type) (d) MCCB of suitable rating shall be provided. (e) Rectangular aluminum bus bars (one number for each phase, neutral and earthing terminal) of adequate ratings duly colour coded with heat shrinkable PVC sleeves. (f) Two contactors of suitable rating (one for DG set & one for AC mains) with over load relay. (g) Under-voltage relay for mains. (h) Battery charger complete with voltage regulator, float or booster selector switch, ON-OFF switch, voltmeter and ammeter for charging the battery from mains. This will be in addition to the battery charging alternator fitted on the engine. (i) Instrument & Control Fuses. (j) Five number indicating lamps to indicate 'mains ON', 'load on mains', 'set running', 'load on set' and 'battery charger on'.

		<p>(K) Audio visual alarm for 'Low lubricating oil pressure', 'High cylinder head temperature', 'Start failure' and 'DG over load'.</p> <p>(l) Any other switch, instrument, relay or contactor etc. essential for smooth and trouble free functioning of DG set with AMF panel is to be specified by the tenderers in their offer with complete detail of the item.</p> <p>The panel should be within the D G set acoustic enclosure.</p> <p>The system should have an inbuilt By PASS Change Over switch to ensure that in case of AMF / D G Set failure the mains can get directly connected to the load.</p> <p>Make of Contactors acceptable - ABB/Siemens/Schneider/LG (LS) / L&T</p> <p>Make of Microprocessor - Procom / Control & Switchgear / Sun Automation/ Minilec and equivalent.</p>
7.	BATTERY	Battery of very low maintenance - 85 AH or higher lead acid type Make - Amron/ Standard Furukawa/ Exide / Amco / Prestolite/Panasonic.
8.	SIZE AND WEIGHT	Should be minimum (provide details).
9.	INSTALLATION DETAILS	<p>*2 Nos. of GI plate earthing.</p> <p>*Concrete Cement Foundation of size as per DG set and having a height above ground of at least 9 inches.</p> <p>*Length of input/output cables upto a length of 20 mts. May be included in the installation cost and quote additionally for:</p> <p>*4x25 Sq mm armoured aluminium cable (quote as rate per meter)</p> <p>*Cable laying - wall supported/open a(quote as rate per meter)</p> <p>*Cable laying - under ground (quote as rate per meter)</p> <p>*End termination of Cable - 4 terminations(quote as lumpsum)</p> <p>*Exhaust piping with aluminium cladding (where needed) (quote as rate per meter)</p> <p>*Testing of the DG set at the site for 1 hour and handover (quote as lumpsum).</p>
10	ANNUAL MAINTENANCE CONTRACT	
	Scope	After expiry of three years warranty, AMC shall be awarded to the vendor on comprehensive maintenance basis, which includes preventive maintenance, breakdown maintenance and any other required maintenance jobs as per the Terms and Conditions and rates specified in the AMC agreement. Should cover cost of all scheduled and unscheduled maintenance for 1000 hours running per annum including labour charges, servicing and replacement of all types of spares complete as required.
	Probable Items to be covered in AMC, this is not an exhaustive list of all the items but indicative only	Mobile Oil, Filters - All types, Belts, Rubber Parts, Gaskets, AVR's, Contactors & their coils, MCB's, Meters, Coolant, Locks, Hinges, Exhaust Bellows, Control Relays, controller.

(ANNEXURE-IV)

TECHNICAL SPECIFICATIONS FOR DIESEL GENERATORS 15 KVA

S. No.	Component Name	Required Specifications
1.	ENGINE:	
	COOLING SYSTEM REQD.	Air cooled, Water/Coolant cooled
	WATER LEVEL MAINTENANCE	The Water cooled system of the engine should be equipped with in built expansion tank so that frequent topping up of water/daily check of water level is not needed. Only a top up at 250 hours should suffice. Engine should have high quality and finish to make it a zero leakage system. Similarly the water system should have seals etc. to ensure no water leakage from the water pump.
	OUTPUT	The ENGINE should be capable of developing sufficient output HP under site temperature conditions of 45 degree C to ensure full output from 15 kVA alternator.
	MINIMUM HP	Not less than 19 B.H.P continuous rated.
	SPEED	1500/3000 rpm
	FUEL PUMP	The pump should be of MONOBLOCK design of MICO or equivalent make to ensure better governing and easy repair in the field.
	GOVERNOR	Mechanical / electronic
	NO. OF CYLINDERS	Multi cylinder, in accordance with is 10002-1981 with latest amendments.
	RECOMMENDED MAKES OF ENGINE	KIRLOSKAR/CUMMINS/MAHINDRA/GREAVES/EICHER/ESCORT OR EQUIVALENT.
	FLYWHEEL	Of suitable diameter and weight (indicate the diameter and the weight).
	OVERLOAD CAPACITY	Engine should be capable of providing 10% overload for 1 hour for every 11 hour continuous running at full load
	ENGINE ASPIRATION	Naturally Aspirated
	STANDARD THAT THE ENGINE SHOULD MEET	IS/BS (IS 10000/BS:5514/BS:649).
	RADIATOR	Heavy duty with fan (provide technical details).
	SILENCER	Residential type with exhaust piping with vibration isolators (provide technical details).
STARTING	Equipment like electric motor, battery, charging alternator etc. Provision for hand start in addition to electric start.	
ACCESSORIES	Fuel injection equipment, air cleaner, voltage regulator, anti vibration mounting pads, speed controlling governor, suitable coupling system to the alternator, tachometer, lubricating oil temperature and pressure gauge, rpm indicator and hour meter to indicate number of hrs. of operation, auto trip on low oil pressure, over speed alarm with trip, thermal insulation for exhaust line with glass wool, aluminium sheet, chicken mesh, diesel line of suitable diameter.	
PROTECTION	Against low lubricating oil pressure, high water temperature shall be provided for engine with alarm and fuel shut off.	
2.	ACOUSTIC	The enclosure supplied should be fan less ensuring not more than

	ENCLOSURE	5-7 degree C temperature rise with natural air circulation. The noise level should not be more than 75 dBA at 1 meter distance. Enclosure should be duly type approved by CPCB authorized lab. The enclosure must be fitted with sheet steel of 1.2/1.6 mm thickness, seven tank pretreated and powder coated with pure polyester powder to enable outdoor installation.
3.	FUEL TANK	Fuel tank with capacity of 12 hours continuous running at full load with necessary piping, fuel gauge, drain valve, inlet and outlet connectors complete in all respect.
4.	ENVIRONMENTAL CONDITIONS	Shall meet requirement of rules 1986 as laid down by Ministry of Environment & Forest read with GSR No. 371 (E) dated: 17.05.2002, GSR 520 (E) dated: 01.07.2003 and GSR 448 (E) dated: 12.07.2004 in respect to emission norms for the engine and in respect of noise level for the DG sets.
5.	ALTERNATOR	Self excited and self regulated alternator should be of brushless type with VG-I grade of voltage regulation giving an output of 15 KVA, single phase 230/240 Volts, 50 Hz, 0.8 (lag) power factor, 2 wire close coupled to the Engine. Class of insulation should be Class "H". Alternator should meet IS 13364 (part-I):1992/2003. Alternator should be capable of 10% overload for one hour and 50% overload for one minute in 12 hours. Permissible voltage variation - +/-1.5% of rated voltage.
	PROTECTION	Screen protected drip proof with IP 21 degree of protection as per IS: 4691/85.
	FRAME	Engine and alternator shall be coupled and mounted on sturdy, fabricated, welded construction base frame.
	RECOMMENDED MAKES OF ALTERNATOR	KIRLOSKAR ELECTRIC/CROMPTON/LEROY SOMER/STAMFORD/ Elgi /CGL / KEC or equivalent.
6.	AUTO MAINS FAILURE (AMF) CONTROL PANEL	<p>The AMF control panel shall have the following instruments and accessories:</p> <p>(a) Microprocessor based genset controller with composite meter for digital display Of:</p> <ul style="list-style-type: none"> i) Output voltage/AC Mains voltage. ii) Output Current. iii) Power Factor iv) Frequency. v) kWh vi) Three attempts engine start/engine cranking relay. vii) On-delay timer for load change over. viii) On-delay timer for engine shut off. <p>(b) Mode selector switch for setting the panel on any one position such as OFF/auto/manual/test.</p> <p>(c) Engine ON-OFF switch (Push button type)</p> <p>(d) MCCB of suitable rating shall be provided.</p> <p>(e) Rectangular aluminum bus bars (one number for each phase, neutral and earthing terminal) of adequate ratings duly colour coded with heat shrinkable PVC sleeves.</p> <p>(f) Two contactors of suitable rating (one for DG set & one for AC mains) with over load relay.</p> <p>(g) Under-voltage relay for mains.</p> <p>(h) Battery charger complete with voltage regulator, float or booster selector switch, ON-OFF switch, voltmeter and ammeter for charging the battery from mains. This will be in addition to the battery charging alternator fitted on the engine.</p> <p>(i) Instrument & Control Fuses.</p> <p>(j) Five number indicating lamps to indicate 'mains ON', 'load on mains', 'set running', 'load on set' and 'battery charger on'.</p>

		<p>(K) Audio visual alarm for 'Low lubricating oil pressure', 'High cylinder head temperature', 'Start failure' and 'DG over load'.</p> <p>(l) Any other switch, instrument, relay or contactor etc. essential for smooth and trouble free functioning of DG set with AMF panel is to be specified by the tenderers in their offer with complete detail of the item.</p> <p>The panel should be within the D G set acoustic enclosure.</p> <p>The system should have an inbuilt By PASS Change Over switch to ensure that in case of AMF / D G Set failure the mains can get directly connected to the load.</p> <p>Make of Contactors acceptable - ABB/Siemens/Schneider/LG (LS) / L&T</p> <p>Make of Microprocessor - Procom / Control & Switchgear / Sun Automation/ Minilec and equivalent.</p>
7.	BATTERY	Battery of very low maintenance - 85 AH or higher lead acid type Make - Amron/ Standard Furukawa/ Exide / Amco / Prestolite/Panasonic.
8.	SIZE AND WEIGHT	Should be minimum (provide details).
9.	INSTALLATION DETAILS	<p>*2 Nos. of GI plate earthing.</p> <p>*Concrete Cement Foundation of size as per DG set and having a height above ground of at least 9 inches.</p> <p>*Length of input/output cables upto a length of 20 mts. May be included in the installation cost and quote additionally for:</p> <p>*4x35 Sq mm armoured aluminium cable (quote as rate per meter)</p> <p>*Cable laying - wall supported/open a(quote as rate per meter)</p> <p>*Cable laying - under ground (quote as rate per meter)</p> <p>*End termination of Cable - 4 terminations(quote as lumpsum)</p> <p>*Exhaust piping with aluminium cladding (where needed) (quote as rate per meter)</p> <p>*Testing of the DG set at the site for 1 hour and handover.</p>
10	ANNUAL MAINTENANCE CONTRACT	
	Scope	After expiry of three years warranty, AMC shall be awarded to the vendor on comprehensive maintenance basis, which includes preventive maintenance, breakdown maintenance and any other required maintenance jobs as per the Terms and Conditions and rates specified in the AMC agreement. Should cover cost of all scheduled and unscheduled maintenance for 1000 hours running per annum including labour charges, servicing and replacement of all types of spares complete as required.
	Probable Items to be covered in AMC, this is not an exhaustive list of all the items but indicative only	Mobile Oil, Filters - All types, Belts, Rubber Parts, Gaskets, AVR's, Contactors & their coils, MCB's, Meters, Coolant, Locks, Hinges, Exhaust Bellows, Control Relays, controller.

(ANNEXURE-V)

TECHNICAL SPECIFICATIONS FOR DIESEL GENERATORS 20KVA

S. No.	Component Name	Required Specifications
1.	ENGINE:	
	COOLING SYSTEM REQD.	Air cooled, Water/Coolant cooled
	WATER LEVEL MAINTENANCE	The Water cooled system of the engine should be equipped with in built expansion tank so that frequent topping up of water/daily check of water level is not needed. Only a top up at 250 hours should suffice. Engine should have high quality and finish to make it a zero leakage system. Similarly the water system should have seals etc. to ensure no water leakage from the water pump.
	OUTPUT	The ENGINE should be capable of developing sufficient output HP under site temperature conditions of 45 degree C to ensure full output from 20 kVA alternator.
	MINIMUM HP	Not less than 19 B.H.P continuous rated.
	SPEED	1500/3000 rpm
	FUEL PUMP	The pump should be of MONOBLOCK design of MICO or equivalent make to ensure better governing and easy repair in the field.
	GOVERNOR	Mechanical / electronic
	NO. OF CYLINDERS	Multi cylinder, in accordance with is 10002-1981 with latest amendments.
	RECOMMENDED MAKES OF ENGINE	KIRLOSKAR/CUMMINS/MAHINDRA/GREAVES/EICHER/ES CORT OR EQUIVALENT.
	FLYWHEEL	Of suitable diameter and weight (indicate the diameter and the weight).
	OVERLOAD CAPACITY	Engine should be capable of providing 10% overload for 1 hour for every 11 hour continuous running at full load
	ENGINE ASPIRATION	Naturally Aspirated
	STANDARD THAT THE ENGINE SHOULD MEET	IS/BS (IS 10000/BS:5514/BS:649).
	RADIATOR	Heavy duty with fan (provide technical details).
	SILENCER	Residential type with exhaust piping with vibration isolators (provide technical details).
STARTING	Equipment like electric motor, battery, charging alternator etc. Provision for hand start in addition to electric start.	
ACCESSORIES	Fuel injection equipment, air cleaner, voltage regulator, anti vibration mounting pads, speed controlling governor, suitable coupling system to the alternator, tachometer, lubricating oil temperature and pressure gauge, rpm indicator and hour meter to indicate number of hrs. of operation, auto trip on low oil pressure, over speed alarm with trip, thermal insulation for exhaust line with glass wool, aluminium sheet, chicken mesh,	

		diesel line of suitable diameter.
	PROTECTION	Against low lubricating oil pressure, high water temperature shall be provided for engine with alarm and fuel shut off.
2.	ACOUSTIC ENCLOSURE	The enclosure supplied should be fan less ensuring not more than 5-7 degree C temperature rise with natural air circulation. The noise level should not be more than 75 dBA at 1 meter distance. Enclosure should be duly type approved by CPCB authorized lab. The enclosure must be fitted with sheet steel of 1.2/1.6 mm thickness, seven tank pretreated and powder coated with pure polyester powder to enable outdoor installation.
3.	FUEL TANK	Fuel tank with capacity of 12 hours continuous running at full load with necessary piping, fuel gauge, drain valve, inlet and outlet connectors complete in all respect.
4.	ENVIRONMENTAL CONDITIONS	Shall meet requirement of rules 1986 as laid down by Ministry of Environment & Forest read with GSR No. 371 (E) dated: 17.05.2002, GSR 520 (E) dated: 01.07.2003 and GSR 448 (E) dated: 12.07.2004 in respect to emission norms for the engine and in respect of noise level for the DG sets.
5.	ALTERNATOR	Self excited and self regulated alternator should be of brushless type with VG-I grade of voltage regulation giving an output of 20 KVA, single phase 230/240 Volts, 50 Hz, 0.8 (lag) power factor, 2 wire close coupled to the Engine. Class of insulation should be Class "H". Alternator should meet IS 13364 (part-I):1992/2003. Alternator should be capable of 10% overload for one hour and 50% overload for one minute in 12 hours. Permissible voltage variation - +/-1.5% of rated voltage.
	PROTECTION	Screen protected drip proof with IP 21 degree of protection as per IS: 4691/85.
	FRAME	Engine and alternator shall be coupled and mounted on sturdy, fabricated, welded construction base frame.
	RECOMMENDED MAKES OF ALTERNATOR	KIRLOSKAR ELECTRIC/CROMPTON/LEROY SOMER/STAMFORD/Elgi/CGL/KEC or equivalent.
6.	AUTO MAINS FAILURE (AMF) CONTROL PANEL	<p>The AMF control panel shall have the following instruments and accessories:</p> <p>(a) Microprocessor based genset controller with composite meter for digital display Of:</p> <ol style="list-style-type: none"> i) Output voltage/AC Mains voltage. ii) Output Current. iii) Power Factor iv) Frequency. v) kWh vi) Three attempts engine start/engine cranking relay. vii) On-delay timer for load change over. viii) On-delay timer for engine shut off. <p>(b) Mode selector switch for setting the panel on any one position such as OFF/auto/manual/test.</p> <p>(c) Engine ON-OFF switch (Push button type)</p> <p>(d) MCCB of suitable rating shall be provided.</p> <p>(e) Rectangular aluminum bus bars (one number for each phase, neutral and earthing terminal) of adequate ratings duly colour coded with heat shrinkable PVC sleeves.</p> <p>(f) Two contactors of suitable rating (one for DG set & one for AC mains) with over load relay.</p>

		<p>(g) Under-voltage relay for mains.</p> <p>(h) Battery charger complete with voltage regulator, float or booster selector switch, ON-OFF switch, voltmeter and ammeter for charging the battery from mains. This will be in addition to the battery charging alternator fitted on the engine.</p> <p>(i) Instrument & Control Fuses.</p> <p>(j) Five number indicating lamps to indicate 'mains ON', 'load on mains', 'set running', 'load on set' and 'battery charger on'.</p> <p>(K) Audio visual alarm for 'Low lubricating oil pressure', 'High cylinder head temperature', 'Start Failure' and 'DG over load'.</p> <p>(l) Any other switch, instrument, relay or contactor etc. essential for smooth and trouble free functioning of DG set with AMF panel is to be specified by the tenderers in their offer with complete detail of the item.</p> <p>The panel should be within the D G set acoustic enclosure. The system should have an inbuilt By PASS Change Over switch to ensure that in case of AMF / D G Set failure the mains can get directly connected to the load. Make of Contactors acceptable - ABB/Siemens/Schneider/LG (LS) / L&T Make of Microprocessor - Procom / Control & Switchgear / Sun Automation/ Minilec and equivalent.</p>
7.	BATTERY	Battery of very low maintenance - 88 AH lead acid type Make - Amron/ Standard Furukawa/ Exide / Amco / Prestolite/Panasonic.
8.	SIZE AND WEIGHT	Should be minimum (provide details).
9.	INSTALLATION DETAILS	<p>2 Nos. of GI plate earthing.</p> <p>Concrete Cement Foundation of size as per DG set and having a height above ground of at least 9 inches.</p> <p>4x35 Sq mm armoured aluminium cable (quote as rate per meter)</p> <p>Cable laying - wall supported/open a(quote as rate per meter)</p> <p>Cable laying - under ground (quote as rate per meter)</p> <p>End termination of Cable - 4 terminations(quote as lumpsum)</p> <p>Exhaust piping with aluminium cladding (where needed) (quote as rate per meter)</p> <p>Testing of the DG set at the site for 1 hour and handover</p>
10	ANNUAL MAINTENANCE CONTRACT	
	Scope	After expiry of three years warranty AMC shall be awarded to the vendor on comprehensive maintenance basis, which includes preventive maintenance, breakdown maintenance and any other required maintenance jobs as per the Terms and Conditions and rates specified in the AMC agreement. Should cover cost of all scheduled and unscheduled maintenance for 1000 hours running per annum including labour charges, servicing and replacement of all types of spares complete as required.
	Probable Items to be covered in AMC, this is not an exhaustive list of all the items but indicative only	Mobile Oil, Filters - All types, Belts, Rubber Parts, Gaskets, AVR's, Contactors & their coils, MCB's, Meters, Coolant, Locks, Hinges, Exhaust Bellows, Control Relays, controller.

**GENERAL REQUIREMENT & DETAILS TO BE SUBMITTED FOR ALL QUOTED DIESEL
GENSET**

Bidders shall furnish the given below details for each quoted capacity separately along with their technical bid.

1. Bidders shall furnish valid BIS license for all engines models up to 19 KW rating along with their offer and must indicate that the DG sets shall also meet all other statutory requirements as notified by Govt. from time to time.
2. Bidders shall furnish with their offers, copy of Type approval certificate from an Authorized agency in prescribed format for compliance to emission norms and noise level norms for each model of DG sets offered, giving details of model No. of the engine model(s) and alternator model(s) for which such approval is applicable.
3. Bidders shall confirm that they are in possession of complete & satisfactory TTC for engines, alternators complete with enclosure to be used by them for each rating of DG sets quoted, clearly identifying make, model and ratings of the DG sets tested. The TTC shall be from any Govt. Lab. All the rating falling between the ratings tested for Type test and Endurance Test shall be deemed to have been tested for this purpose. However, all the engines models/ratings will need other relevant certifications as per norms.
4. Guaranteed Technical Particulars (GTP) of DG sets to be furnished by the bidders for each quoted capacity separately.
5. Name of the manufacturers with model number of engine, alternator, oil pump, controller and all other accessories (BOM) fitted in the generator.
6. Rated power output and duty cycle of each component.
7. Maximum temperatures rise above ambient (for engine).
8. Class of insulation.
9. Efficiency of the alternator.
10. Speed of revolution (RPM) at no load and rated voltage.
11. Type of excitation and excitation voltage.
12. Ambient conditions for which the DG set is suitable.
13. Type of enclosure.
14. Type of loads for which the DG set is suitable
15. Maximum load that can be switched ON or OFF and voltage drop/rise permitted.
16. Type of cooling
17. Fuel tank capacity (it shall be suitable for 12 hours minimum at rated load and at continuous operation).
18. Total fuel consumption in litres/KWh
19. Rated engine power and the ambient conditions at which it is defined

20. Dry weight of the DG set with canopy.
21. Vibration level maximum.
22. Deviation in the generator specification from IS specification, if any.
23. Scope of supply shall include testing, supply, transport, safe delivery at user's site across the country, installation, erection and commissioning of the complete DG sets.

Annexure-F

Installation Certificate

1	Vendor Name	
2	Project No.	
3	Purchase order No. & date	
4	Invoice No. with date	
5	Equipment Name & Description	
6	Equipment serial nos.	
7	Date of delivery	
8	Date of intimation of call for installation / site readiness information (in case of SNR)	
9	Installation Date	
10	Certificate	Equipment (as per ordered configuration) has been installed successfully

Name of user / NIC Project Coordinator / NICS I Project in charge:

Designation : _____

Signature: _____
(with official seal)

Date: _____

Annexure-G

Site Not Ready Certificate

1	Vendor Name	
2	Project No.	
3	Purchase order No. & date	
4	Equipment Name	
5	Date of delivery	
6	Date of 1st Visit for installation	
7	Site not ready reason	
8	Tentative date of site being ready for installation	
9	Contact detail of vendor for getting equipment installed, if site get ready.	
10	Certificate	There is no delay on the part of vendor in getting the equipment installed

Name of user / NIC Project Coordinator / NICS Project in charge:

Designation : _____

Signature: _____
(with official seal)

Date: _____

